PRESIDENT:
R. A. FALLA, M.A., D.SC., F.R.S.N.Z.

HON. SECRETARY:
A. S. HELM, M.A., F.R.G.S.

HON. TREASURER:
H. W. KING

P.O. Box 2110,
Wellington C.1,
New Zealand.

ANTARCTIC NEWS BULLETIN

PUBLISHED QUARTERLY

EDITOR: L. B. QUARTERMAIN, M.A., 1 ARIKI ROAD WELLINGTON, E.2, N.Z.

No. 20. December, 1955.

THE TRANS-ANTARCTIC EXPEDITION.

NEW ZEALAND PREPARES.

New Zealanders are actively preparing to play their part in the Commonwealth Expedition under Dr. V.E. Fuchs, the primary aim of which will be to cross the Antarctic continent from Vahsel Bay in the Weddell Sea to McMurdo Sound in the Ross Sea, via the South Pole, in the summer of 1957-1958. The Ross Sea Committee is hard at work organising supplies and equipment, and selecting and training personnel. Appeal committees in 70 centres are working to collect their quotas of the £100000 which the public has been asked to provide. And six men have set off to join, as observers, other expeditions which will be in the field this summer.

The Committee has devoted special attention to the clothing and sleeping-bags to be used by the members of the New Zealand team. A New Zealand firm has produced sets of special down clothing consisting of long jackets and trousers lined on the outside with ventile and on the inside with nylon. These will be worn experimentally by the New Zealand observers with other expeditions in the Antarctic this summer. So will a set of sleeping bags consisting of down lined on the inner and outer sides with nylon. The outer bag has been specially designed to eliminate the weak-spot in most bags, the seams. In this new design wedge-shaped pieces filled with down have been sewn in at the seams.

An outstanding gift of great importance has been made by the British Petroleum Company, which is supplying all the oil products required by both the British and the New Zealand sections of the Trans-Antarctic Expedition. "In the Antarctic," said Sir Edmund Hillary at a function in the Company's Wellington offices, "there will be few moments when we will not be using oil products. Fuel will be needed for our ships, tractors, lighting power and generators, radios, cooking, and aircraft, all of which will influence our survival." The Company is also sponsoring the making of a colour film of the Expedition and supplying photographic equipment.

A generous donation has also been made by the Cyclone Fence & Gate Coy of Christchurch, who have given the whole of the netting required, some £200 worth, for the dog-pens at the training centre to be established at the Hermitage, Mt.Cook.

The local appeal committees have been meeting with varied success. Some of the smaller centres (e.g. Eltham and Pahiatua) have already reached their quotas, and Wellington has raised approximately £5000 of its £12000 quota. In a great many cases the most eager contributors have been the children of the schools. St. Patrick's College, Wellington, has contributed £50 to buy a sledge-dog, "Paddy", while St. Patrick's College, Silverstream, and the Diocesan High School for Girls, Auckland, of which Lady Hillary and Sir Edmund's sister are ex-pupils, have also each contributed enough to purchase a husky. Wellington College has raised £150, to provide the sledge for the surveyor, Mr. J.H. Miller, and a husky as well. There have been many noteworthy individual and small-group efforts.

New Zealand Observers.

Sir Edmund Hillary and Mr. J.H. Miller left New Zealand on December 1 to join the British Weddell Sea advance party at Montevideo. Mr. H. Ayres will go south to Mawson with the Australian relief team in January. Dr. T. Hatherton, Mr. B.M.Gunn and Lieut.Cdr. W.J.L. Smith will travel to the Ross Sea with the American expedition "Deep Freeze".

Mr. J. Holmes Miller (36) is a Masterton surveyor. Born at Waimate and educated at Willowbridge primary school, Waimate High School and Victoria University College, where he was a cross-country runner, he was a member of the New Zealand Independent Company sent to Australia for commando training before going to the

Middle East with the 2nd N.Z.E.F. He was wounded in Tunisia. Mr. Miller in 1949 led a survey team in the extremely rugged area round George and Caswell Sounds, operating in a block of a hundred square miles of what is possibly the wettest temperate zone area in the world, with a rainfall of over 250 inches a year. He was also a member of Dr. R.A. Falla's Antipodes Islands Expedition of 1950. He is married and has two children.

Mr. Harry H. Ayres (42), senior guide at the Franz Josef Glacier and world-famous among mountaineers for his ice technique, is the quiet, wiry man from whom Sir Edmund Hillary learned "the technical side of mountaineering". Born in Christchurch, Mr. Ayres did his first climbing as a schoolboy on the Port Hills, and had his first experience of ice when 17, helping to pack supplies up to a hut on the Fox Glacier. He became a professional guide the following year. He served for two years with the New Zealand Third Division in the Pacific, much of the time on forward reconnaissance on Vella Lavella and Green Island. He was invalided home with malaria. When he returns from the Australian Antarctic Territory in April, Mr. Ayres will bring with him the 30 trained huskies made available by A.N.A.R.E. to the Ross Sea Committee.

Dr. Trevor Hatherton, Ph.D., B.Sc., D.I.C., (31), of the Department of Scientific and Industrial Research, Wellington, is a Yorkshireman, a graduate of Birmingham and London Universities, who came to New Zealand in 1950 as a National Research Scholar. In 1953 he joined the D.S.I.R. as a geophysicist. He returned to England in 1953 to complete his Ph.D. degree and came back to New Zealand six months later. A keen cricketer in his student days, he also spent two or three seasons mountain climbing in Europe. Since coming to New Zealand his chief sporting interests have been mountaineering and ski-ing. Dr. Hatherton will be New Zealand's I.G.Y. representative with the American expedition.

Mr. Bernard Maurice Gunn (28) was born at Wanaka, Central Otago. He graduated B.Sc. in geology and botany last year, and is at present reading for his M.Sc. degree. A skilled mountaineer with a record of nearly 100 ascents of peaks and high passes in the Southern Alps, he was a guide in the Franz Josef glacier region in the winter seasons of 1953 and 1954. A versatile man, Mr. Gunn is an expert ski-er, a photographer who has specialized in alpine subjects, a competent radio-operator, motor mechanic, and deer-stalker, and has had experience in surveying, map-making, photogrametry, first aid and cooking.

Lieutenant-Commander W.J.L. Smith, D.S.O., (33) was born at Gore. He was a teacher at the Cathedral Grammar School, Christchurch, when he joined the Army in 1942, to be later commissioned. He transferred to the R.N.Z. Navy in 1943 as an ordinary seaman, and after a course in the United Kingdom was commissioned in 1944. He was navigator of a two-man midget submarine assigned to attack the Japanese cruiser "Tokoo" in Johore Strait in July 1945. The mission involved long submergence to pass under minefields, but the submarine escaped unhurt after mines had been attached to the cruiser's hull, inflicting considerable damage. The submarine's commander was awarded the Victoria Cross, and Sub-Lieutenant Smith the D.S.O. Granted a permanent commission in 1946, he went to Britain on a course and later transferred to the hydrographic branch. He has been on surveying duties for the past six years.

Two other men have been selected as members of the New Zealand Expedition.

C.P.O. Peter D. Mulgrew (29) was born at Lower Hutt and educated at Petone West and Epuni Schools and Hutt Valley Memorial Technical College. He has been in the Navy for eleven years and served with the first New Zealand frigate in Korean waters. In Britain after the war, he completed a surveying, mapping and field astronomy course at the R.G.S. headquarters. An experienced operator of ionospheric prediction equipment, he is a licensed amateur radio operator and has taken part in several alpine search and rescue operations. A past member of the Alpine Club, London, he has climbed in the Swiss Alps, including an ascent of the Matterhorn.

Mr. Murray Ellis (31), a Dunedin engineer, was educated at Waitaki Boys' High School and joined the Fleet Air Arm on leaving school. He completed his training as the Second World War ended. A keen member of the N.Z. Alpine Club with considerable ski-ing and mountaineering experience, Mr. Ellis has an extensive practical knowledge of mechanical and civil engineering. He is also a capable pianist. He will be the New Zealand party's engineer and one of the eight-man field party to establish depots on the plateau towards the Pole.

"THIS BRAVE ENTERPRISE."

The motor vessel "Theron" (849 tons) left London on November 14 for the Weddell Sea, carrying the Advance Party of the British Expedition and several other leading members. A Canadian seal-catching vessel, built on the Clyde in 1950, the "Theron" was specially designed for ice conditions. She has three large insulated holds (intended to hold 30000 seals), and is carrying two tractors, two weasels, a sno-cat, two Auster aircraft, a prefabricated hut, 24 dogs, and stores for two years, as well as a load of telegraph poles to form a ramp for hauling equipment and stores on to the ice cliffs. The master is Captain Harald Maro, and there is a crew of seventeen.

Dr. V.E. Fuchs (leader of the Expedition), New Zealander George Lowe, David Stratton, and an R.A.F. team of four including New Zealander, Flight-Lieut.G.Haslop, will be returning to England in April, as will the New Zealand observers, Sir Edmund Hillary and Mr. J.H. Miller, who will join the vessel at Montevideo, and Squadron-Leader J.R. Claydon who is already in the United Kingdom. But a party of eight men will stay behind to establish Shackleton Base and erect a garage and balloon hut, commence high-altitude readings, and carry out dog training and reconnaissance for the inland journey. This wintering party comprises: R. Goldsmith (28), doctor: R.H.A. Stewart (33) and P.H. Jeffries (24), meteorologists and radio-sonde operators: E. Williams (30), radio-operator and mechanic: R. Lenton (32), radio-operator and carpenter: K.V. Blaiklock (27), surveyor: D.E.L. Howard, engineer, and J.J.La Grange, South African observer. Of these, Blaiklock, Howard, Stewart and Williams are expected to be members of the main party led by Dr. Fuchs, in 1956-58. So are Stratton, Lowe, and the R.A.F. team.

The initial problem will be the penetration of the Weddell Sea ice, which caught and crushed Shackleton's "Endurance" in 1915. "We shall hug the coast-line of Vahsel Bay," said Dr. Fuchs to an interviewer, "as the winds from the continent tend to blow the sea-ice away, leaving, we hope, a clear channel." Argentine vessels were along the coast last year and found coastal cliffs about 120 feet high for 600 miles, but parts of the Weddell Sea ice-shelf west of Vahsel Bay are only about 10 to 15 feet high. The party is prepared to land on cliffs as high as 30 feet. It is expected that air-reconnaissance will be of great assistance. The aircraft will fly 50 to 100 miles ahead, seeking a clear passage through the ice, and a suitable base site.

Once a satisfactory site has been selected the ship will be moored alongside the ice-shelf and unload on to the flat snow surface. The 300 tons of stores will be hauled over the ramp by tractors fitted with rubber and steel tracks. The front wheels can be replaced by skis and bulldozer blades can be fitted to level the snow. Weasels will be used for depot-laying and other short journeys, but the actual crossing in 1957-58 will be made by sno-cats, so the sno-cat being taken south this year will be tried out under conditions such as it will encounter on the crossing journey.

The first problem in the spring will be to discover a route from the floating ice-shelf up on to the solid inland ice. While this may simply entail mounting a gently rising slope, it may be that the junction will be steep and heavily crevassed. When the main party reaches Shackleton in January, 1957, it will hope to find a secure base established and a known route to the interior.

On November 4 Sir Anthony Eden inaugurated the appeal to the British public for £175000 in a speech in which he referred to "this brave enterprise".

George Lowe is taking a 24/6d. box camera on the Trans-Antarctic journey. "The box camera," he says, "will give us a pictorial record in conditions in which we would get nothing at all from cameras which normally take a better quality picture." This has been demonstrated by tests carried out at 40° below zero.

Messrs. Cassell & Co.Ltd. announce that they will be publishing the official account of the Trans-Antarctic Expedition. To be written by Fuchs and Hillary, this book is tentatively named "The Last Great Journey in the World".

The Sno-cat has four tracked portions of independent suspension. All four tracks can be at different angles and levels and still provide complete traction. The vehicle can go on travelling with one or two tracks removed. Oil-burning air-heaters enable hot air to be conducted over the engine and batteries before starting up. The sno-cat's fuel consumption averages about two miles to the gallon.

---

(4)

AUSTRALIANS PROBE OUT FROM MAWSON.

Winter Sledge Journey.

Six men led by Bechervaise returned to Mawson on August 25 from a successful 140-mile journey by dog sledge. The purpose was to visit an emperor penguin rookery which was discovered by Dovers, Officer-in-Charge at Mawson, last year.

The party set out on their winter journey on August 15th. Two dog teams, each drawing loads of six hundred pounds plus (at times) three men, travelled up to 25 miles daily. While still 30 miles from their objective they encountered numerous groups of emperor penguins converging over limitless ice upon their breeding place in the lee of a vast glacier tongue. For food the birds must travel to the open ocean. However, as the sea was frozen solid far beyond the horizon, the men could not estimate how far the procession of birds stretched. It must take them weeks to reach the open water. When the sledge party reached the rookery, 60 miles from Mawson, they found more than 2000 birds closely assembled on a strip of land-based ice. The adults were resplendently coloured with jet black heads, pale yellow fronts, steely blue-grey backs and bright chrome patches near the ears. They nursed the young chicks on their feet and kept them warm beneath pendulous folds of sleek belly-feathers, from which the youngsters peered eagerly and piped incessantly for food. The sledging party remained for $2\frac{1}{2}$ days making observations. The weather was generally good, with temperatures ranging from ten to fifty degrees below freezing, but work was held up for one day while a blizzard raged.

On the return journey the men traversed miles of rough pressure ice, threading their way on an uneven surface between countless towering icebergs frozen fast in the solid sea. Occasionally open cracks in the sea-ice were encountered, in which the sea appeared only two feet below the surface of the ice. These caused occasional detours but most were crossed without difficulty. One crack only fifteen miles from Mawson had permitted a number of Weddell seals to emerge from the sea and to lie out on the ice around the crack. As supplies of seal meat at the Station were beginning to run short, the men organized a weasel party immediately upon their arrival at base to return to shoot some seals to provide food for the dogs and fresh meat for the men.

The Coming of Spring.

Bechervaise reported on September 7: "Though it is -10°F. with a piercing wind, and though the polished sea-ice still grows thicker, Spring is here. Two nellies have visited us. Both men and dogs have enjoyed fresh seal steaks. Twice the sun has celebrated with double iridescent mock suns. It is a season of strange northern mirages, fine lengthening days, nights of brilliant stars and splendid aurorae. The darkroom is in constant demand.

"During the past month ninety man-days have been spent on field work with dogs or weasels, and everyone took part on some occasion. Dog travel engenders nostalgia for weasels and sometimes vice versa as when Crohn and I were three days blizzard-bound on the plateau with a sick engine. Our journeys included a dog sledging visit to Bretangen Glacier tongue and its colony of emperor penguins; a weasel seal-hunting expedition to Bryggeholmen (a small island about 25 miles west of Mawson); servicing both Shaw's remote weather stations on two occasions, and the setting up of a line of stakes to measure the plateau ice movement between Mount Henderson and the Masson Range. Incidents we will remember were 'Nimrod' Elliott slaying a huge Weddell seal with a single axe blow, 'Eskimo' McNair with harpoon poised, sitting patiently by a seal breathing hole; Crohn and Riddell trudging roped over the plateau ice, drilling postholes, while Gowlett and Lacey followed with the weasel and a theodolite. On all trips radio contact was maintained with base.

"At base, preparations are being made for longer expeditions. Gowlett has at least four spare-time engineering apprentices. The versatile Dr. Allison, being as usual medically unemployed, is now assisting with a major overhaul of the diesel generator. While Fox was absent at Bretangen, Allison was master of the remaining dogs. At the same time Parsons and McNair graduated respectively in meteorology and geophysics. A few days of calm weather should see Riddell's weasel garage completed."

Life at the Base.

On October 7, Bechervaise radio-ed: "The two biggest blizzards of the year, lasting eight days in all, lowered our opinion of the antarctic spring. Wind reached ninety-four m.p.h. and the barograph pen required resetting to prevent its falling off the trace. (A barograph is used in meteorology, recording on paper the variations in atmospheric pressure. On this occasion the atmospheric pressure apparently was

so low that it was outside the lower limit which the barograph is normally set to cover, and the pen had to be reset so that it might continue to make a record on the chart. Ed.) Guide ropes to doglines and the engine-room were completely buried by drift. To succour the dogs, we had to grope out with hundreds of feet of nylon rope and dig them out from snow deeper in places than their tethering chains. After waiting weeks for calm weather to help Riddell lay sheetiron round his commodious weasel garage, we were caught with the building incomplete. It became a vast snow trap. We dug out several tons and Riddell then sealed the structure completely. For the first time Gowlett and his helpers were able to work on vehicles despite the weather. Electrician Allison installed a fan to draw surplus hot air from the power house. The next blizzard however piled up drifts ten feet high against the outside of the garage, and further mass digging was necessary before the "Bretangenites" - Allison, Oldham, Gowlett, Ward, McNair and Shaw - could become ice borne in search of the lordly emperor penguins. However, linked now to the main workshop by a communicating door, the extension to the engineer's domain has made a world of difference.

"Hacking their way through bay ice seven feet deep, Parsons and McNair were rewarded with some quiet fishing: they have had several emulators - through the same hole!

"Lacey has been plotting future building sites for Mawson City. An aircraft hangar will be included amongst the extensions. Lacey is also printing graticules (plans or charts divided into squares to facilitate reproduction on other scales) and sketch maps for the forthcoming expeditions. Everyone, in his time away from the essential "skeds and obs" of the scientific programme, is contributing in no small measure to the arrangements of the spring programme. Van Hulssen's morse classes have continued and he gave much time to field radio: Crohn to general field equipment: while Ward spent many hours fabricating spare weasel track links. At the moment a total blizzard is again being waged but loaded sledges and well-tuned weasels are drawn up ready for operation Virgo, in which an unusually large number of men - largely by co-operation with those who must hold the fort - will be taking part. Macklin, Elliott, Gowlett, Parsons, Riddell, Lacey, Crohn and I plan a brief expedition to the coastal mountains named 25 years ago by Sir Douglas Mawson but still unvisited. The usual Ytterskjera and Henderson reliefs have been carried out and local dog sledging on sea-ice has continued. Twelve seals were not their least valuable contribution as Leon Fox had almost exhausted last summer's supply of dog-meat. Beware dead seals! Recently one frozen carcase being sawn crosscut for dog rations changed its point of balance, leapt up and almost felled one toiler." (Ytterskjera is an islet a few miles seaward from Mawson. Henderson is a mountain ten miles inland. Meteorological equipment is installed at each and is serviced at intervals.)

Bechervaise reported from Mawson on October 31: "We confidently expect any day now that the air temperature will rise above freezing for the first time since our arrival at Mawson last February. Already the radiant heat of the sun has shown us the phenomenon of liquid ice trickling down the rocks. Otherwise the antarctic spring has been vagrant. More and denser blizzards have occurred in October than in any other month, with an aggregate of fifteen days of drift. However, the animal life is not deterred by gales and flying snow. Dozens of snow petrels are seen reconnoitring their nesting sites, endless trains of Adelie penguins march and glissade over the sea-ice to their island breeding grounds, skuas are becoming common and Weddell seals have left the warmer water beneath the ice to lounge near their breathing holes and rear their young.

"Sunset and dawn are now linked by luminous sky over the plateau and there is little night. The usual seal-hunting sledge trips and runs to Ytterskjera and Mount Henderson remote stations have taken place, but endless hours have been spent on our vehicles, one of which suffered a major breakdown in the early stages of a more extensive plateau expedition. Vast quantities of stores and equipment have been transported up the steep ice slope in readiness for the southern journey now due to commence. In all these activities everyone has had a vital part. We are all well and only hoping for reasonable weather and travelling in the next two months."

Southern Journey Begun.

A party has started its long-planned southern journey which aims at penetrating 300 miles inland over the Antarctic plateau. Preliminary work involved the preparation of vehicles, stores and equipment during the winter months, and depot-laying trips in spring, when the hours of daylight had lengthened sufficiently. During this latter period supplies of food and fuel for 350 man-days were hauled up the coastal slopes of the continental ice-sheet and dumped at a forward depot on the plateau ten miles inland from Mawson. During this period one of the party's three weasels broke down and, at the end of two weeks' work, all hope of repairing it was abandoned. It will be returned to Australia later.

With the remaining two weasels a party of seven men set out on 1 November on the first stage of the journey. They plan to haul heavy loads by weasels inland to a second depot 100 miles south of Mawson. The men are: Bechervaise, Parsons, Lacey, Crohn, Gowlett, Fox, and McNair. The party was held up for two days near Mount Henderson by high winds which, whipping snow from the surface, produced "drift" which decreased visibility to zero. By 4th November they had covered only 20 miles. However, two days later, although high winds and low visibility continued, the party had reached a point 62 miles South East of Mawson. When the 100-mile depot has been established, a second party, also led by Bechervaise, will push on to its objective - the great range of mountains discovered last year by Dovers, Summers and New Zealander, Stinear. This year's party plans to investigate its extent, map its features and search its rocks for minerals.

News has been received as we go to press that the explorers, after reaching a point 125 miles south of Mawson, were held up by continuous blizzards at a height of 6000 feet. Later, they called a halt 220 miles south of Mawson, close to a "vast, complex and most impressive" range of mountains rising black and snowless 1000 feet from the white ice sheet of a plateau 7000 feet above sea level. They were unable to approach within a mile because of dangerous crevasses.

Aircraft for Mawson.

The Aircraft Research and Development Unit (A.R.D.U.) at Laverton, Victoria, has modified considerably the Beaver light transport plane DHC-2 to minimise the effect of Antarctic cold. The cabin will be sealed and heated. The engine has been checked to make sure that there are no traps in the water-cooling system that could cause ice to form. There will be three small oxygen tanks instead of one large one so that recharging can be done inside a warmed hangar. An "elephant's trunk" cowling cover for the engine will be fitted so that heaters can keep it continually warm while on the ground.

The Beaver will carry 150 lb. of survival gear for the three-man crew, including four sets of skis (one for use as a sledge) and a tent. The Beaver has a long maximum endurance, nine hours, giving a range of 1300 miles with a pay-load of approximately 1800 lb. The new de Havilland retractable metal skis have been fitted.

The aircraft, which will be operating in the Antarctic for a period of about 15 months, was officially handed over in Melbourne on August 12.

CURRENT F.I.D.S. WORK.

(See below for special I.G.Y. activities.)

The "John Biscoe" sailed again from Southampton on October 12, with personnel and stores for the coming season. It is to be assisted this year by the "Shackleton" which is due to sail in mid-December.

Recent reports from the bases include those from the new bases N (Anvers Island) and Y (Horseshoe Island), off the west coast of Graham Land. Both are now well established and topographical and geological survey is in progress. Personnel at Deception Island are busy preparing for the arrival of the aerial survey party which will be based there during the summer months. This base has been in radio contact with the A.N.A.R.E. base at Mawson. Long sledging journeys have been undertaken again this season from Hope Bay, and work on dog physiology continued. Ozone measurements were commenced at Base F (Argentine Islands) on 1 July, and a new hut has been built at Base H (Signy Island).

During the absence of Dr. V.E. Fuchs, Sir Raymond Priestley, M.C., M.A., will be temporary Director of the Falkland Islands Dependencies Scientific Bureau in London, to whom we are indebted for the above information. Sir Raymond was a member of Shackleton's "Nimrod" Expedition (1907-09) and also of the Northern Party of Scott's "Terra Nova" Expedition (1910-13).

AIR SURVEY OF GRAHAM LAND.

The Colonial Office has ordered an aerial survey of the 60,000 square miles of the Graham Land peninsula and adjacent islands, in the Falkland Islands Dependencies. The survey is to be carried out by Hunting Aerosurveys Ltd. The party of twenty-two including four surveyors left London on 21 October on the Danish ship "Oluf Sven". The ship has been fitted with a helicopter deck forward of the bridge and carries two S.51 Westland Sikorski helicopters which will convey the surveyors and scientists from the ship to remote parts of the area, where ground-control points will be established. The actual survey will be carried out by two Canso amphibious aircraft from

Canada, flying at a height of about 15000 feet. These planes have an exceptionally long range of 2000 miles. A radio beacon is to be installed near the base for homing the aircraft, which will be fitted with radio compasses.

During December, a base will be established at Deception Island, the Canso aircraft remaining at Port Stanley until the base is constructed. The actual survey work commencing in the new year will comprise -

(1) air photography. Air photos of the vertical type will be taken, a single photograph covering an area of 18 square miles.
(2) ground control. The expedition ship will endeavour to push south to provide a floating base: this, it is hoped, will be the answer to the problem of "shelf" glaciers and terminal ice cliffs.
(3) airborne magnetics. The Cansos will carry magnetometers to measure the total intensity of the earth's magnetic field, and will endeavour to construct a continuous magnetic profile of the area.

The leader of the expedition is 42-year old Peter Mott, who was chief surveyor on one of Shipton's Himalayan expeditions and has taken part in three Greenland surveys. In charge of the flying crews is John Saffery (48) whose work in torpedo-bombers and photographic reconnaissance during the war won him a D.S.O.

NEWS FROM MACQUARIE ISLAND.

Hynes reported on 27th September that the weather had been "Normal; plain lousy." There were two fine days in September, with high winds several times up to 70 m.p.h. and to 102 m.p.h. on the 12th. Snow in some quantity towards the end of the month was sufficient for winter sports, tobogganing and skiing. Grant (of New Zealand) and Shaw went to Hurd Point on the first of the month and stayed three weeks. They got several auroral photos, Callow working the camera at the station end. The first of the royal penguins arrived at Nuggets rookery, and the black browed albatrosses had returned.

On 1 November Hynes reported that the weather for the month was "Average", i.e. some beautiful days, but mostly bad. Mann and Field went to Hurd Point for 14 days, and Field has some photos of sooties and black brows which he says are the best yet taken on the station. 477 giant petrels were banded, 400 in one day. A penguin and seal census was undertaken and the seal pup branding started. The beaches are now covered with mating seals and pups, some rockhoppers are back and the sooties and black brows are nesting. Two sea lions have been seen and photographed this month. Daisy had a calf but "the little bloke wriggled into a wallow and was drowned. Our deep sorrow has been lightened by having fresh milk again." "On the whole" says Hynes "a full and good month."

New Zealander to lead 1956 Party.

Leader of the Macquarie Island relief team due to leave Melbourne towards the end of November is Ian L. Adams, aged 30, a New Zealander. Born in Takaka, Mr. Adams spent his youth in Taranaki, and attended Stratford High School, "mainly taking an interest in agricultural subjects and rugby football." Leaving school he joined the Air Force as an air crew trainee, but on the cessation of hostilities was transferred to the clerical side. He became Officer-in-Charge of Airways Operations at Rongotai Airport, but in November, 1954, left New Zealand to further his experience in overseas airways, planning to spend twelve months in Australia and then to go to England and the Continent. This part of his plan will now be materially modified. A keen and experienced mountaineer and skier, Mr. Adams is also especially interested in the growing of vegetables on the island. His team will consist of: R. Hughes, medical officer: P.A. Trost, in charge of cosmic ray equipment: K.D. Cole, aurora physicist: R.L. Dowden, radio physicist: W.R. Dingle, who was at Mawson 1954-55, senior weather observer: G.J. MacDonald and I.A. Fox, weather observers: D.R. Twigg, radio supervisor: D.A. Brown and J.M. Scott, radio operators: H.L. Price, diesel engineer: B.G. Cook, geophysicist: K. Keith, biologist: and J.B. Morgan, cook.

The "Kista Dan" will return to Melbourne in mid-December to load for the voyage to Mawson.

NEW LOOK FOR MARION ISLAND.

Workmen from the South African Public Works Department were due to leave on 24th October in the s.s. "Gamtoos" to carry out reconstruction work on the island designed to make life at the settlement more comfortable. New living quarters are being erected in a carefully designed pre-fabricated building, well insulated and centrally heated. This will consist of ten bedrooms (each about 10' x 12'), large

lounge, dining room, recreation room, office, kitchen, pantry and bathrooms. Hot water will be available from oil-fired geysers and the central heating system as well as the new kitchen range will also be oil fired. A new power station is also being installed. This will consist of two Diesel driven generators. The water supply is being improved by piping water in plastic piping to a tank above the living quarters. The retractable landing stage suspended from the cliff top was damaged in a storm and will be repaired and renovated. Navigational lights will be installed. The reconstruction work is expected to take almost five months, and the working party will be withdrawn from the island in March by a frigate of the South African Navy.

The Government has not approved the proposal to establish an observing station on Bouvetoya for the period of the International Geophysical Year. The Union Government has agreed to contribute £18000 towards the cost of the Commonwealth Trans-Antarctic Expedition. Two members of the Weather Bureau staff (Messrs. J.J.la Grange and P.S. du Toit) will take part in the expedition. La Grange sailed from Cape Town on 21st October to join the other members of the advance party in London at Vahsel Bay next summer and expects to leave for the winter ice-cap station in April, 1957.

Very considerable progress has been made in the radio collection of weather reports from whaling factory ships in the Antarctic. Practically all ships now co-operate by transmitting reports and during the last season a record number of 5110 reports were received at the Weather Bureau in Pretoria by radio. Altogether 17808 reports have been received since 1949. Very extensive use is made of these reports for a variety of purposes, not the least important of which is the compilation of the daily "Antarctic Inference" broadcast from Cape Town radio for the use of whaling ships in the Antarctic between 60°W and 90°E. The International Whaling Commission has recommended the area between 70° and 160°W which has for long been a whale sanctuary should be thrown open for whaling for three years as from 7th January, 1956. Weather reports from this part of the Pacific will be of considerable value to meteorology.

In addition to weather reports received by radio, the South African Weather Bureau has from many sources collected a considerable number (about 150000) reports from ships in the Antarctic Ocean and these are available on punched cards. A climatological summary based on these observations is in course of preparation.

ANTARCTIC BOOKSHELF.

Dr. Hans-Peter Kosack, the well-known German cartographer, whose map of the Antarctic in four parts has now been published, has also published a comprehensive volume "ANTARKTIS", one of a series of geographical handbooks. A handsome volume of 310 pages, with 22 page maps, 24 other diagrams, 16 photographic illustrations and a separate map (1 : 11.500,000), it is to be hoped that this volume will be translated into English and made available for Antarctic enthusiasts in this country.

CAPE ADARE STATION?

It has been suggested by the American I.G.Y. National Committee that a joint U.S.A.-New Zealand station should be established at Cape Adare, the nearest point to New Zealand on the Antarctic Continent. No definite decision, however, has yet been made.

FISH FOR KERGUELEN.

50,000 rainbows were flown across the North Pole on 18 October - trout ova collected at Lake Taupo being flown from New Zealand by the Department of Internal Affairs to the French station on les Iles Kerguelen. They are part of a total export of two and a half million trout eggs from New Zealand this year. The Kerguelens lie only a few thousand miles west of New Zealand, but the eggs had to be flown over the North Pole to reach Paris in four days, in order to catch a connecting service to the islands. The original request came from M. Vibert, the French fresh-water fisheries biologist, who travelled to the Kerguelens with the consignment of ova.

AN EXPLORER'S ASHES.

The Theron, carrying the advance guard of the British expedition to the Antarctic, bore with her the ashes of a former South Pole explorer. Aboard is a casket with the remains of Mr. John Joseph Miller, 79-year-old Londoner, bosun-sailmaker in the "Discovery" during Captain Scott's expedition of 1912.

INTERNATIONAL GEOPHYSICAL YEAR.

Preparations are being made along the lines indicated in our last issue for the participation of eleven nations in the I.G.Y. Antarctic programme, 1957-58. The stations projected are:

Argentina: the existing bases of S. Orkney Islands, Moon Bay, Almirante Brown, Deception Island, Esperanza (Hope Bay), Melchior Island, San Martin, and General Belgrano (77°58'S.) established in January last.

Australia: Macquarie Island, Mawson, Vestfold Hills.

Chile: existing bases, Arturo Prat, Aguirre Cerda, O'Higgins, Videla.

France: Pointe Geologie (Adelie Land), S. Magnetic Pole, Kerguelen Islands.

Japan: Prince Harald Coast.

New Zealand: Campbell Island, McMurdo Sound.

Norway: Queen Maud Land.

South Africa: Marion Island.

United Kingdom: F.I.D.S. existing bases at South Georgia, Signy Island, Admiralty Bay, Deception Island, Hope Bay, Anvers Island, Port Lockroy, Argentine Islands, Horseshoe Island (Marguerite Bay): Vahsel Bay, "Depot 300" (on the Polar Plateau).

United States: Little America, Weddell Sea, Knox Coast, Byrd Station, Pole Station.

U.S.S.R.: Knox Coast, Geomagnetic Pole, "Pole of Inaccessibility".

Plans for a Belgian station near Haswell Island and for a German station in the Norwegian sector are apparently not being proceeded with.

Further details regarding some of the proposed bases and the work planned for the current season, are appended.

France.

The French Expeditions are being organised by the Antarctic Sub-Committee of the French National Committee for the I.G.Y. under M. Paul-Emile Victor, to whom we are indebted for the following information.

There will be three consecutive years in Adelie Land. The leader of "Expeditions Antarctiques de l'Annee Geophysique" is Ingenieur Hydrographe Principal Bertrand IMBERT. (He was second in command of the French Adelie Land Expedition 1950-1952).

The First Expedition will leave Rouen in October 1955 on board "Norsel". The leader is Robert Guillard who has a seven year experience on Greenland's Ice Cap with Expeditions Polaires Francaises. This expedition has 14 members. The main base will be set up at Pointe Geologie on Ile des Petrels where the French Adelie Land expedition 1951-1953 wintered. It will set up a satellite base on the Antarctic Ice Cap in the vicinity of the South Magnetic Pole. This satellite base will be put in by overland transportation starting probably in October 1956. Two groups of three men are scheduled to winter there during two consecutive years from 1957 to 1959.

The Second Expedition will leave on board "Norsel" in 1956. The leader is Bertrand Imbert. The number of men will be approximately 20. It will fulfil the program of the I.G.Y. During this expedition the satellite base will start its observations.

The Third Expedition will leave in October 1957. Its leader will be Gaston Rouillon (seven years with Expeditions Polaires Francaises: activities in the field on the Greenland Ice Cap). This expedition will continue the program of the I.G.Y. and man the satellite base for the second year. It will be evacuated from Adelie Land in the beginning of 1959.

The scientific work of the Expedition will mainly comprise Geomagnetisn and Meteorology (to be studied at Pointe Geologie, the Plateau base, and on overland journeys), Glaciology (at the Plateau base and on trek), aurora and airglow, ionospheric physics, gravity measurement, oceanography and seismology.

With the disastrous Port Martin fire of 1953 in mind, the French committee has decided to erect metal buildings, not wood. The transport comprises three American weasels, two sno-cats with Chrysler V8 engines, a tractor and seven sledges, and a landing craft.

The expedition vessel is expected to leave Hobart on 15 December, reach Adelie Land in January, and leave on its return to Europe at the beginning of February.

Japan.

A Tokyo message dated September 27 states that the Japanese Science Council has decided to take part in the activities of the I.G.Y. Arrangements are in the hands of Mr. Matsamura, Minister of Education. Japan has been requested by the I.G.Y. authorities to operate from a base on the Prince Harald Land coast, 35°E, 70°S. A preliminary survey by 20 men is to be carried out for the two months, December 1956-January 1957. The expedition proper will comprise 40 scientists.

United Kingdom.

The Royal Society is establishing a station in the vicinity of Vahsel Bay, probably close to Shackleton Base. The m.v. "Tottan" (540 tons) was due to sail on November 22 with the advance party: Surgeon Lieut.-Commander D. Dalgliesh, R.N. (33), who spent two years at Marguerite Bay with F.I.D.S.; Major G.E. Watson (33), electronic engineer; Dr. S. Evans (26), radio-astronomer; D.W.S. Limbert (28), meteorologist; K.E.C. Powell (27), diesel mechanic; Capt. R. Dalgliesh (27), brother of the commander, tractor-driver; J.E. Raymond (40) and D. Prior (41), carpenters. The advance party will erect the research station. A second party, 18 strong, will sail a year hence to relieve the advance party. Preparatory expenditure of about £120000 will be incurred during the current financial year.

United States.

The first ships of Task Force 43, the ice-breakers "Glacier" and "Edisto", towing oil-barges, have been delayed by heavy weather approaching New Zealand, and are now expected to arrive at Lyttelton on December 5 and 6 respectively. Admiral Byrd, Dr. Paul Siple and other officers, with some of the Task-Force aircraft, are already in New Zealand. The other five ships, U.S.S. "Nespelen", a tanker, U.S.S. "Eastwind", an ice-breaker, U.S.N.S. "Greenville Victory", a cargo ship, and U.S.S. "Arneb" (flagship) and Wyandot, assault cargo ships, will arrive in Lyttelton from December 11 to 14. Of the 15 aircraft, eight are being flown to New Zealand, and about 15 December ski-rigged R4D (Navy version of DC3) and P2V (Neptune) aircraft will fly non-stop from Harewood to McMurdo Sound with the ships lined up in support as detailed in Bulletin No.19. This is the first time aircraft have ever flown non-stop from another land mass onto the Antarctic Continent. The remaining aircraft are being carried on the ships. Four of the planes will fly back to New Zealand, leaving others in the south for the winter.

The total Task Force strength is 194 officers and 1611 men. The expedition is under the over-all command of Rear-Admiral R.E. Byrd and Rear-Admiral G. Dufek is in operational command. He is travelling in the U.S.S."Arneb".

Two twin-engined R4D.s (Douglas DC3.s), two four-engined R5D.s (DC4.s), two UF1.s (Grumman triphibians which can land on land, sea or ice), and two P2V.s (Neptunes), arrived at Whenuapai in 2 flights, on November 25 and 27.

Two amateur radio-stations sponsored by the U.S. Navy will broadcast from about March 1 next year, from Little America (KC4 USA) and McMurdo Sound (KC4 USV). They will receive and transmit on the 80, 40, 20, 15, 11 and 10 metre bands.

"One of the most difficult construction jobs in history" will confront the 200 Seabees under Cmr. H.F. Whitney who are going south this month in the seven vessels of Task Force 43, and who will have 14 months in which to build bases for the scientists participating in the American project. The main requirements are: (1) a base camp at Little America, (2) an air base in McMurdo Sound, (3) Byrd Station, 600 miles west of Little America, (4) Pole Station at the South Pole itself. Reconnaissance parties will be first as they have to select sites for (1) and (2). When temporary housing is erected, work will begin on the permanent establishments, on the housing of over 900,000 gallons of aviation fuel and 150,000 gallons of diesel fuel, and on the construction of snow-compacted runways, workshops and navigational aids for the aircraft. The McMurdo Sound air-base is to have an ice runway capable of supporting

four-engined aircraft, and constructed by flooding with seawater and allowing it to freeze to a depth of about 10 inches.

When the ships leave for New Zealand in February, 120 officers and men will stay behind to complete this construction work.

The U.S.S."Glacier" is the most powerful, strongest-hulled and best-equipped vessel of its kind ever built for the U.S. Navy. Only commissioned on May 27 this year, the "Glacier" will be facing its first polar ice on its voyage to the Ross Sea. 310 feet long, with a 74-foot beam and displacing 5100 tons, the "Glacier" cruises at 12 knots. Its main characteristics are the reinforced bow, thick double-walled hull with cork insulation, round bottom and ultra-modern crew quarters and messing facilities. It is expected to force its way through ice 15 feet thick.

The "Glacier" has been equipped with a 1200-foot, balloon-supported antenna to provide long-range communications. The small Zeppelin-type balloons, about 30 feet long, will lift and support the antenna vertically. It is designed to assure reliable communications for a range of 1500 miles, and will also be used for weather observations and aerological studies.

The de Havilland Otters, four of which will be taken south on the ice-breakers, are 14-passenger, fully "winterised" aircraft which have given excellent service in Arctic conditions for the Canadian and Norwegian Air Forces.

U.S.S.R.

The first ship of the Russian Expedition organised by the Soviet Academy of Sciences, the 12,600 ton diesel-electric "Ob", left the Baltic on November 30. The sister ship "Lena" is due to leave on December 15. Both vessels were built in the Netherlands last year and were specially designed for the northern sea route along the Arctic coast of Siberia. Dr. Mikhail Somov, an expert on sea-ice and leader of a drifting expedition in the Arctic Ocean in 1950-51, heads a party of 226, including 70 scientists. His second-in-command, Dr. V.G. Kort, is an oceanographer.

The Russians plan to establish three stations on the Continent. One is to be on the Knox Coast, Queen Mary Land, between 102° and 110° E., one in the region of the south geomagnetic pole, and one near the "pole of inaccessibility", at the greatest distance from the coast. The lavish equipment includes large transport aircraft, tractors, light motor vehicles and dog teams. The expedition will have a powerful radio station, a stock of 2,000 tons of fuel, and an electric power plant with an output of several hundred kilowatts. Ten prefabricated wooden houses have been prepared: they will be erected on the ice with steel foundations.

If conditions prevent a landing on Queen Mary Land, the expedition will proceed to Queen Astrid Land, some 400 miles to the west. When unloading has been completed the two ships will leave the Knox Coast, and the "Ob" will carry out extensive oceanographic work on the homeward passage. The personnel will be changed annually during the period 1956-1959.

THE CHILEAN BASES.

The relief expedition to the Antarctic bases, to relieve the crews and staffs which have been manning them for the past year, and to replenish stocks, will leave Valparaiso for Punta Arenas on the 15th November. This flotilla will consist of: the transport "Rancagua", the frigate "Baquedano", and the tenders "Leucoton" and "Lientur". This is the tenth Chilean flotilla to be sent to the Antarctic. It will be under the command of Captain Alfredo Martin Diaz.

The construction of an icebreaker for use in the Antarctic bases has been ordered by the Chilean Government from the German firm Schultz and Bruns, of Emden, at a cost of U.S. $1,200,000. The employment of such a vessel was recommended by Captain Kahn of the Chilean Navy on his return from the Seventh Antarctic Commission, of which he was in command. It is said that the engines will be ordered from the States and the hull built in Germany. The Chilean Comptroller General has objected to this purchase as no public tenders were asked for. Whether his objection will be overruled remains to be seen.

Capt. Fernando Ferrer, presently commander of the Chilean frigate "Chipana" has been designated as Chilean observer in the forthcoming United States expedition to the Antarctic. He left recently for Washington, to embark on one of the two ice-

breakers that will accompany the expedition.

The Commander of O'Higgins Base reported by radio early in October that the jetty had been washed away in a heavy storm and that boats had been lost.

A special set of Antarctic stamps, for ordinary mail, is to be issued shortly.

NEW ARGENTINE BASE?

It was stated in Buenos Aires on November 21 that Argentina had established a "refuge" about 280 miles from her military base, General Sam Martin. The refuge was said to have been set up between Marguerite Bay, on the west coast of Graham Land, and the Weddell Sea.

The new Argentine government is adhering to the position taken by General Peron in disputing British sovereignty over the Falkland Islands Dependencies, said Argentina's new United Nations representative in a speech to the General Assembly on October 3.

Britain, Chile and Argentina renewed on November 21 for another year the agreement not to send more naval units than is customary south of latitude 60° S.

INTERNATIONAL WHALING COMMISSION.

The seventh meeting of the International Whaling Commission was held in Moscow from 18 July to 23 July. All the seventeen contracting Governments were represented with the exception of Brazil. The following amendments were made to the Schedule to the 1946 Convention.

(1) The 15,500 blue whale units limit is to be reduced for 1955-56 to 15,000, and thereafter to 14,500.

(2) No blue whales are to be taken before 1 February (the present date is 21 January).

(3) Certain previously closed areas in the Pacific sector covering roughly the area south of 40° S. from 70° W to 160° W. are to be opened, for a period of three years. One object of this is to enable the stock of whales in this srea to be studied.

These decisions were not all unanimous and none of the amendments can come into operation until they have been submitted to all contracting governments, who have the right to object within a period of 90 days. If any objections are received within that time, a further 90 days must elapse before the amendment becomes operative and even then it is not binding on those governments who have objected.

There were fewer infractions of the regulations than in the previous year. During last season nineteen factory ships with 233 catchers were engaged. The total oil output from the Antarctic increased from 2,057,479 barrels to 2,237,530 barrels (including sperm oil).

It was decided to intensify whale-marking and £1000 was set aside for this project in the budget for the current year. In future, two out of every three annual meetings are to be held in London, where the Commission's office is situated.

It was reported on October 12 from Oslo that the Norwegian Government has raised with the Government of Panama the allegation made by the Norwegian Whaling Association that the Onassis whaling fleet hunted in protected areas, took whales below the minimum weights permitted and before and after the stipulated periods.

Whalers Under Way.

A Japanese whaling fleet has already begun operations in the Antarctic, according to a message to the Taiyo Fishery Company from the 16,800-ton mother-ship. Nisshin Maru, dated November 23.

The fleet had so far caught 13 sperm whales, the catching of which is not restricted, a company spokesman said. He added that the fleet was looking for sperm whales while it waited for the opening of the fin whale season, starting on January 7. Japan has sent three whaling fleets to the Antarctic this year - her biggest post-war expedition.

The South African owned "Wilfred Fearnhead" (531 tons) was expected at Hobart on November 19 en route for Antarctic waters. Chartered by the South African National Institute of Oceanography, the vessel is to be used in connection with whale-marking and the study of whales' movements.

ACTIVITY ON CAMPBELL ISLAND.

A Sunderland flying-boat detailed from No. 5 (F.B.) Squadron, R.N.Z.A.F., left Bluff at 5.30 a.m. on 11 November carrying a team of technical officers from the Ministry of Works. The plane arrived at Perseverance Harbour at about 9 a.m. The weather was good, with under three-tenths cloud and conditions for photography were quite satisfactory. The visitors had time to investigate the jetty, water depth, unloading facilities, access, and the nature of the peat in the camp area, before the plane took off again at 3 p.m. Mr. H. Coleman, relief ionospheric observer, remained on the island.

Reporting to the "Bulletin" by radio-telephone on December 1, Mr. Ian Clark said that sooty albatrosses had come back in large numbers and had been 'nested' for three weeks. Two birds had returned to old nests on Beeman Hill, one of them to a nest occupied last year. It was not known if it was the same bird which had previously used the nest. The rock-hopper penguins had also begun to lay their eggs, and it was noticed that in almost every case one egg was sky-blue or greeny-blue and the other a dirty brown.

Island Journeys.

Ian Clark and Frank Collyer had made a trip to the north of the island. South of Courrejolles Point, they found a huge penguin rookery which they were unable to reach as it was situated in a little bay completely surrounded by precipices. They looked down on it from immediately above - about 200 feet. After a three hours' walk from the camp the two men reached a mollymawk nesting-ground which at a distance looked like an area covered in snow, so thick and numerous were the nesting birds. Black-browed and grey-headed mollymawks were seen. The trampers were only able to go out a little way, but were completely surrounded by the birds, and had difficulty in finding spaces in which to place their feet. Walking on, they reached the extreme north of the island, and returned along Faye Ridge, where many Royal albatrosses had begun to nest. It was a tiring but rewarding journey.

Clark and Collyer also visited North-East Harbour (where they saw relics of whaling activity) by way of Lyall Ridge, returning up the valley, which appeared to be moraine-filled. Byron Hart and Geoffrey Kape also made a trip to North-East Harbour and spent a night in the old hut there. On the ceiling were newspapers dating back to 1906.

A number of leopard-seals have been seen and a few fur seals. Work has been completed on the wharf at Beeman and the surrounding area has been cleaned up. A large concrete block has been 'poured' to facilitate the landing of cargo. Improvements have also been made to the Tucker Cove jetty. The party were disappointed that the launch, on which much time had been spent to provide new engine mounting and housing to cope with the new gear box, broke down as the Sunderland aircraft arrived, and Campbell Islanders and visitors alike had to use the oars. It was a minor fault, but could not be rectified in time. The launch has been painted and is "looking good".

Relief Operations.

The m.v. "Holmlea" left Wellington on December 2 carrying the Campbell Island relief party for 1956. The new officer-in-charge will be Mr. P.G. Poppleton (33), a widely-travelled New Zealander who is a trained carpenter with a wealth of varied experience "from chain-man to cook". Mr. Poppleton saw service in Japan with the first relief draft from 1946 to 1949 and was in Korea for 21 months, returning to New Zealand in November last year. Since then he has been a technician with the Geological Survey and has become a keen amateur geologist. He is also an enthusiastic photographer and has been undergoing a course of emergency-medical training at Wellington Hospital. He was previously a trained "St. John" man.

The other members of the new party are - H.A. Coleman and B.J.A. Perkinson, ionospheric observers: A.F. Davidson and V.A. Petty, meteorological observers; and J.D. Jamieson and D.R. Harrison, carpenters.

AN "ENDURANCE" DIARY.

(We now publish the section of Harry McNeish's diary following the missing portion, which would have covered the period from the launching of the boats to the arrival on Elephant Island. Ed.)

.....both feet as all his toes are gone (this refers apparently to Blackborrow, whose feet had been frostbitten. Ed.) but the rest are getting along very well.... Wild and his party arrived back at 8.30. (They had been sent to find a better beach. Ed.) so we all turned out and hauled the boat up. He reports a fine place 7 miles from here so we are going to shift tomorrow

Monday 17th -

We turned out early and got the boats launched at high water But it was 11.25 before we got away right in the heart of a heavy S.E. squall. & everything went well for the first 2 miles & after that it was nothing but a succesion of heavy snow squalls. Which gave us as much as we could do to keep up against them & prevent ourselves from being blown out to sea. We arrived at our destination at 4 P M & by the time we had everything ashore it was getting dark. Then we had a hot drink & rolled up for the night with a watch set.

Tues 18th -

Wild's Birthday a blizard on at present the sea came up to the Caird and washed away a bag of under clothes that we had for the party who went in the James Caird for relief it is a big loss on an occasion like this..... We turned out after lunch & hauled the boats further up the beach & squared things up for the night the blizard still continues. No 5 tent has blown to ribbons. & all the others are down flat on top of our sleeping bags. & held there by large stones

Wedn April 19th -

The Blizard still continues. All hands are busy trying to rig up some kind of shelter. We have built a wall 2 ft around our tent with 2 oars crossed & the tent laced up to them. We cant sit up in it but it is better than what we had last night the cold wet tent cloth on our faces. All hands went killing penguins for a winter stock of food in case there is no relief before the spring

Thurs. April 20th.

A better day with ocasional snow squalls. I dont think there are ever many fine days on this forlorn island. I started to dismantle the Docker to deck in the Caird which is going to South Georgia for releif as I dont think there will be many survivers if they have to put in a winter here. There are 4 on the sick list at present so there is a party of 6 going to Georgia in the Caird 600 miles. The Party includes

Sir Ernest
Skipper
Creen
Macnish
McCarty
Vincent

Friday April 21st.

All hands are busy skining and storing penguins. some repairing the Cairds gear 2 sewing canvas for the deck. Myself Marsten & McLeod are busy getting the Caird ready. There has been heavy snow squalls all day. There are 5 on the sick list some heart trouble some frost bites..... I expect to finish the boat tomorrow, & sail on Sunday

Sat April 22nd

There has been a SE Blizard raging all day so there has been nothing doing but ly in our wet bags & have our rations passed in. We hauled the Caird further up the beach last night & a good thing for us as it would not have been a pleasant job on a day like this

Sunday April 23rd

We were out last night & pulled the Caird further up the beach as there was a higher tide & more surf than usual. I have been busy getting the boat ready, & it has been snowing & blowing very hard all day. Cheatham & McCarthy have been busy trying to stitch the canvas for the deck & they had rather a job as it was frozen stiff. They had to pull the needle through with a pair of pinchers Marsten & McLeod have been assisting me

Monday April 24

A fine morning I started on the boat at daybreak & finished at 10 a m. Then all hands were mustered & we launched her. & as we were getting her of the beach a heavy surf came up. & owing to us being unable to get her bow of the beach she almost capsised as it was she emptyed myself & Vincent overboard. but we regained the beach again. & went of in the stancomb wills. We got her ballasted & the stores aboard & everything ready. We took Goodbye with our companions. & set sail on our 870 miles to South Georgia for assistance at 12.30 & at 2 P M we came to a stream of ice which we managed to get through in about an hour. Then we were in the open sea wet through but happy through it all

Tues 25th.
Fine W S W breeze running all day sky overcast

Wed 26th.
W S W gale squally & cloudy run 100 miles

Thurs 27th.
Northerly gale overcast & heavy squalls hove too

Friday 28th.
Light N W to W winds misty high N W swell

Sat 29th.
Fresh W to S W breeze squaly running high seas

Sunday 30th.
hove too at 8 a m & put out sea anchor at 3 P M heavy sprays breaking over the boat & freezing solid.

Mon May 1st.
SSW gale laying to sea anchor & mizzen

Tues May 2nd.

(There is no further entry until Monday, May 8th. Shackleton at this stage writes of McNeish: "The carpenter was suffering particularly, but he showed grit and spirit.")

(To be continued.)

STOP PRESS.

A.N.A.R.E.

A Canberra message dated December 3 states that Australian explorers believe they have found a gap through the mountain range which has barred the way south from Mawson. Bechervaise has radioed that he believes the gap will provide a safe pass through the mountains which other Australian explorers discovered last year. The party had picked a way through the barrier of ice crevasses which made the approaches to the mountains difficult. Bechervaise said the clear, frozen air threw the explorers' estimates of mountain sizes awry.

The Australian Minister for External Affairs, Mr. Casey, said the party would lay advance bases for another group of explorers who plan a 1000-mile journey from Mawson later this year.

F.I.D.S.

A report from London dated November 25 states that a sledge party of four men of F.I.D.S. has successfully completed a survey of hitherto uncharted parts of Grahamland. The leader of the team, which is based at Hope Bay, was Mr. W.E.Anderson.

During their journey of some 900 miles across territory where temperatures of minus 50 deg. Fahr. are recorded, they found "an easy route" up the Richthofen Glacier to the Grahamland plateau. The escarpment to this plateau rises steeply to between 6000 and 8000 ft. and the route now found to the roof of the plateau will enable future survey parties to explore the central part of the hinterland.