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THE COMMONWEALTH TRANS-ANTARCTIC EXPEDITION.

N.Z. Base in McMurdo Sound.

Following the grant of £100,000 by the Government of the United Kingdom, the New Zealand Government has given £50,000 towards the cost of the trans-Antarctic expedition to be led by Dr. V.E. Fuchs, and has set up a committee, the Ross Sea Committee, to organise the establishment by a New Zealand party of the terminal base at McMurdo Sound in the Ross Sea. The Ross Sea Committee comprises:

- The Hon. C.M. Bowden, chairman.
- Mr. R.D. Moore, general manager of the Bank of New Zealand, treasurer.
- Mr. B.R. Law, managing director I.C.I. (N.Z.) Ltd.
- Dr. Ernest Marsden, formerly head of the N.Z. Department of Scientific and Industrial Research.
- Dr. R.A. Falla, director of the Dominion Museum (representing the N.Z. Antarctic Society).
- Prof. L.R. Richardson, Dean of the Faculty of Science, Victoria University College, (representing the Royal Society of New Zealand).
- Mr. H.E. Riddiford (representing the Federated Mountain Clubs of New Zealand).
- Mr. A.D. McIntosh, Department of External Affairs.
- Mr. D.F. Anderson, Treasury.

Sir Edmund Hillary has been appointed leader of the New Zealand expedition, and he also will be a member of the Committee. Captain H. Ruegg, Administrator of the Ross Sea Dependency, Mr. R.S. Odell, Director of Information, and Dr. E.I. Robertson, representing the D.S.I.R., have been co-opted as members.

The secretary of the Committee is Mr. A.S. Helm, who is secretary of the New Zealand Antarctic Society.

The primary functions of the Committee, which will of course be working in close co-operation with the British committee of management which is in over-all control of the expedition, will be

- (1) to organise an appeal for funds from the general public;
- (2) to arrange for equipment, stores and transport; and
- (3) to select and arrange for the training of personnel.

Ross Sea Committee at Work.

The appeal for funds will be launched simultaneously in London and Wellington, later in the year. All equipment will be standardised and the committee will in this connection act in close co-operation with the British committee and be largely guided by the experts there. Negotiations are in progress to obtain about 50 dogs inured to polar conditions and trained for sledge work. When the dogs are obtained they and their drivers will be put into training in New Zealand glacier and snow-field regions. Arrangements for the chartering of the Ross Sea expedition ship will be carried out by the British authorities.

The New Zealand committee has already received some hundreds of applications to join the expedition. Further applications are invited from qualified surveyors, geologists, geophysicists, meteorologists, medical officers, radio operators and mechanics, diesel mechanics, aircraft pilot-mechanics, general mechanics, photographers and tradesmen. Preference will be given in the final selection to those who, outside their professional qualifications, are proficient skiers and mountaineers. It is stressed that adaptability and the capacity to get on well with others under conditions of stress and hardship are qualities of the utmost importance.

As the McMurdo Sound area has already been well surveyed, it is not now intended that the New Zealand party shall go south until the summer of 1956-57, leaving New Zealand probably in December next year. An advance group for the British Weddell Sea party will, however, leave the United Kingdom towards the end of this year and endeavour to establish a base at Vahsel Bay in the south-east corner of the Weddell Sea. It is probable that Sir Edmund Hillary and another New Zealander will accompany this party for experience in Antarctic conditions. Dr. Fuchs, Sir Edmund and other observers will return with the ship, leaving a small party to winter at the new base.

Summer, 1956-57.

In the following summer this Weddell Sea party will move out from the base which has been set up and pushing across unknown territory will establish a depot 300 miles to the south. Meanwhile the Ross Sea party of twelve or fifteen (mostly New Zealanders) under Hillary, after establishing its base somewhere in McMurdo Sound, will reconnoitre the Ferrar Glacier which leads up from New Harbour in the west of McMurdo Sound, almost opposite the old Scott-Shackleton base sites on Ross Island. The glacier was first traversed by parties led by Lieut. Armitage and by Scott himself in 1903, and provides the best-known route westwards across the South Victoria Land mountains to the ice-cap which covers the heart of the Antarctic continent.

Summer, 1957-58.

In November, 1957, the trans-Antarctic party under Dr. Fuchs and, it is hoped, including Mr. George Lowe and another New Zealander, will leave the Vahsel Bay depot. Travelling by means of Sno-cats (six of which are being taken) with assistance from dog-teams and with air support, the party will strike for the South Pole and on across the ice-cap, west of the coastal mountains, towards the Ross Sea. Meanwhile the New Zealanders, using dog-sledges with air reconnaissance, will have established a route to the head of the Ferrar Glacier, and will with the help of aircraft have built a depot 250 miles to the south, in the vicinity of Mt. Albert Markham (81°25' S., 158°0' E.). Here the two parties will meet, and travel together back to the McMurdo Sound base, and from there to New Zealand, which will thus have the honour of welcoming the first men to cross the Antarctic continent.

Close Liaison.

Mr. Bowden, chairman of the Ross Sea Committee, will ordinarily be represented on the Committee of Management in London by the New Zealand High Commissioner in the United Kingdom, the Hon. T.C. Webb. The London committee, similarly, will be represented on the Ross Sea Committee in Wellington by a member of the staff of the British High Commissioner's Office. Sir Miles Clifford, previously Governor of the Falkland Islands and Dependencies, visited New Zealand between June 5 and June 19, to confer with the Ross Sea Committee. Sir Edmund Hillary, who has already had discussions with Mr. P.G. Law, director of the Antarctic Division of the Australian Department of External Affairs, will be in London next month, when he will discuss such matters as equipment with the London committee. He will report to the Ross Sea Committee on his return about the end of the month.

It is hoped that arrangements may be made for New Zealand observers to be included in the Australian relief expedition to Mawson next summer, as well as in the Weddell Sea reconnaissance party.

FALKLAND ISLANDS DEPENDENCIES SURVEY.

New Bases Established.

Two new bases have been set up this season. Both are off the west coast of Graham Land - Base N on Anvers Island, and Base Y on Horseshoe Island in the north of Marguerite Bay.

The M.V. 'Norsel' which has been assisting the 'Biscoe' left the Falklands on February 21st, and proceeded first to Hope Bay to collect personnel and dogs and arrived at Anvers Island a week later. The island was circumnavigated and a site chosen for Base N, 4 miles east of Cape Monaco at 64°43' S., 64°57' W. The vessel remained there for 10 days to assist with building operations and sorting stores, and paid two other visits in March. The 'Biscoe' also spent some time there. The 'Norsel' reached Marguerite Bay on March 9th, meeting fast-ice 4 miles north of the Debenham Islands. A site was chosen for Base Y on Horseshoe Island and the vessel remained there to assist the shore party until March 15th. Horseshoe Island is about seven miles long and three miles wide and is situated approximately 67°53' S., 67°11' W.

In addition to these activities, a new base hut has been built at Signy Island

(Base H), and the non-magnetic hut erected at the Argentine Islands. The new base hut built at the Argentine Islands last season is now reported to be well-established and a great improvement on the old one.

New F.I.D.S. Ship.

It was announced recently that a new diesel-electric ship, comparable in size to the 'Biscoe' but of greater cargo and fuel capacity, has been commissioned by F.I.D.S. It is to be built by Fleming and Ferguson of Paisley and should be ready for use in 1956, when it is expected that the 'Biscoe' will be taken out of service. The hull will be of 1-inch plates of special steel, length overall 200 ft., beam 40 ft., and draught (mean load) $15\frac{1}{2}$ ft., and it should be capable of a speed of $12\frac{3}{4}$ knots. Accommodation for 30 F.I.D.S. men, in addition to the crew, is planned, and the cargo capacity will be more than three times that of the 'Biscoe'.

South Georgia.

A reindeer survey was carried out in South Georgia by Bonner, a member of the King Penguin survey, before he returned to the U.K. in March.

AIR SURVEY OF GRAHAM LAND.

The British Colonial Office has announced that it has arranged for an aerial survey of Graham Land and adjacent sections of the Falkland Islands Dependencies. The survey party is to leave London in October and return in April. It will be based on Deception Island. The ship will be equipped with a Westland Sikorsky S 51 helicopter and thousands of photographs will be taken in the most comprehensive aerial survey yet made of the Graham Land area.

THE INTERNATIONAL GEOPHYSICAL YEAR.

Readers will recall that in 1879 the International Meteorological Committee appointed a special committee to organise temporary observatories in the north polar region for one year. This was the first International Polar Year of 1882-3. Fifty years later a second International Polar Year was organised, 1932-3. "Because of the many relationships between various terrestrial phenomena and their general association with solar phenomena," said the Astronomer Royal in a B.B.C. talk, "and because various new methods of investigation have been developed since the second Polar Year, the suggestion was made some four years ago that a third Polar Year should be organised for a concerted attack on the many problems that need to be solved. The proposal was endorsed by the three international scientific unions primarily concerned, those of Astronomy, Scientific Radio, and Geodesy and Geophysics. The recommendations of these unions were approved by their parent body, the International Council of Scientific Unions, which widened the scope of the scheme to cover the whole globe instead of being confined to the polar regions and gave it the title of the 'International Geophysical Year'. An international committee was appointed to develop the plans for the enterprise and has decided that the International Geophysical Year shall extend from July 1957 to December 1958, so that the 'year' will be one of eighteen months."

After referring to the importance of the Antarctic for world weather and geomagnetic observations, he continues: "The aurora australis has hardly been studied at all and the southern zone of maximum auroral frequency has not been properly mapped. It is important to find out if the aurora australis differs in its characteristics from those of the aurora borealis. The long winter of the antarctic continent, with a prolonged absence of sunlight, will enable the physical characteristics of the ionosphere to be studied.

"In the antarctic region, eleven stations on the continent or below the Antarctic Circle and ten on the surrounding islands have been planned, or indeed are already in operation; one of these stations will be at or near the South Pole. It is hoped that arrangements can be made for a further eight stations to be established to fill the more important gaps. Never before will the Antarctic have been so well populated.

"The International Geophysical Year will be the largest scheme for international co-operation in science that has ever been planned. Its success is assured, for the co-operation of thirty-six countries, including the Soviet Union, has already been promised. It will undoubtedly add greatly to knowledge and cannot but help materially in the solution of many problems in geophysics."

Some points of special Antarctic interest in an article on I.G.Y. by Prof. Sydney Chapman, F.R.S., in "Nature", March 5, 1955.

Glaciology. "One great objective is to investigate the ice morphology and measure the total ice content of Antarctica. In this plan the co-operation of American, Australian,

French and perhaps other nations is hoped for. It is anticipated that, with the aid of special aircraft, widespread seismic surveys will be made to determine the thickness of ice over the whole continent, and to settle the geography of the coast under the ice cover. This survey has special importance for the long-term climatological prediction of sea-level changes. The limits of permanent ice - a matter of present interest and valuable for comparison with future surveys - should be charted with considerable accuracy."

During the Geophysical Year, chains of stations will be established along the three meridians of 80 degrees W, 10 degrees E, and 140 degrees E, which have been selected because they pass through or near major land masses. The observations at these stations will be combined with data from balloons and rockets to provide information for the study of the circulation of the atmosphere. "Rockets," says Prof. Chapman, "provide the most important new technical feature that distinguishes the Geophysical Year from the Second Polar Year... The American National Committee for the Geophysical Year plans to fire approximately thirty-six large rockets ('Aerobees') and about a hundred rockoons" (by which a rocket is carried up to a considerable height by a large balloon and launched at a pre-determined pressure level) "distributed throughout the period, and also geographically, from the Arctic to the Antarctic."

Extensive U.S. Projects.

The United States is the only one of the participating nations to have begun actual field work in connection with the International Geophysical Year: the voyage of the "Atka" was in the nature of a reconnaissance. The U.S. Navy will begin a three-year project when five ships carrying 1393 men sail for the Ross Sea via Wellington, New Zealand, on November 1, under the over-all command of Admiral Byrd. Captain George Dufek will be acting task-force commander and in direct charge of Navy operations. The ships assigned to the task-force are the ice-breakers "Glacier" and "Edisto", two cargo ships "Arneb" and "Wyd" and the refuelling ship "Nesfelen". The "Glacier" of 8300 tons is said to be the largest ice-breaker yet built outside of the Soviet Union. It is equipped with two 10,500 h.p. electric motors, ten diesel engines, and has a complement of 19 officers and 320 men. Two helicopters will be carried for reconnaissance, rescue and supply operations. The vessel has a fully-equipped, air-conditioned hospital.

"Operation Deep-Freeze."

Scheduled to reach the ice-front in the "Little America" area next January, "Expedition Deep Freeze" will land supplies and equipment and a special mobile construction battalion of some 200 volunteer Seabees, at present forming at Davisville, Rhode Island, under Commander Herbert W. Whitney, will commence the construction of the base camp and one run-way. The run-ways will ultimately be long enough to accommodate Flying Boxcars and will be constructed of either compacted snow and ice or on bay ice. Observation posts will also be established, and manned by scientists.

The ships will return to the United States in February, leaving behind some 120 men for the Antarctic winter. This party will complete the run-way and have the base-camp and airfield ready to receive the aircraft which will fly from New Zealand, in October, 1956. The first planes will be medium patrol craft equipped with skis. About the time these aircraft fly in, construction will begin on an "overland" road for tractor-drawn sled-teams to a second base at about 80° S and 20° W. If it is found that wheel landings are possible, two larger transport planes will then be flown in. These in turn will be followed by three of the largest type of military transport plane, which will be used to air-lift supplies and equipment for the third observation station, to be established as near as possible to the South Pole itself.

The United States has invited seven countries with claims in the Antarctic to send observers with the American expedition. The countries are Britain, France, Norway, Australia, New Zealand, Argentina and Chile. The State Department emphasises that this action in no way implies recognition of the claims by these nations to territory in the Antarctic.

French Projects.

Plans for three French Antarctic expeditions have been announced as a contribution to the International Geophysical Year. The first of the expeditions, which will be under the direction of M. Paul Emile Victor, is scheduled to leave Rouen next October under the command of veteran Arctic explorer Robert Guillard. The French party will set up a primary station at Pointe Geologie on the coast of Adelie Land, where the French party under Mario Marret wintered in 1952. The nearest other station to this one will be the New Zealand base in McMurdo Sound.

A satellite "Plateau Base" will then be established 300 or 350 kilometres from the

coast, at the South Magnetic Pole. There, three to five men will spend a whole year, and another group will continue the observations for a second year, returning in March, 1957.

In January, 1957, a second expedition under M. Bertrand Imbert (who was in Adelle Land during 1950-52) and consisting of 20 to 25 men will begin to install the many delicate scientific instruments required for the actual I.G.Y. observations. This party will be relieved in January, 1958, by a third expedition under M. Gaston Rouillon, which will be responsible, after the year's work, for closing the bases in early 1959.

The French also envisage a series of journeys into the interior by sno-cats and weasels, for seismological and gravimetical observations, perhaps even as far as the Pole itself.

Other Nations Plan.

The Federal German Republic is planning an expedition to Neuschwabenland, the hinterland of the Queen Mary Land coast, between 12° W and 20° E, which was air-surveyed by planes from the "Schwabenland" under Captain A. Ritscher in January, 1939. The proposed expedition is to be led by Dr. Karl Herrligkoffer, who was leader of the expedition which climbed Nanga Parbat in the Himalayas in 1953 and wrote the account of the expedition. He plans to establish a coastal base and then set up five observation stations at 300 kilometre intervals to the Pole. Dr. Herrligkoffer intends to place his polar station far enough away from that of the Americans so as not to interfere with it. He hopes to co-ordinate his work with the I.G.Y. but his plans are not yet fully developed. A press message states that a party of 30 scientists is envisaged, and that they will set up air-supply stations along the route.

In Belgium, M. Edmond Hoge, a geophysics authority, addressing a large gathering of eminent Belgian scientists on June 4, outlined a plan for a "Belgian scientific expedition on the Antarctic continent". He urged that Belgium should install and occupy one of the bases recommended by C.S.A.G.I. (the special committee for the I.G.Y.) of which the development has not yet been undertaken. The site suggested is on the Queen Mary Land coast in 67° S, 95° E., midway between the French base in Adelle Land and the Australian station at Mawson.

Norway is expected to establish a station on Peter I Island, which was the first land to be discovered south of the Antarctic Circle. This was by Bellingshausen in 1821.

AFTER FIFTY YEARS.

Two bottle-messages placed in the sea in the year 1903, one by Dr. W.S. Bruce's "Scotia" Expedition and the other by Dr. Drygalski's German Expedition, at widely divergent places in sub-Antarctic waters, have been recovered within the space of 3 years on the one beach at Tangimoana, 10 miles from Foxton on the west coast of the North Island, New Zealand.

In the "Antarctic News Bulletin" of June, 1953, we recorded the finding by Mr. P. Larsen among the sand-dunes at Tangimoana of the bottle from the Scottish Expedition. Mr. Larsen has kindly supplied us with further details. The "Scotia" drift-bottle was placed in the sea in Lat. 54°38' S. and Long. 52°37' W. (on the Burdwood Bank) on December 3, 1903. This is approximately S. by E. of the Falkland Islands, to which the "Scotia" was making its way from Laurie Island in the South Orkneys on the date mentioned. The bottle was discovered by Mr. Larsen on September 7, 1952.

A few weeks ago Master Roy Bould, also of Tangimoana, found a bottle about half a mile from the site of Mr. Larsen's discovery. This bottle contained a message from the branch-station on the Kerguelen Islands of Dr. Erich von Drygalski's German South Polar Expedition of 1901-1903. The message which, though faded, is quite distinct, is on a form headed "Deutsche Seewarte" (German Marine Institute) "Hamburg. Report on Ocean Currents." It states that the bottle, unweighted with sand, was placed in the sea at Kerguelen Island in March, 1903, and in German, English and French, asks the finder to forward the message to a German Consulate or to Hamburg. The form was sent through the Marine Department to the German Legation in Wellington, whence it is being forwarded to Germany.

A four-man party, three of whom had arrived earlier by the steamer "Tanglin", was left at the Kerguelen Islands when Drygalski's "Gauss" went south in January, 1901. At that time all were well and the station, at Observatory Bay (Lat. 49°30' S., Long. 70° E.), was operating. But when Drygalski returned to Cape Town in June, 1903, he learned that six months after the "Gauss" had left, Dr. Werth had been struck down with beri-beri, presumably caught from seamen on the "Tanglin". Two months later Dr. Enzensper-

ger also became ill. Dr. Werth recovered, but Dr. Enzensperger died on the island, "fulfilling" said Drygalski in a lecture to the Royal Geographical Society, "his duties with unwearied loyalty to the last." It was at this time that the drift-bottle recently found at Tangimoana was placed in the sea.

NEW ZEALANDERS WITH A.N.A.R.E.

David Kevin Grant, the 24-year old auroral physicist with the Macquarie Island party, was born in Christchurch and attended the Cashmere Primary School. He was then a boarder for five years at Waitaki Boys' High School. At Canterbury University College he studied chemistry and graduated M.Sc. with Honours. Early in 1954 he went to Australia for further experience and while employed in the laboratories of B.A.L.M. at Port Melbourne made his successful application to join A.N.A.R.E. Especially interested in mountaineering and photography, he made a number of major climbs in the Southern Alps.

We regret to report that Bruce Stinear, who was geologist with the pioneer party at Mawson and narrowly escaped death on several occasions, has been suffering from serious eye trouble, apparently the result of his Antarctic experiences. At one stage it was feared he might lose the sight of one eye. He is at present on leave from the Government Bureau of Mineral Resources.

"DISCOVERY" BACK TO THE THAMES.

Captain Scott's 54-year-old "Discovery" returned on May 3 to her old berth at Victoria Embankment, after refitting at Blackwell Basin for eighteen months. She has been having class-room and other accommodation fitted. In July she will be commissioned as an additional drill ship for the London Division of the Royal Naval Volunteer Reserve. She has not been at sea for more than 20 years.

"THE BANK OF ANTARCTICA."

The Argentine Ministry of Marine announces that banking services have been established between Argentina and the Antarctic, and that the first banking operation has been effected by the Bank of the Argentine Nation through its correspondent in the Argentine Antarctic base at Hope Bay. This development no doubt parallels the usual setting up of Post Offices at Antarctic stations, as a means of asserting the exercise of sovereignty by the nation concerned.

U.N. CONTROL OF ANTARCTICA.

Nine British M.P.s have called on the British Government to support United Nations ownership of Antarctica and the world's high seas. Claiming to represent 103 supporters (in both Houses) of the British Parliamentary Group for World Government, the deputa-tion, headed by Mr. Arthur Henderson, a former Labour Minister, and including Earl Bertrand Russell, the philosopher, called on the Minister of State, Mr. Nutting, at the Foreign Office.

WILL U.S.A. MAKE CLAIMS?

Three United States Congressmen, Mr. John Pillion (Repub.), Mr. Craig Homer (Repub.) and Mr. James Haley (Dem.) have announced, states a Washington message dated April 3, that they will introduce resolutions calling upon the Administration for a report within thirty days on the rights and claims of various nations to the Antarctic. In a joint statement they point out that Britain, New Zealand, Australia, Norway, France, Chile and Argentina have already made formal claims to part of Antarctica, and they maintain that there is evidence that the Soviet Union has been exploring Antarctica "with a view to military application". They wish to formulate legislation to help secure U.S. control over areas to which the U.S. might be entitled.

UNDER THE POLAR ICE.

U.S. army engineers are to dig under the Greenland ice-cap near the American air-base at Thule this summer. It is planned to construct an electric railway 100 feet underground to transport supplies and troops to and from the scattered outposts which it is often difficult and dangerous to reach across the blizzard-swept ice-cap. Preliminary experiments have shown that the snow is sufficiently hardened at this depth to allow it to be sawed and shaped.

AUSTRALIANS AT MAWSON.

NEW PARTY SETTLES IN.

Bechervaise reported on March 31: "The farewell sirens of "Kista Dan" signalled the freezing of the sea; now, heavy unbroken ice extends to all horizons. Infrequent blizzards and withering drift-filled winds, causing superficial frostbite, have separated periods of calm weather more sunny and equable than many days at home. The present scene is mellowed by brilliant sunshine at 45° below freezing point.

"Incessant activity has transformed Mawson since the ship's departure. The electricians have thrust out powerlines and bright lights to the new meteorological, physics and magnetic huts. A new antenna and feeder line, plus anchoring cables to new buildings and masts, lace the sky. The meteorologists have erected a Dines anemometer and numerous other instruments (including an overworked sunshine recorder) on their windy hill, and Parsons, with much co-operative sweat from all hands, has cast two immense three-ton piers for his cosmic ray equipment. Into one of these blocks on enduring high alumina concrete an etched brass plate was set, telling of the event, and for posterity, deep inside, an operations manual recording the purposes of the expedition was interred. The ex-Heard seismic hut has been transformed into an abode rivalling that of the glamour boys in the chromium plated "Ross" hut. Oldham, toiling in icy western wastes, advances towards the establishment of his magnetic station.

"Brief expeditions over the sea-ice to the nearer islands or to the plateau, chiefly for determining ice thickness and temperatures, have been made. We have witnessed magnificent aurorae almost nightly. However, the night light that provided the month's mystery was seen by everyone as a brilliant double flare, bright red, many miles away on the northern horizon. It was variously estimated as a whaler, a powerful stellar mirage or, by more hopeful elements, as a flying saucer or an arriving super nova."

WINTER CLAMPS DOWN.

A report from Mawson on 3rd May stated: "Mawson days are short now and the shadows long, with the altitude of the sun only seven degrees at midday, and its rising and setting linked by a wan salmon glow across the horizon. Sometimes, at mid-morning, the flushing of distant icebergs proves the dawn; otherwise we are left uncertain. All bird-life, except a flight of five snow petrels, has been absent since Easter. The few leg-weary emperor penguins and fledgling storm petrels then remaining were starved and frozen.

"Dense blizzards flood down from the plateau; rope life-lines are essential everywhere. The blown drift snow finds the minute crevices in huts and buries the dogs and the dumps of fuel. Digging out both is routine; generally the dogs sympathise with the men. Another common chore is sharing with Leon Fox the cross cut sawing of frozen seals into great outlets and chopping them into dog-rations.

"The men are becoming acclimatized. Ice, compared with metal, and any still days with temperatures round zero Fahrenheit, seem warm. Adequately provisioned weasels, with Crohn, Elliott, Lacey and me, have taken the plateau air for route-marking in preparation for the Mount Henderson meteorological station soon to be established and for ice-studies, particularly of the cryoconite transparent "pipes" which in some cases Crohn has laboriously traced to small deposits of gravel sunken to a depth of three feet. Gowlett, studying weasel anatomy, has used several men as voluntary ballast in trial runs as far as "Dukws Delight", the scene of our night halt in February."

The radio-sonde recorder has been installed in the met. hut. Parsons is operating "two massive directional cosmic-ray telescopes, the largest of their kind, hourly sweeping space at a set elevation between selected azimuth." His also is the cactus, the only flowering plant in several million square miles. It is flourishing.

On May 13, Bechervaise radioed that they had just witnessed the sea-ice expand an estimated width of ten miles. By measuring the altitude of the water sky, the earlier edge was estimated to be sixty miles. Blinding blizzards had been blowing for a week, so dense that all movement outside the station masked the men with thick ice. Goggles were useless save as a protection. It was like looking into a murky aquarium. Blizzard lines were essential even at distances of feet. When the blizzards eased there was a vast lane of open water beyond the heavy bay-ice, extending to the islands. The water-lane promptly refroze. One day a wind-run of thirteen hundred miles was recorded, averaging over 53 miles per hour.

A Canadian de Havilland Beaver aircraft has been purchased for next year's Australian Antarctic expedition. The Beaver is widely used in Canada's frozen north. It has a low landing speed and its wheeled under-carriage can be quickly replaced by skis and floats.

CHILE'S NEW BASE.

The Chilean Minister of Defence, D. Tobias Barros, on his return from a visit to Chile's Antarctic bases, referred to the Antarctic as "merely a prolongation of our southern territory." Chilean stations in the Graham Land area, he said, were manned by units of the Third Naval Zone, the Fifth Army Division and detachments of the Air Force. The transport of material and the installation of the new base in Pendulum Bay, Deception Island, was carried out in four weeks, more or less, by the Ninth Fleet under Commandant Gandara. This base, said Senor Barros, could provide a new highway in this area, the air road. In Pendulum Bay it was practicable to establish a run-way for air-planes. It would be possible to travel by air from the southern tip of the American continent to Deception Island in three hours, whereas by ship it required two days. Deception Island could serve as an intermediate stage to facilitate flights to the South Pole itself.

The President of Chile, in a message to Senor Barros, said "I desire that this base should bear the name of 'President Pedro Aguirre Cerda' whose vision made him the first governor to interest himself personally in order to conserve our sovereignty over Antarctic territory. The present generation of Chileans owe him at least this remembrance and this gratitude."

The current relief vessels carried out oceanographical researches in Antarctic waters.

RIVAL ANTARCTIC CLAIMS.

On May 4 Britain asked the International Court at the Hague to declare that the claims of Argentina and Chile to portions of the Falkland Islands Dependencies are illegal. Both countries have since re-affirmed their refusal to submit their claims to the Court as Britain has repeatedly invited them to do. In announcing the new move, the British Foreign Secretary, Mr. Harold Macmillan, said that if the two governments persisted in declining the British proposal "we shall at least have acquainted the Court of the facts of the case and have placed on record before the Court and world opinion the grounds on which we consider our title to the U.K. sector of Antarctica to be firmly rooted in international law." The British submission is contained in carefully-argued documents of some 12,000 words each.

President Peron's Government on May 12 sent to Congress a Bill incorporating the area in dispute into Argentina as one of five new provinces; it would comprise Santa Cruz, Tierra del Fuego, the Falkland Islands and their dependencies, including the South Orkneys, the South Shetlands and South Georgia.

CAMPBELL ISLAND DAYS.

Ian Clarke reported to the Bulletin by radio-telephone on June 9 that Campbell Island that day had a really sub-Antarctic appearance; heavy snow had fallen during the previous two days, with very cold winds and occasional hail.

The Sooty Albatross chicks have now got their feathers and are ready to leave the nests. The Royal Albatross chicks are already as large as their parents, and with their covering of white down look like "puffs of whipped cream" against the barren, tussock-covered hillsides. A closer look reveals the familiar black, beady eyes, the growing wings and the already powerful beak. They have now something of the parent birds' serenity, though the parents themselves have left the young ones to themselves. At Beeman Cove a female shag has become so tame that she allows the men to stroke her. She lacks the bright plumage of the male Campbell Island shag and looks, Clarke says, "rather unwashed" - but to the men she is now "Agatha". The little wax-eyes are very tame, and love to congregate round the fowl-food trough and to fly in at the kitchen window - leaving their visiting cards rather indiscriminately. They have developed a liking for rancid butter: here they are given a free hand.

AROUND THE CAMP.

Rats are becoming a serious problem. One gnawed through the sheet lead placed round the kitchen taps. Hans, the dog, is having great fun with the sea-bears. He likes leaping on to them in the water, even in the coldest weather, and being splashed by a quick flip of the sea-bear tail. The liking appears to be mutual. Two large sea-elephants recently came up on to the side of the road leading down to Tucker Cove and proceeded to make a wallow. One was clearly very sick, and in two days' time was dead. The other, strong and healthy, stayed on beside its dead companion, and an hour's strenuous efforts on the part of the men were unsuccessful in driving it away. All were touched by this apparent devotion - but a wallow so near to the camp was clearly undesirable. However, by evening the live animal had gone. But the tractor had to be used to remove the dead body.

There has been little time for longer journeys afield, as the days are shortening. But on the saddle between Perseverance and North-East harbours a big cache was found beside a rock dyke consisting in the main of aerial wire, insulators, tobacco and tinned meat: evidently a legacy of the coast-watching days.

There have been several very fine auroral displays, including pulsating arcs of ghostly light, spectacular and eerie. The weather has not impeded the construction work on the wharf and the crane now rises like a Statue of Liberty welcoming visitors to Campbell Island. All the party are well and enjoying life, although the periodical "cooking-week" is still decidedly unwelcome. Despite this, the quality of the cooking has greatly improved - but, Oh for a juicy steak!

The 35 remaining hens are still laying fairly well, but being on free range, are more and more developing the habit of hiding their nests in the dracophyllum. Plans are being made to combat this undesirable tendency.

MARION ISLAND.

Mr. J.J. La Grange, author of the article on the South African meteorological station on Marion Island published in Bulletin No.12, here describes some of the modern equipment being used by scientists on the island.

Hydrogen gas is generated in P.A.A. high pressure generators. Since April, 1954, the German type of radio-sonde instrument has been in use. The big advantage of this instrument is its simplicity in preparation on a station such as Marion Island and secondly the fact that it is very light. An ingenious type of launching device is in use; it keeps the instrument close to the balloon at the time of release and then allows the string between balloon and instrument to unroll very slowly, thus enabling the instrument to clear the ragged coast line cliffs and to overcome the strong downdraft (at times) to the sea.

Wind direction and speed in the upper air is obtained by means of a theodolite. Movement of clouds is calculated with the aid of a Fireman nephoscope. Other meteorological instruments in use include a Dines pressure tube anemograph, daily thermohygrometer, weekly thermograph and hygrometer, daily micro-barograph, weekly barograph, and 8 inch automatic raingauge with nipher shield, a 5 inch standard gauge without nipher shield, a sunshine recorder, a solar radiation recorder and a Fortin barometer. Additional biological and geological specimens were brought back in November and articles on these subjects can be expected in the near future.

Members of the 10th and 11th relief parties again took part in the move-a-day chess games with the members of the Australian party on Heard Island. Fortunately enough the contest can be carried on with the party at Mawson. Exchanging of photographs with expedition members at other stations is again very popular.

HEARD ISLAND BASE CLOSES DOWN.

The closing of the scientific station on Heard Island, the first of three established in the Antarctic since 1947 by ANARE, was completed at 3.30 on March 9 when the last dukw load of stores and equipment was loaded aboard "Kista Dan". Both dukws were safely inboard half an hour later and the ship weighed anchor at 5.45 p.m. Of all the operations of this summer at Macquarie Island, Heard Island, on the way to Mawson, at Mawson and at Heard on the return journey, only this last was marred by unfavourable weather conditions. Twice during the operation loading was discontinued to allow the ship to put to sea and await the subsidence of gale force winds and heavy swell at the loading point in Atlas Cove.

At dusk on 7 March in bitter cold and driving rain, the Australian flag was hauled down at the station, signifying completion of seven years of valuable scientific work, the real worth of which will not be known for two years. Two of the men, Dovers and Macey, were present at the first raising of the flag in December, 1947. The station was left in perfect order in case it should be visited by parties of other nations or should future ANARE parties be forced to take shelter there.

For the last day of loading the weather was fine and sunny. The great 9,000 foot bulk of Big Ben, the mountain which dominates the island, and which is seen only half a dozen times during a year, was clearly visible. All huts were cleaned out and sealed, the tractor oiled and greased and left under a tarpaulin in the garage. Ample food, bedding and fuel and full instructions were left for the operation of the essential components of the station by anyone forced to shelter there.

ON THE "DISCOVERY".

A NEW ZEALANDER WITH CAPTAIN SCOTT by CHARLES H. HARE.

("Antarctic News Bulletin" No.14 contained an account of the extraordinary survival, after 36 hours exposure in an Antarctic blizzard, of Charles Hare, Captain Scott's personal attendant on the "Discovery", then frozen in in McMurdo Sound. We have pleasure in publishing below Mr. Hare's personal recollections of some of the men with whom he served over 50 years ago.)

My first recollections after joining the "Discovery" in New Zealand, are mainly about being initiated into the Naval atmosphere, under the tuition of Mr. C.R. Ford, who I am afraid found me a bad pupil, having led rather a free and wandering life in my teens. However I soon learned my first lesson, in knowing when and how to put in the correct number of "Sirs" in addressing the Captain and officers. I look back with pleasure to Mr. Ford's friendship, and was happy to renew his acquaintance in Auckland two years ago.

Captain Scott kept up the naval routine as far as possible. Prayers were said every morning on the mess deck. Saturday mornings were given up to all hands thoroughly scouring the living quarters. Church service was held on Sundays, followed by inspection of the ship, followed by inspection of the men lined up on deck. We slept in hammocks which were slung on the mess deck, each mess consisting of six men to a table. There were no bathing facilities built in, so bathing and washing clothes had to be done on the mess deck. The wardroom had a cold tea on Fridays so that the galley oven could be used entirely for heating bath water. It was amusing to see them all having a scrub up in small tubs, and afterwards washing their clothes in the same water. In winter, owing to the absence of a badly needed drying room, the clothes were hanging about everywhere for days, drying.

Captain Scott was a very clean and tidy man himself, and did his best to see that the men also kept themselves clean, and kept their hair and beards cut short. He was a strict disciplinarian, but beneath the surface he had a loveable personality. He was ever anxious for the welfare of his men, and always to the fore in times of danger. Rather highly strung and sensitive, but very capable and determined. His only failing was in his impatience, which often caused a quick temper. He was brought up in the navy method of getting everything done at the double. He was appreciative of any little extra service done for him, and was always ready to listen to anyone, whether it was a complaint from the men, or advice on sledging operations from the wardroom staff. This latter often caused keen arguments as he was thorough to the smallest details in reaching the point of the argument. If he thought it a wise one he immediately adopted it.

In his personal habits he was no trouble to look after. My duties consisted of keeping his two rooms tidy, giving him his bath and shaving water in the morning, and doing any little job he might require done. Also waiting at the table. He would not let me wash his clothes as he said it was a sufficient job for every man to keep his own clothes clean. He did his own on the nights he was on observation duty; each Officer taking a night in turn to go out to the instrument screen every two hours.

He was a great lover of animals. The ship's cat "Blackwall" knew that and was fond of his bunk to sleep in. I put it out at nights, but in the mornings it was right at the bottom under the blankets, by the Captain's feet. Scott called it his hot water bottle. I am sure that the fact that many dogs had to be sacrificed on long sledge journeys was the reason he tried ponies and motor sledges on his later expedition. If he had persevered with dogs there might have been a different tale to tell.

On our way South along the coast we found a bay with about 100 seals basking in the midnight sun, and as fresh food was necessary the men were sent to the kill. In his diary Scott writes "It seemed a terrible desecration to come to this quiet spot only to murder its innocent inhabitants, and stain the white snow with blood, but necessities are often hideous".

Captain Scott was not fussy about food, and was pleased with whatever was put in front of him. On one occasion he enjoyed a slice of cake, which later one of the men, making a complaint, said was not fit for human consumption. It is not necessary to repeat Scott's comment.

Dinner in the Wardroom in the evening was the only formal meal. Each Officer took a week's turn of being President. After two knocks with a gavel the grace

"Thank God" was said, and anyone coming to the table after had to say "Excuse me, Mr. President." After the meal was finished the King's Health was drunk, sitting; and on Saturday nights a usual Navy toast "Sweethearts and Wives" was drunk, with always some wag to say, "May they never meet". There were certain rules, the breaking of which meant a penalty of drinks all round. One must never contradict the President; no betting. These were often broken in the heat of an argument. Also no reference works were to be brought to the table until after the final grace.

Shackleton was usually the life of the dinner table; he had a marvellous memory for quotations and anecdotes, and could carry on a sparkling conversation on any subject. He was very quick at repartee. He belonged to the Merchant Service, and was a Naval Reserve man, acting as 3rd lieutenant on the "Discovery". Rather different to the true Naval Officer in that he formed a friendship with one on the lower deck, Frank Wild; later Commander Frank Wild, C.B.E. Under Shackleton's tuition he studied navigation during the long winter night. The friendship thus formed lasted throughout their lives. They were together on all Shackleton's expeditions.

Dr. E. Wilson was also a great friend of Shackleton; in fact, everyone on the ship could call Dr. Wilson their best friend. He was entirely unselfish, and had the most wonderful character I have ever come across. His religious beliefs are expressed beautifully in a letter to Mrs. Wilson, and published by her request. "I simply love the crow's nest - my private chapel. I have spent the happiest times you can possibly imagine there...alone with God and with you...and nothing above but the sky and snow squalls, and nothing below but the sea and miles of ice. I feel as much at home there as in a church. It is not very warm in a bitter wind, but as private as can be and therefore a very easy place to find you...and I just love it for my prayers and daily reading with you." He carried his religion entirely within him, and was just the same as any of the other officers in his daily round, except that he seemed to emanate goodness, and all were better men through just knowing him. A great example to have as a pattern of living.

In reference to the small amount of friction which occurred during the first winter. This was mostly caused by a few of the merchant shipping men who had quarrelsome dispositions. The rest of them were a fine lot of men and excellent sailors. On some occasions the quarrels ended in blows, which cleared the air for a bit. A good scrap is better than a prolonged grudge. The Cook, who was shipped in New Zealand, was an unpleasant character and caused a lot of trouble. On one occasion the Captain had him put in irons until he cooled down. In calling for volunteers to reduce the ship's company for the second winter, the undesirables, including the cook, were sent back, much to Scott's relief.

Apart from these few troublemakers, we were really a very happy gang, living and working together with rare comradeship, and taking any hardship that came along with a spirit of patience and humour. We all fully appreciated Captain Scott's qualities as a great leader, and would have followed him anywhere, knowing that his first thoughts were for the safety and welfare of his men. He was a hard and tireless worker himself, but had considerable inventive genius, to think out ways of making a difficult job as easy as possible, and would not expect anyone to do a thing that he would not do himself. It was not all work and no play, as interesting lectures were given by the scientists and officers. Also quite a number of concerts were arranged, at which anyone with, or without, a voice was glad to join in. Plays and nigger minstrels were most popular, and Lieutenant Royds was an excellent accompanist on the piano for the musical items. On these occasions one would not find a happier crowd of men anywhere.

POLAR AWARDS.

The London Gazette has announced award of Polar Medals to two Australians for their work as observers with the French Antarctic expeditions to Adelie Land in 1951 and 1952. Dr. Fritz Loewe gets the award for his work with the 1951 expedition, and Mr. Robert Dovers for his services in 1952. F/Lt. D.W. Leckie has been awarded the A.F.C. and Sgt. F. Morgan the B.E.M. for their air-reconnaissance work during the voyage of the "Kista Dan" to inaugurate the Mawson base in 1953-54.

THE WHALING SEASON, 1954-5.

We have not yet received authentic figures of last season's whaling, but reports speak of a generally lower catch than in recent years. Individual fleets, however, have claimed "record" catches. The Japanese factory ship "Nisshin Maru", in Wellington on March 29-30, claimed a catch of 231 blue whales, 1552 fin whales and 56 humpback whales (1029.4 blue whale units). The British "Balaena" claims to have taken 3,447 whales and the Russian "Slava" 3,200. The season closed on March 20.

AN "ENDURANCE" DIARY.

(We regret that pressure on space in our last issue prevented publication of a further section from the diary of Harry McNeish, Shackleton's carpenter on the "Endurance" which had been crushed in the ice of the Weddell Sea. On March 29th, 1916, when this extract begins, the 28 men had been camped on floating ice for over 21 weeks.)

Wed. Mar 29th.

This has been an incessant day of rain which has turned to sleet at present and it has made things very uncomfortable for us as our tents are over maned. They are made for 3. But under the circumstances there are 4 in a tent and in damp weather we have all our gear inside to keep it dry. So that where anything touches the rain comes through. It is looking as if it was going to clear up. The Temp is very high Plus 34 & there is a great amount of movement going on with the floes. We have shifted our position 14 points in the last 12 hours.

Thursday Mar 30th

We had a rude awakening this morning. All hands were roused out as our floe started to break up. Well we got the boats & sledges shifted & was going to have breakfast when she cracked again under the James Caird. But we got her over before she fell in the ditch. & while at breakfast a sea leopard came up & went to sleep peacefully. but it was his last sleep as Wild went out & shot him. Then he shot the last of our faithful dogs. of which we kept the five young ones for food. & their flesh tastes a treat. it is a big treat to us after being so long on seal meat & this last 14 days on almost nothing. We got 20 fish in the leopards stomach & we are having them for breakfast tomorrow. There was a cape pigeon & a lot of Terns flying around all day. The wind is NNE Temp Plus 30

Friday Mar 31st.

Temp at 8 a m Plus 30 at Noon Plus 7. There was a flock of penguins about 3 floes from us & a crowd went out for them & got cut off as the ice opened up. We launched a boat to go to them but the ice closed in again & we had to haul the boat on the floe & by that time they were on a loose bit of ice and ferried over so they got back with 70 birds which will always keep the pot boiling. There has been a sealeopard on the floe but he got away.

Saturday April 1st.

Temp Plus 17. There is a blizzard on at present from S by E & we all hope it continues. We can put up with the wind & snow as long as we are going the right way to open water. There are large pools as far as we can see. So we fancy this blow will do the trick. We had two good square meals yesterday & the day before. But not what a man doing a days work at Home would be content with. But a lot to us. & we are on our old routine again one $\frac{1}{4}$ lb of dog pemmican for B. & 1 biscuit for lunch. $\frac{1}{2}$ lb of boiled meat for dinner. but through it all happy though hungry. I(t) would be a pity to see this crowd let loose in a bakers shop.

Sunday April 2nd.

Lat 62.33 South Temp Plus 10. We had a rude awakening as the floe cracked 18 inches from our tent at 8 PM. It was pitch dark at the time & it took some of our people a long time to turn out. 5 sledges were being cut off from us but we managed to get them on to the piece we were on. There was a big swell on. Which indicated open water. But there is no signs of it today. We got a young emperor penguin & there is plenty Terns flying around. There is a very black sky to the north of us. Which I hope means open water for the sooner we are of the ice now the better, before it gets broken up to small. I dreamt yesterday afternoon the ice cracked under our tent. Longitude 53.37 West it is snowing heavy at present wind S Temp Plus 5. We lifted the boats & scraped the runners & the same with the sledges so as they will be easier to shift at a moments notice.

Monday April 3rd

Lat 62.24 South Long 53.45 West Temp Plus 27. It has been a fine day with light ESE breeze we are getting along alright if it only continues every thing seems to be very loose now & we seem to be going along at a good rate. We got a leopard this morning & it is McLeod's birthday.

Tuesday April 4th

We got 2 crab eaters & a third got away. But we were very lucky getting those as we have plenty meat & blubber now. So we are going on full rations again. Only an all meat diet. I will miss the biscuit as I did relish it above all. There is a hard breeze sprung up from SE. We have had no wind all day. So we moved the boats & sledges before dark ready in case of a sudden call. There is a large tabular berg to leeward of us. We expect some pressure. getting past it as the floes are traveling faster than the bergs Temp Plus 29 & falling fast.

Wednesday (April) 5th

Lat 62.14 South 54.25 West Temp Plus 9 We are doing well since we had the last observation about 25 miles WNW. We expect if we keep drifting in the same direction as we are doing now to land somewhere in King Georges Island That is if we keep going west We were expecting to sight elephant Island this afternoon But we have gone to far west for that now There is a good gap of 81 miles between it & King Georges Island. Which we hope to miss It would be hard after drifting into these straits & then be blown out to sea We got an Emperor penguin & 3 Adelies today which we had for lunch. The breeze is still holding good. We are keeping 4 hour watches

Thursday April 6th

No observation Temp Plus 22 There is a strong NW breeze on at present which will send us back a bit but we hope it wont last long. There were 2 seals crawling around our tent in the dark & the man on watch gave us the alarm & Wild went out & shot 1 but the other got away & we got a fine leopard this morning. So we are very well of for food now such like as it is. But we still want some more for fuel. There was a giant petrel & a skua gull flying around this morning. The wind has shifted to W by S & if it keeps steady for the next 3 days it will push us up against either the Elephant or Clarence Islands. We started the boats & sledges. All ready to move at any minite. As there is the appearance of a NW swell which is one of our biggest enemies

Friday April 7th

Lat 62.8 South 54.22 West Temp Plus 17 We sighted Clarence Island bearing NNE & about 60 miles of. But at first sight it only looked about 10 or 12 miles. We have driven E with the NW breeze yesterday & it is good for us to for we were bound through the straits between King George & Elephant Islands & it is hard to say how this ice would act in the open sea. But at present there is a fine SW breeze which is blowing us NE. & if the ice opens any we are bound to land on Elephant or Clarence. Dr. ~~Boyle~~ & myself have been on the sick list owing to have eating to much seal oil & blubber last night. it is over 5 months since we have had fat & our stomachs couldnt stand the suddent change. There has been a great many whales blowing all round us since early this morning & seals lying basking on the floes & plenty bird life

Saturday April 8th

Lat 62 South 53.49 West Temp Plus 29 We have drifted 16 miles E & 2 N since noon yesterday. The land is much nearer today & the ice is much looser. But there is a hard NNW breeze which is doing us no good. If it takes of during the night we may get open water. There has been a large swell since yesterday. But it is doing us no harm now as our floe is broken up so small. It rises & falls with

(At this point there are some pages missing from McNeish's diary. From Shackleton's story we know that the 28 men finally took to the three boats next day, and after seven days of intense cold and hunger landed on the barren Elephant Island.)

LATE NEWS FROM MAWSON (STOP PRESS).

A report from Bechervaise at Mawson dated 3/6/1955 says: "Lately there is only about one hour's daylight at noon. McNair prepares breakfast at eight thirty, in the dark. Now the sun is gone but we are still sledging. The icebergs are honey-coloured and the islands appear gilded. We dig for snow and hunt seals by twilight in the weasels, which have been fitted out to perform further chores by moonlight. Since early May we have had blizzards, and fine windy weather. The month's mean temperature was 7°. For five days five men (Shaw, Lacey, Crohn, Ward & I) went by weasel to establish a remote weather station at Mount Henderson. Generally the rock drill refused work at fifty degrees below freezing in a fifty knot wind. We were immured in a swirling drift and icicled blizzard-masks made all our faces appear anonymous. An intriguing phenomenon was the sub-zero candles which burnt within their cylinders of lace-like wax while we established our caravan depot. We saw all the instruments secure. Relief operations since have included further men, Allison, Elliott and Gowlett.

"Everyone at the base co-operated to prevent the hydrogen generating and balloon sheds from taking off to the Norwegian sector. A dozen men fought the wind for possession of sheet iron and masonite, and finally won. In the end Ward and Macklin drilled holes for cylinder supports by torchlight, ward plugged holes in total darkness and Elliott swung on the starlit powerline to complete the project and release the first regular radiosonde balloon by June 1st. This mass effort succeeded. Oldham, labouring ingeniously, also met his target date with his magnetic variometers installed, and expects them to be in action shortly.

"During field work, Van Hulssen's radio instruction enabled us to maintain touch with the station, while his daily classes in morse were attended by all field trippers

and are making sufficient impression. Riddell's May triumph is a new porch connecting the living huts 'Biscoe' and 'Weddell'. Doctor Allison of course had a few cold fingers in connection with this, as well as in lighting number two store, transformed into a finely equipped field expedition base by Crohn and Lacey. Fox, Macklin, Crohn, Lacey and I farewelled the sun, sledging several miles both East and West, seal-searching along the coast and around the islands, but seals are now rarer than Kangaroos in Collins Street."

A JUNE REPORT FROM MACQUARIE ISLAND.

"There have been two fine days this month, but both were overcast. We have had some few flakes of snow. Bolza took the skis out but had no success as there wasn't enough snow. The little we did have quite transformed the landscape. Bolza also discovered a sea lion near Handspike Point, our first this year. He was fortunate in getting photographs. Grant and Conlon went off to Hurd Point early in the month and made a fast trip back for spares for the battery charger: six hours fifty minutes, thus establishing a record. Both were tired but in good nick. They stayed at base and then returned to Hurd Point, taking it more quietly. We are being rapidly deserted by most of the wild life: all the rockhoppers, gentoo and skuas have gone. We will soon have only the poultry and they not for long. The days are very short. It gets light at about seven and is dark by three thirty in the afternoon."

ANTARCTIC BOOKSHELF.

E.W. Kevin Walton: "TWO YEARS IN THE ANTARCTIC." London: Lutterworth Press. 184 pages: ill. N.Z. price 18/-.

Behind the prosaic title of "Two Years in the Antarctic", Kevin Walton, a member of the Falkland Islands Dependencies Survey, has given an excellent account of his sojourn on Stonington Island, in Graham Land, from 1945 to 1948. Although, understandably, the journeys made from this base are not of the epic proportions of those made by Scott and Shackleton, they were most worthwhile, and did much to increase the knowledge of the rugged mountainous peninsula which juts out from the Antarctic Continent towards South America.

But the book does more than give a precise account of sledge journeys; it is a mine of information on such matters as hut-building, air reconnaissance, dog training, preparation for sledging, and the thousand and one things that any Antarctic party would need to know. Here, in matter of fact form, is the increase in knowledge of Antarctic travel, bridging the gap from the days of Scott and Shackleton. The improved methods worked out by the F.I.D.S. are worth the attention of anyone who is in any way connected with the proposed Trans-Antarctic Expedition.

An interesting section of the book deals with the American Finn Ronne Antarctic Research Expedition and contrasts the differing approach of the American and British expeditions to Antarctic equipment and travel.

Profusely and splendidly illustrated, with two maps and a good index, this book is well worth the attention of both the expert on Antarctica and the general reader, and it can be highly recommended.

A.S.H.

Harry R. Lillie: "THE PATH THROUGH PENGUIN CITY." London: Ernest Benn. 302 pages: ill. N.Z. Price 29/-.

Dr. Lillie, a qualified medical practitioner, scientist and engineer (A.M.I.C.E.), accompanied the Antarctic whaling fleets of 1946-7 as doctor on the factory ship "Southern Harvester". Primarily, then, his book is an account of life on a modern whaling expedition, on chasers as well as on the factory ship; and, since he is a lover of animals, an account also of the bird and animal life of the Antarctic. As such it will have a wide appeal. Dr. Lillie is a keen and very sympathetic observer, and while all will not like his intimate conversations with the penguin people and others, many will find them delightfully humorous and revealing.

But Dr. Lillie's book has another purpose. He returned from the Antarctic sickened by the cruelty of the explosive harpoon and dedicated to the task of replacing it by the electric harpoon, a much quicker and more humane killer. And in his propagandist zeal the author pulls no punches: "The mentality of the greater part of the (whaling) industry revolves in a bovine vortex of oil." In fact, his love of animals (even the leopard seal is "a beautiful animal..there was no thought of killing in his mind.")

often seems to bubble over into an unfortunate contempt for Man. But never for the individual: the gunners are his close friends and he acknowledges the friendly co-operation of such whaling magnates as Capt. H.K. Salvesen who "has taken my part when he might well have done otherwise." And there is, often, the saving grace of humour. A sincere, often delightful, sometimes provocative book which certainly should be read.

L.B.Q.

Allan W. Eden: "ISLANDS OF DESPAIR." London: Andrew Melrose. 212 pages: ill. N.Z. Price 16/-.

To the growing list of books and papers on the subantarctic islands of New Zealand must now be added "Islands of Despair". The author was a member of the now well-known "Cape Expedition" with the special task of carrying out a survey of the Auckland Islands. Leaving Port Chalmers on Christmas Day, 1943, he and his party arrived back in Wellington in June, 1945. Thus for almost eighteen months the party lived and worked in subantarctic conditions, often in vile weather and living quarters. The coast-watching parties had, of course, permanent quarters with such amenities as ample stores, coal and wood ranges for heating and cooking, and washing and bathing facilities. This was not the lot of a survey party in the field, and the author describes, very feelingly, the atrocious conditions in which he and his party often had to live and work. After weeks of this life, in a climate and terrain most unsuited to camping out, the return to base coastwatching camps must have been a joy indeed.

What if the author has padded out his book with accounts of shipwrecks and of other subantarctic islands he did not visit: his forthright account of the work he and his party carried out, the animals and birds they encountered, his happy associations with other members of the "Cape Expedition", and the not-so-happy encounters with blowflies - all must be read to be appreciated. In fact the wonder is that the survey was carried out so completely and efficiently without a major accident or illness of any kind.

One could wish that the author had taken a more positive stand concerning the mythical "Lady of the Heather" on Campbell Island, and had quoted his reference sources. The latter, one suspects, have come from old copies of Otago and Southland papers.

Nevertheless "Islands of Despair", well illustrated, is worth a place on the bookshelf for both reference and general reading purposes.

J.H.S.

H.H. Shepstone: "THE ADVENTURE OF WHALING." London: E.J. Arnold. Price 3/6d.

No. 18 of a series for young people called "Adventure Stories", this is a simply and brightly written outline of polar exploration, the final 44 of the 128 pages dealing with the Antarctic. It makes pleasant reading, with a nice balance of fact and incident, and some well-chosen selections from the explorers' own stories. Unfortunately, there are serious factual errors, e.g. Scott's Western Journey of 1903 is described as his "farthest south" and Shackleton is referred to as returning with the men who had "broken down", where Skelton is evidently meant.

L.B.Q.

A.W. Powell: "MOLLUSCA OF THE SOUTHERN ISLANDS OF NEW ZEALAND." Cape Expedition series, Bulletin No. 15, N.Z. Dept. of Scientific and Industrial Research. 15/-.

The New Zealand Science Review will be publishing in its September-October issue the full text of Dr. R.A. Falla's 1955 Hudson lecture on "Scientific Research and Adventure in the Antarctic." Readers wishing to obtain a copy of this issue should apply to The Editor, N.Z. Science Review, Box 1874, Wellington. The price per copy is 2/-.

KEEPING WARM AT MAWSON.

Claimed to be the first central-heating system ever used in the Antarctic, a heating unit made by Fretchners of Melbourne and installed at Mawson, burns briquette fuel and pumps hot air along a series of coiled pipes fitted beneath the flooring in the station living quarters.

Map of Antarctica. The new map being produced by the Australian Government is not now likely to be published before the middle of the year.