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## TRANS-ANTARCTIC EXPEDITION PLANNED.

### New Zealand Participation.

Dr. V.E. Fuchs, Principal Scientific Officer of the Falkland Islands Dependencies Scientific Bureau, is the leader designate of an expedition, supported by the Royal Geographical Society and approved by the Scott Polar Research Institute, which it is hoped will cross the Antarctic Continent via the South Pole in the summer of 1956-7. The plan is that Dr. Fuchs himself will lead a party early next year to establish a base at Vahsel Bay in the Weddell Sea. A party from New Zealand, which Dr. Fuchs hopes will be led and largely manned by New Zealanders, is expected to establish a base at the same time somewhere in McMurdo Sound, cross the mountains of Victoria Land probably by the Ferrar Glacier, and strike south along the little-known western side of the ranges towards the Pole.

The intention is to establish supply depots about 300 miles inland from each of these bases, leaving approximately 1000 miles over which the 12-man team under Dr. Fuchs, crossing the continent from Vahsel Bay to McMurdo Sound, would have to be self-sustained. Dog teams as well as tracked motor vehicles will be used. "We envisage," says Dr. Fuchs in a letter to the 'Bulletin', "using Sno-cats, four-tracked American-built vehicles, for the actual crossing. It is also proposed that Beaver aircraft (which can be fitted with skis or floats) will be used for reconnaissance and to assist depot-laying from Vahsel Bay and from McMurdo Sound." The bases will be in daily radio contact with the outside world, and light-weight wireless equipment will keep the overland party in touch with the two bases. It is expected that the crossing will take place between November, 1956, and February, 1957.

"The work on the journey," adds Dr. Fuchs, "will be exploratory, survey, geology, seismic sounding of the ice-cap, giving a sub-ice rock profile, meteorology at the permanent stations such as the bases and an ice-cap winter depot. At the bases other sciences can also be studied, in particular at your end there could be geophysical studies and biology."

The expedition is expected to cost about £250,000, of which the British Government has guaranteed £100,000. The organising committee has solicited support from other Commonwealth countries, and the New Zealand Antarctic Society has by letter and deputation strongly urged the New Zealand Government to co-operate fully in a project which is vital to New Zealand's continuing sovereignty over, and development of, the Ross Dependency which she administers. The New Zealand Government has approved the project "in principle", but details of New Zealand's proposed contribution have not yet been disclosed. Meanwhile applications from men keen to take part in the Expedition have been steadily rolling in, both in England and in New Zealand. It is the intention of the organisers, Dr. Fuchs assures us, that personnel from the participating Dominions shall take part not only at the bases but also in the crossing itself. There will be some 50 men engaged in all, but Dr. Fuchs points out that there will be few places for those without one or more of the following qualifications:

1. Polar experience;
2. Scientific training in an appropriate subject;
3. Technical training.

AUSTRALIAN MAINLAND EXPEDITION.Western Journey Completed.

Robert Dovers radioed on December 1 the following account of the journey outlined in our last issue.

"Schwartz and I left Mawson on 12 October with two sledges and sixteen dogs, with the intention of exploring westward as far as the bottom of the King Edward VIII Gulf. The load per sledge was six hundred pounds but only fifteen days' rations for dogs. We travelled eskimo fashion, killing a seal where found, gorging the dogs on the carcass and carrying the remainder on with us. Progress was slow at first with bad weather. We visited Mawson's landfall at Cape Bruce and Wilkins' Cape Wilkins but found no sign of their visits. As we are both old hands, dog sledging soon settled down to steady routine, with no need for orders or conversation.

"A typical day: breakfast 0700 hours, camp broken 0800 hours, sledges travelling a mile apart. Looking back from my leading sledge I can see the little black dot of Schwartz's team. The going is hard in high sastrugi and the sledges have capsized three times. This is not so bad for me as I can wait for Schwartz to catch up so that we can right my sledge together; but for him it means unloading his sledge each time before he can right it. I crossed an open lead and signalled danger, but Schwartz's team swung while crossing and his sledge broke through. Temp.  $-10^{\circ}$  F, wind in face. The dogs run two hours and rest a quarter of an hour. Camped 1930 hours and erected tent. Seal hunting for an hour. Wireless sked 2100 hours, first meal and drink since breakfast. Astro observations for a further two hours then into our sleeping bags.

"The only rest is during blizzards. Said Schwartz, "Out of luck again today: weather fit for travelling." Turning Cape Bergness we struck a long single file of emperor penguins going and coming from the distant sea. We followed them to land, finding the fifth known emperor penguin rookery. Of the five now known Schwartz discovered two; I spent a year at one and discovered another, and my father was in the party that discovered another.

"We arrived at Kvarsness on 28 October and found the gulf is shelf ice. We deputed all excess gear and started into the Gulf on 31 October. A dog dropped into a crevasse but we rescued him. New mountains were discovered but the surrounding ice sheet is uninteresting, undulating and monotonous. The wind channels down the gulf and is very cold. We reached the bottom of the gulf on 4 November and arrived back at Kvarsness on 8 November. Then began the race home.

"All our work was done when outward bound, leaving only deputed specimens to collect on the way back. The surface two feet of soft snow was very heavy. Base reported open water in the north west. We were caught travelling by a blizzard on 9 November and had difficulty in erecting the tent. I was bitten by a Weddell seal, thus adding the imprints of Weddell seal teeth on my backside to our scientific collection. We obtained thirtysix hours' tidal observation at Mule. A visit was paid to Steffanson Bay and William Scoresby Bay while homeward bound. We drove the dogs to the limit and reached Mawson on 22 November. The last 165 miles were travelled in five and a half days. One and a half hundredweight geological specimens of widely varying types were considered by geologist Bruce Stinear as adequate on a geological reconnaissance. The total distance travelled was 550 miles. The overall average for the trip was 13.5 miles per day, average for days travelled 19.5 miles per day. We are both fit and well. All the dogs learnt swimming while homeward bound. It was a good trip which ran exactly as planned. We were blessed with fair weather when it was needed, and with a blizzard just when we needed rest."

Meanwhile at Mawson.

On November 21 Macey had reported:

"The sea ice reached its maximum thickness of 63 inches at Leckie's seaplane drome in November. During the past month there have been several wind gusts exceeding 100 m.p.h. with accompanying drift snow. The highest temperature was  $36^{\circ}$  on the 18th. Present thawing conditions are causing great inroads at the station, drift snow revealing boxes and drums we had almost forgotten. The contents, however, are uninteresting: no nuts, no return tickets, no peanut butter. The timely arrival of seals prevented a crisis in dog feeding. Though not numerous or nearby they afforded rifle practice for the marksmen and hard work for the butchers, preparing

meals for the huskies. Only three seal pups have been observed to date. Skuas are plentiful around the butcher's shop and snow petrels are numerous in the vicinity of Mawson and the islands, also at the Henderson Range. Three Wilson and two giant petrels have been observed. Stinear and Macey collected our first penguin eggs yesterday. These were immediately boiled, fried, scrambled, and graded good kai. Doc found two deserted snow petrels' eggs, the owners probably devoured by Lassie, champion husky escapologist and mother of Ricketts, our champion pup. Lassie is now effectively surcungled with an extra chain.

"The Henderson depot was successfully completed when 7000 pounds of supplies and a caravan were deposited at the south end of the range. Some difficulty was experienced with the standard weasel tracks on the first slippery one-in-seven grade. This was remedied by the removal of the rubber pads by Macey and Summers, armed with sealing knives. The results exceeded expectations. Carrying 600 pounds in the weasel, 4400 pounds nett were towed easily on three sledges on our last trip to the depot, after relaying the sledges up the first two slopes. The depot is twelve miles from Mawson, at an elevation of 2070 feet. Except for the last mile, bare ice intervenes. Russell is cabining our sole weasel, using the charred framework of the burnt-out cabin - and lots of ingenuity. The job is almost completed and it will be used on our summer trips.

"Gleadell, Summers, Dingle and Stinear made a trip to Henderson attending to route markers which were falling from the ice owing to thawing conditions; but sixty m.p.h. winds prevented them from quite reaching the depot. The giant Adelie penguin rookery at Innerskjera is now being populated. It was visited in late October by Stinear, Dingle and Summers for geological, photographic and biological purposes. Storer is busy with new radio schedules to Capetown, Marion Island, Kerguelen and Amsterdam Island, and has also had interesting amateur radio contacts with ninety different countries, including the British Antarctic bases in South Georgia, and regularly with Anare's sub-antarctic base at Macquarie Island."

#### A South-Eastern Journey.

In December, a weasel route reconnaissance pushed to forty-eight miles south-east of Mawson. The party consisted of Dovers, Russell and Gleadell, with one team of dogs and one weasel. Departing from Mawson on 2 December the dogs were unable to pull the load over the blue ice to Henderson depot, and needed the aid of the weasel. 264 gallons of petrol were carried forward. The dog team was in the lead half a mile ahead, examining the route for the weasel following with Russell driving. Three zones of minor crevassing were negotiated and a good route marked every mile by flags. The intention was to depot at forty miles southeast of Henderson depot, but at thirty-eight miles a weasel track snapped. The party spent five hours repairing and re-mounting the track but the repair was unsuccessful. The track was hopelessly broken and they were obliged to leave the weasel at the outward depot and return to Henderson depot by dog team, doing the thirtyeight miles in one day. They arrived at Mawson on December 6. At the limit, the route-way ahead was typical plateau with steadily rising, undulating snowfields, with an altitude at the limit of four thousand feet. There was no sign of the southeast mountains. Summer sledging plans were crippled by the failure of the weasel track and the expedition was faced with dogsledging on the weasel track for fifty miles over the plateau.

The Ferguson tractor driven by Russell, aided by Storer, performed the first difficult task of taking the track one mile from Mawson over two slopes of blue ice. This the dogs were unable to do. Then a party of four, Dovers, Macey, Summers and Schwartz, with two teams, collected the track at 1100 hours on 9 December. First camp was at twentyfour miles from Mawson. Next day they reached the weasel at forty-eight miles and had the track fitted by 2130 radio sked, when an urgent signal was received from Russell at Mawson stating that Storer had sustained an injury to his right wrist. It was too late to return then but next day they started early. With the weasel driven by Summers leading, and the dogs following, they arrived at Mawson at 1030 hours: total distance, ninetyseven miles in three days. The dogs and all concerned, said Dovers, did a magnificent job. Storer's injury was painful, necessitating left-hand sending, but there was nothing broken.

#### Into the Far South.

On December 13, Dovers, Stinear and Dr. Summers at last set out on the main journey. They sighted several new mountains four days later, and the next day attempted to reach them. Four miles short of their goal, they were halted by a zone of heavy crevassing. Their altitude was now 5790 feet, as they moved across the

endless ice sheet, on an ice blanket that was probably thousands of feet in depth. The unattainable peaks were estimated at 6450 feet.

Weasel mechanical trouble held up action for a few days, in addition to winds of blizzard force. But on December 23 they reached the summit of one mountain by dog-sled. From the top they saw, due south, a string of six more peaks, 50 to 80 miles away. This cluster outcropped like black and sinister-looking pyramids from the snowy plateau, 150 miles from Mawson.

The trio had Christmas dinner on the plateau. On December 29 they gained the nunataks. They drove to the peak of one of them, up a long snow drift lying in the lee of the rock, and as they topped the rise, before them lay a magnificent mountain chain, of dark rock faces and glistening snow patches, spread to the horizon. The angle of their approach had kept the main range hidden behind the outlying nunataks. The mountains probably rose about 4000 feet above the surrounding ice plateau surface and are therefore about 10000 feet above sea-level. From an approximate fix of lat.  $69^{\circ}40'$  S and long.  $64^{\circ}40'$  E., the massive ridges sweep in a south-south-east direction as far as the eye can see. They are believed to be identical with those sighted from the air by the American "Operation High Jump" in 1947.

The southern party returned to Mawson on January 7 after a worrying journey with a broken spring and with crevasses on the weasel route gaping and wide, following the intense thaw. They were held up for two days thirteen miles from Mawson, with track-spring and bogeys smashed; but with much perseverance and improvisation they managed to repair the weasel enough to complete the return. A worse surprise was to find serious crevassing, revealed by the thawing snow, in areas gaily charged over, outward-bound. The last day, in drift while crossing extensive crevassing, was most difficult. Winding among crevasses, following each to find a bridge, made the crossing seem endless. The final stretch near Mawson was equally surprising, with deep rivulets of running water on the plateau ice to cross. All three were very happy to see Mawson loom in sight.

#### Relief Party for Mawson.

The "Kista Dan" left Melbourne on January 7 with a relief expedition to man the Mawson station for the next twelve months. The new party comprises:

Officer in Charge	J.M. Bechervaise
Medical Officer	R.W. Allison
Surveyor	R.H. Lacey
Geologist	P.W. Crohn
Geophysicist	W.H. Oldham
Cosmic Ray Physicist	N.R. Parsons
Meteorologist	P.J.R. Snaw
Weather Observer	F.W. Elliott
Weather Observer	L.N. Fox
Radio Supervisor	F.A. Van Hulssen
Radio Operator	E.L. Macklin
Radio Operator	J.L. Ward
Engineer	A.S. Gowlett
Carpenter	A.D. Riddell
Cook	R.G. McNair.

Three weasels, purchased from the Snowy Mountains Authority and completely overhauled, were taken south to replace the two which were destroyed during the 1954 Antarctic winter (v. Bulletin 15). Two are fitted with cabins. Also on board was a prefabricated physics laboratory to house the equipment for measuring the intensity of cosmic radiation. The building, designed to withstand winds of up to 200 m.p.h., has an oregon frame. The outer surface is faced with sheet metal. The outside lining is aluminium-sheeted hardboard, while inside it is lined with perforated hardboard. The inside temperature will be constant at 60 degrees. A new sleeping-hut to house six men will be heavily sheathed in aluminium and insulated with foam plastic, with special condensation-free windows.

#### Landfall at the Vestfold Hills.

The "Kista Dan" reached the continent in the Vestfold Hills area,  $68^{\circ}40'$  S.,  $77^{\circ}50'$  E., and the first landing was made about 1600 hours on 30 January. This is one of the few antarctic areas uncovered by ice cap, with free snow and ice lakes, unfrozen in summer. There was perfect weather throughout the operation, which was

completely successful. A five-man magnetic party working from the ship concentrated on astrofixes and panoramic photography to identify the area and integrate it in the existing mass. Accurate sun observations were taken.

The Vestfold Archipelago was found to be teeming with life. Two rookeries alone were estimated to hold up to 20000 Adelie penguins, and there were many others. Law suggests that the total population of the Archipelago exceeds two million and is the largest concentration of Adelies in the Antarctic. In a region where nothing decays, an interesting phenomenon in the rookeries is deposits of up to 3 feet thick of mummified compressed corpses.

The mainland party, using dukws for the first time in such work, threaded up a long inlet between floes. Men and material were transported over rough terrain 1000 yards inland until halted by a boggy reentrant. Two tents were erected beside a small brackish lake surrounded by rocky hills streaked with snowdrifts and completely bare of vegetation of any kind. Next day two parties departed at 0615 hours. Law with four men travelled south, then west towards the coast, then home. Bechervaise with four men went south, then east towards the plateau, then home; the journeys enclosing a vast triangle in the heart of the Vestfold hills. The east-west baseline is formed by a major glacial valley flooded by sea for its greater length, then lakes at increasing altitudes to the icecap. The parties were away 12 hours and travelled twenty miles. Each scaled numerous hills up to 700 feet and found many lakes. Astrofix observations fixed beyond doubt the exact positions of features previously mapped indeterminately from the air. Lakes thought to be fresh mostly proved salt, probably owing to stormborne seaspray. The majority of the lakes investigated were unfrozen. The whole area evinces glacial activity. It was apparently once under the now receded icecap. Many moraines and glacier valleys were observed.

The "Kista Dan" quitted her anchorage at 0415 hours on 1st February for a similar operation at the Larsemann Hills, 80 miles s.s.w. of the Vestfolds.

#### Towards the Larsemann Hills.

After nosing through ice all day on February 2, "Kista Dan" came to a stop in fast ice about 12 miles offshore, opposite a line of bare rocky coastal features. It was a glorious blue and white, sunny, calm day with great glittering bergs imprisoned in fast ice all around the ship. Ice covered with fine dry snow extended unbroken to the shore. A bright orange weasel, a red caravan and a Norwegian sledge were lowered on to the ice and loaded with personal gear and scientific equipment. A party moved off at about 1800 hours. Law and Bechervaise, testing the ice with steeltipped probes, walked ahead, the weasel following towing the caravan and sledge. Only about 50 yards from the ship the weasel subsided in a weak area where an underlying crack was hidden by snow cover. However, it was able to continue, leaving a waterfilled depression. After the first mile and a half, during which several such bad spots were crossed despite careful probing, the party was halted by an open sea-filled crack about one foot wide. Some wanted to cross the crack using bridging timbers carried on top of the caravan, but Law turned south and followed the crack for some distance before halting again. At the time for the prearranged radio schedule with the ship, Law with binoculars climbed on to the roof of the weasel and scanned the ice shorewards. He leaned down to the operator and said "Tell the ship to have a meal for us about 8 o'clock. We are coming home." As the weasel started off, the caravan broke through again, and as it approached the ship it sank dangerously. No time was lost getting all the equipment safely aboard about 2030 hours. By 2130 hours cracks had opened every fifty yards, running parallel with the shore, and the ship was almost free of ice, with great floes drifting slowly past it out to sea. The recent tracks of the weasel were obscured on rotating icefloes separated by wide water lanes. Three sailors who walked a mile to nearby icebergs were nearly caught by the breakup. Even if the members of the party had reached the islands in safety, it would have been a terrific problem to get them off again, and the weasel on its way back to the ship would inevitably have been lost.

#### Deep into Prydz Bay.

The vessel now nosed still further south towards the extreme southern end of Prydz Bay. Here, on February 3, Law, Bechervaise, Crohn, Ward, Shaw and Lacey left the ship and sledged to the ice-free Lorten Island, 69°20' S., keeping in touch with the ship by walkie-talkie and sled-wireless. Reaching their goal - the first ever to do so here - on the evening of Friday, February 4, they made a geological survey, collected botanical and geological specimens, and obtained astrofix readings for map-

correction purposes. As they began the trek back the following evening, February 5, a radio message from the ship warned them that the sea ice was dissolving. The ship itself came to their aid, and driving its weight against a vast slab among the jumble of floes, closed the water-filled cracks long enough to let the returning group approach the vessel. Nearly exhausted, they managed to scramble on to a large floe near the ship and manhandle their equipment to the decks. During the excitement Law plunged through the sea ice, but was rescued.

#### Arrival at Mawson.

The "Kista Dan" sailed from the southern end of Prydz Bay by radar along a mighty ice-shelf. A way was found through dense pack-ice into a negotiable lane of open water, which then gave easy access to the north. Heavy accumulations of pack-ice and icebergs at one stage compelled a wide detour, but the ship safely skirted the blockage and eventually gained the open ocean to the north. Then she moved westwards, in clear sea, along the fringe of MacRobertson Land until about 60 miles due north of Mawson. She then turned in but ran into pack-ice belts 40 miles out from the base, through which she battered a path and arrived at Mawson on February 9.

Unloading operations at once began in clear, cold weather. The gantry was erected and proved invaluable for unloading heavy crates from the dukws. Working 15 hours a day, the unloading was completed by 0930 hours on the 17th.

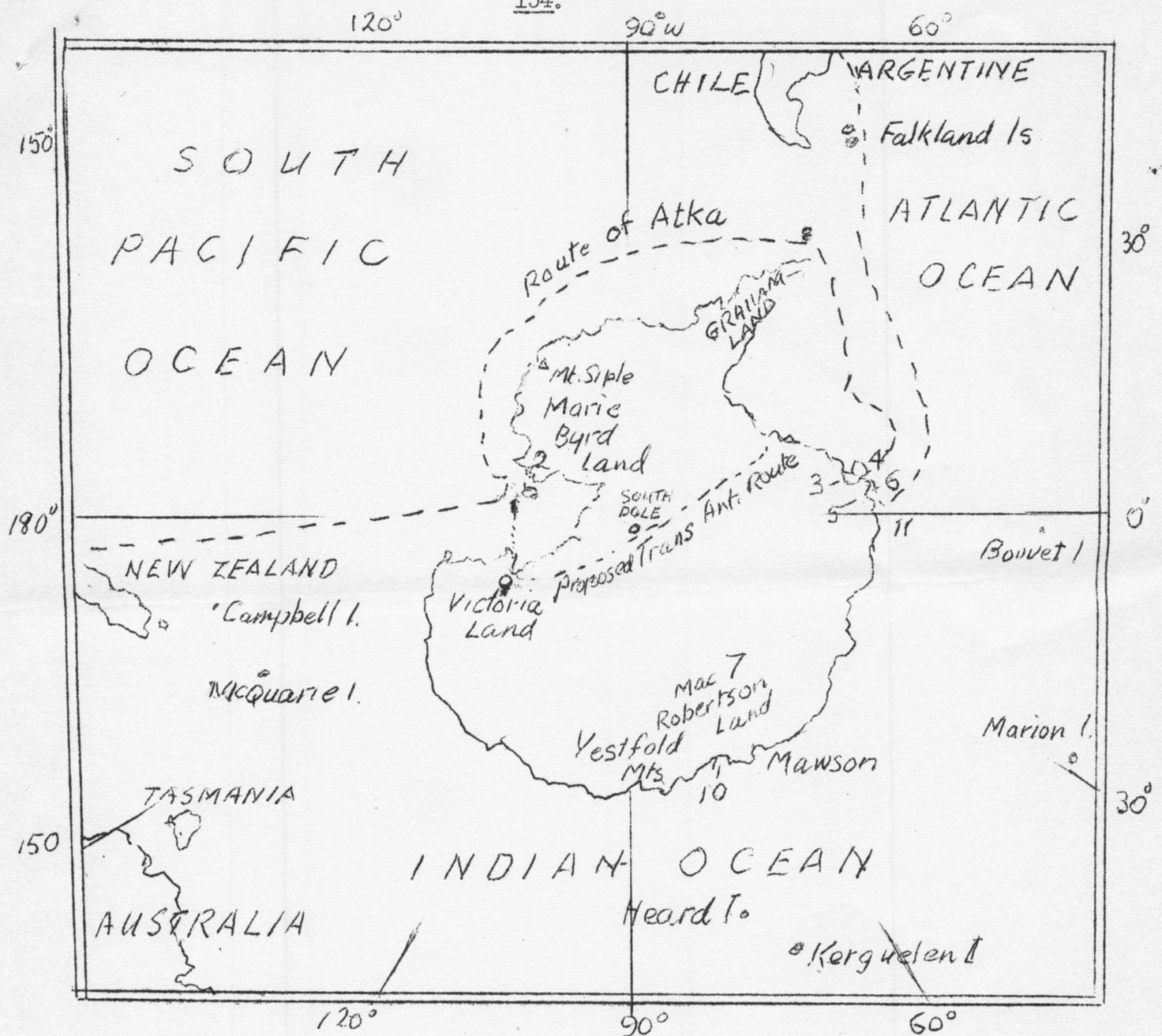
The accent was now on building, and the whole camp area was seething with activity, men stacking stores, opening crates, erecting huts amidst the chatter of rock drills boring holes for anchoring huts in the high winds. There was bright sunshine and a clear sky with light winds, but it was bitterly cold. The huskies on the hillside behind the camp caught the enthusiasm, creating a terrific din, while Adelie penguins from the rookery nearby wandered through the camp, inspecting the work and providing comic relief.

The six buildings originally erected at Mawson included a living hut, two store huts, radio and surveyors' hut, engine hut, and for a carpenter's hut, a huge crate in which the aircraft were transported from Melbourne last year. This number was now to be trebled by the erection of six huts from Heard Island (which is to be closed this year) and six new prefabs from Melbourne. The main trouble was finding building sites on the rocky slope, each building being levelled with old sleepers and rubble from the hillside.

#### South East to Mount Henderson.

On 24th February, a party of four members led by Law made the first ascent of Mount Henderson, a 3000 foot peak ten miles south east of Mawson. After a short preliminary reconnaissance by Law, the party left the depot at the foot of the mountain and at 1815 hours reached the summit. They reported a difficult fifty foot final patch of crumbling granite, necessitating the use of rope. The climb was complicated by high winds and intense cold. They remained only a short time on the narrow summit, where the temperature was 30 degrees below freezing and the wind 30 knots. North lay the coast and massed ranks of huge icebergs offshore, while to the west the jagged black peaks of the Masson, David and Casey Ranges, skirted by gleaming drifts of snow, rose sheer from the blue-ice plateau. They left the summit at 1900 hours and took two hours to return to the depot, where the remainder of the party had been engaged on survey work and the collection of lichens and geological specimens.

The trip to Mount Henderson was organised by Dovers, to show Bechervaise the best approach inland over the crevassed plateau. The whole party comprised eleven men with two weasels, one dukw, three cargo sledges and twenty drums of petrol to be left at Henderson depot. The first half mile of steep polished ice slope above Mawson defied the weasels towing petrol drums on sledges and they were finally hauled by the dukw. However the dukw itself was bogged later, in soft snow near Henderson, but winched itself out. From Henderson Depot Dovers and Bechervaise proceeded four miles further along the route through a highly crevassed area. The mountain climb was accomplished during the afternoon. The weather, which throughout the changeover had been usually fine, became overcast and when at 2045 hours the dukw left first to return to Mawson it was bitterly cold, with a strong wind and slight snowdrift. Travelling at much greater speed the dukw was well ahead of the two weasels when its rear wheels became securely wedged while crossing a narrow crevasse. In gathering darkness the dukw driver and crew at-



1. Little America. 2. King Edward VII Land. 3. Seal Bay. 4. Cape Norvegia.  
 5. Laudheim. 6. Atka Bay. 7. Site of new mountains. 8. Deception Island.  
 9. Ferrar Glacier. 10. Prydz Bay. 11. Admiral Byrd Bay.

tempted un- successfully to dig the dukw out and then to winch it out against its own anchor. By this time it was quite dark and a 40 to 50 m.p.h. wind sent men reeling across the glass-smooth ice surface. The weasels caught up with the dukw and in the glare of headlights jacked it out of the crevasse with the entire party seated on the bow. The leading weasel decided to follow the outgoing tracks through the complicated crevasse area, but after regaining the old track, lost it again within three miles of Mawson. It was by now 2030 hours, pitch dark with wind at gale force, so Law decided to camp on the plateau and proceed at dawn. Eleven men crammed into the meagre living space of two weasels and passed an uncomfortable but warm night. In the morning a gale was blowing. With two sledges linked between the weasels fore and aft for greater control on ice, the party set out for Mawson at about 0600 hours. Without incident they reached the top of the long steep ice descent leading to the base. There, gale force wind sent the sledges and weasels skidding across the slope at dangerous speed and angle, making them almost unmanageable. The sledges were unhooked and left to be recovered when the wind subsided and all reached Mawson safely at 0700 hours, in time for a welcome hot breakfast with the station personnel.

#### Relief completed.

The first annual changeover was terminated at 1100 hours on March 1, when the last dukw load of returnable stores went aboard the "Kista Dan". During the days of the changeover the unusually fine weather permitted the swift and uninterrupted offloading of stores, and a building programme more extensive than had been hoped for. There was a three-period working day, from 8 a.m. until 9 p.m., both parties working splendidly, with the result that the incoming party is well settled in with a minimum of construction work to complete before the onset of winter. The buildings erected were two sleeping huts, the physics hut, the meteorological hut, two magnetic huts, a surgery, and three other huts.

After three weeks at Mawson, the "Kista Dan" sailed at 1420 hours on March 1, en route to Heard Island where, since that station is to be closed, she was to take on personnel and stores during a two or three days' stay. The next port of call is the French base at Kerguelen Island, after which the uninterrupted journey to Melbourne is expected to terminate on 23 March.

THE VOYAGE OF THE "ATKA".

The U.S.S. "Atka" arrived at Wellington on New Year's Day. The New Zealand Antarctic Society was privileged to entertain the members of the scientific staff at a picnic in typical New Zealand bush surroundings, and at an evening function, as well as in private homes.

The ice-breaker left Wellington on January 7, and after lying off Dunedin for ten hours when a helicopter flying mail ashore developed engine trouble, headed south for the site of Byrd's Little America. On January 12 a lone iceberg, over a mile long, was sighted through a snow flurry as the "Atka" was about to enter the Ross Sea. Scott Island was passed later the same day but no pack-ice was in sight.

Bay of Whales has Disappeared.

Reaching the ice-front on January 14, the expedition found that Little America IV, the base camp of Operation High Jump, 1946-7, has partially disappeared. A huge calving of the shelf-ice has resulted in a triangular section forming the west side of the Bay of Whales cracking loose and floating away. A portion of the east side has also gone, so that the Bay of Whales has virtually disappeared. New York Times correspondent Walter Sullivan writes: "The tent city where almost 200 men lived... has been split in two. Fragments of one tent are dangling from the face of the sheer ice cliff." From one of the "Atka"s three helicopters Mr. Sullivan saw the remains of the camp. "An oil drum hung precariously. Beneath it a thin dark line ran parallel to the surface above the cliff. This apparently was the road levelled in snow in 1947 to link the airstrip with the mess-tent... It lies seven and a half feet below the present surface... we could see what was left of the camp on top of the shelf. There were two rows of tent poles peeping a few inches above the snow. Their canvas had long since been ripped off by blizzards or squashed flat by the weight of the snow... There was no sign of the remaining three rows of tents... or of the six twin-engine planes... Where that section of camp stood there exists today but open sea."

Next day fifty helicopter flights were made to the site of the 1947 camp to enable scientists to test the snow, make measurements of the earth's magnetism and examine the effect on the quonset-hut radio station of the heavy snow load; and to salvage over a ton of such articles as cameras, surveying equipment, medical books, a case of cocoa and a generator to strengthen the ship's radio output. Flights were also made to the site of Little America III, Byrd's camp in 1959-40. The air-lift was necessary since there is no longer any bay-ice as in 1947 with snow ramps giving easy access to the shelf-ice. The coast is now an unbroken line of ice-cliffs 80 to 150 feet high. Little America's long history as a base for polar exploration has ended.

Further helicopter flights disclosed that a great crack had formed running inland almost to the ice-covered Roosevelt Island. A motor whale-boat probed into the mouth of this crack, in an attempt to reach the eight miles of open water showing inside, but gigantic blocks of neve tottered overhead and it was clearly not safe to enter. If the Barrier breaks out along this crack all the Little America camps will disappear and a bay will open up as far south as the point reached by Amundsen's "Fram" in 1911, the farthest south any vessel has reached.

The "Atka" surveyed the Ross ice-front or Barrier from Little America to a point beyond Discovery Inlet, 120 miles to the west. This showed that the ice-front now runs generally straight. Discovery Inlet is completely gone. It appears that a strip about 10 miles wide has broken off at least along this 120 miles. The front is now back to approximately the line it had in 1902, when Scott surveyed it from the "Discovery".

Tragedy Strikes.

The "Atka" now sailed eastwards along the ice-front searching for a site to replace the lost Bay of Whales. On January 21 a party under Major Wiener landed at Kainan Bay (78°14' S: 161°55' W) site of the Japanese camp in 1912, but was unable to reach the plateau. Helicopters therefore were used next day to enable the scientists to make observations in their various fields. Lieut. J.P. Moore had just taken off after dropping a passenger on the ice, when his craft struck the surface and was completely demolished. Lieut. Moore, alive but unconscious, was strapped on Father Linehan's rescue-sled and flown back to the ship on another of the helicopters, but died some hours later. It appears that the cause of the accident was a "white-out", a polar phenomenon in which the light becomes so diffused that the snow-surface

cannot be seen from the air. Five expedition members spent an uncomfortable night on the ice when this dangerously poor visibility brought helicopter flights to an end.

Leaving Kainan Bay the "Atka" continued her easterly course and rounded Cape Colbeck, the northern-most projection of King Edward VII Land, into Sulzberger Bay, an indentation 100 miles wide and 60 miles deep, bounded on all sides by ice-girt mountains. Repeated attempts were made to break through to the coast, which has never been reached from the sea in this area. The way was barred by heavy floes, and before the "Atka" could extricate herself a submerged spear of ice lopped off one of the three blades of the ship's starboard propeller.

Cruising gradually eastward, the ship on January 30 was 185 miles north-west of Mt. Siple, a volcanic cone estimated to be almost 15000 ft. high, which the geologists were particularly anxious to pin-point. That night for the first time during the expedition's sojourn in the Antarctic, the sun set, "skidding along just below the horizon for a couple of hours." A helicopter pilot reported from 500 ft. "Nothing in sight but ice in all directions". The ship's position at her furthest south in this area was  $71^{\circ}20'S.$ ,  $126^{\circ}14'W.$  Here, indications of heavier freezing-up forced a retreat northwards.

By February 2 the ship had penetrated well into the pack off Thurston Peninsula ( $71^{\circ}20'S.$ ;  $98^{\circ}W.$ ) and was within 125 statute miles of the coast. Orders were now received to cease the attempts to reach land here, and to set out for the Atlantic coast of the Antarctic Continent. Passing Norwegian-claimed Peter I Island on February 4, the expedition members sighted on its western coast a glacier projecting over a black precipice rising almost vertically 2000 from the sea. On the 7th the ship passed through Bransfield Strait, north of Grahamland, into the Weddell Sea, where the ice was found to be unusually far south, enabling the "Atka" to steam through waters generally impassable. By February 12 she was 450 miles north-west of Cape Norvegia at the extreme north-east of the Weddell Sea.

#### The Coast at Last.

On February 14 the ship was nearing the coast of Queen Maud Land. After being forced as far north as  $65^{\circ}$ , the ship suddenly ran out of the pack and was able to steer straight for Cape Norvegia steaming 455 miles without having to dodge a single floe. Here, seizing the unexpected chance, Commander Jacobsen scouted along 175 miles of the little known Princess Martha coast, on a south-westerly course, from Cape Norvegia to the Bruce Coast. A plane of the Norwegian-British-Swedish expedition flew along this coast during the 1951-52 season, but it had not previously been surveyed from the sea. This links up the survey of Riiser-Larsen in 1930 and that of Shackleton's "Endurance" in 1915 before she was crushed.

Several small bays were seen, including one at  $72^{\circ}38'S.$   $17^{\circ}40'W.$ , in which, however, the bay-ice appeared too thin for use as a dock.

Resuming its easterly drive, the "Atka" on February 16 visited Norsel Bay, the site of Maudheim, base of the Norwegian-British-Swedish expedition of 1949-52. Here the dock of ice has broken off and there is now no satisfactory place for a cargo ship to unload. The masts of Maudheim were seen from a helicopter. Seal Bay, further west, had also been found to be unsuitable for a base site. But later in the day the long-sought harbour was found, in  $70^{\circ}33'S.$   $8^{\circ}04'W.$ , and named Atka Bay. Here the ice front is unusually low, at some points only 15 feet above sea level, making it possible to discharge cargo directly on to the ice. The snow surface is of extraordinary compactness. One scientist stated, "You could drive over the horizon in a light car in almost any direction without chains." Moreover, the water at the ice-front is unusually shallow, less than 200 feet, and here the "Atka" dropped her anchor for the first time since leaving New Zealand on January 7. Adjacent to the site is a large bay twenty miles wide at the mouth and ten miles deep. The expedition, in comparatively calm weather, completed its survey of the bay and possible airfield before heading east again on February 17 to look for alternative sites.

One was discovered two days later. This bay, named Admiral Byrd Bay, is near the coastal end of an unnamed ice-tongue thirty miles wide projecting forty-four miles from the coast on the meridian of Greenwich. The charted position is  $69^{\circ}34'S.$   $00^{\circ}41'W.$  The bay is almost five miles deep, two and a half miles wide at the mouth, and 300 yards wide at the head, where bay-ice twenty feet thick makes an ideal dock. From the bay-ice the snow slopes up to the top of the tongue on all sides. The snowy plain is 135 feet above the sea, indicating that the tongue is almost 1000 feet thick.

A six-man team went ashore here, and travelling on skis, found an easy route up to the plateau. Two weasels were then put ashore and the specialists tested a possible runway site. The two helicopters carried out a photographic survey. To the south there appeared to be an open route to the interior.

The "Atka" then headed north with its task completed. The Antarctic Circle was crossed on February 22 and the ship reached Buenos Aires on March 7.

#### FALKLAND ISLANDS DEPENDENCIES SURVEY.

R.R.S. John Biscoe: The 'Biscoe' reached Port Stanley on 3rd November and sailed again on the 11th, on the first tour of the bases this season; all bases were relieved before Christmas. She is being assisted by the Norwegian sealer, the M.V. 'Norsel' which has been chartered for this season and sailed from London on 16th January.

Base A (Port Lockroy): The ionospheric equipment continues to function satisfactorily.

Base B (Deception Island): One of the old whaling station buildings has been converted into a balloon shed and is now connected by telephone to the Meteorological Office in the main living hut.

Base D (Hope Bay): A four-man sledge party visited the View Point hut again at the end of October but were prevented by bad weather from going much further. However, two men who had gone on ahead, travelled 190 miles in 16 days and visited Fortress Hill in Sydney Herbert Sound, where they found numerous fossil mollusca, fossil wood and reptilian vertebrae. Whale pemmican was fed to the dogs throughout the journey and seemed satisfactory. Strain gauge apparatus carried on this journey gave useful results.

The new dogs from Greenland and Labrador are reported to be doing well.

Base F (Argentine Islands): Daily radio sonde ascents have been maintained.

Base G (Admiralty Bay, King George Island): The Governor of the Falkland Islands and Dependencies inspected the base when the 'Biscoe' called there on 14th November.

Gales during October and November prompted experiments with a device for switching the anemometer dial down to half-scale, so that recordings can continue during high winds. It has not yet been reported whether the experiments were successful.

A number of crabeater seals have been shot and stored for later transfer to Base D as dog food.

Base H (Signy Island): Adelie penguins have been ringed and work on the weddell pup skins has been continued.

South Georgia: Weather forecasts were increased to two daily in mid-October for the whaling season.

King Penguin Survey: The programme of work on king and gentoo penguins, skuas and seals and marine biology has been completed, and the two men returned to Grytviken in December.

British South Georgia Expedition: The party has been hampered by bad weather and difficult terrain, but although the attempt on Mount Paget (9200 ft.) was unsuccessful, several other peaks have been climbed. These include one of over 6000 ft. in the southern part of the Allardyce Range - the first major peak to be climbed in South Georgia.

Glaciological work is being carried out on Cwm glacier near Grytviken.

#### THE SUB-ANTARCTIC ISLANDS.

##### Macquarie Island (Australia).

The "Kista Dan" left Melbourne on 21 December and arrived at Macquarie Island on Boxing Day. 35 tons of cargo were landed in perfect weather. The year's scientific programme, successfully carried out, included the completion of a series of photographs of the Aurora Australis taken simultaneously by radio synchronisation with cameras on each end of the island. The new party of 14 men under Max Hynes includes 24 year old David K. Grant, auroral physicist, a New Zealander from Sumner, Christ-

church, who gained his M.Sc. degree, with honours in Chemistry, at Canterbury College.

In the Bulletin for March, 1954, it was reported that a cow had been landed on Macquarie Island. Now she is - for a very short time - to enjoy married life. The "Kista Dan" carried a young bull, who will, after a while, be slaughtered to provide fresh meat for the island men. The ship also carried twelve sheep as well as geese, ducks and fowls.

It is learned that last September engineer Harry Whitton and auroral physicist Keith Shaw climbed to the southern-most tip of the island. Here Whitton had a sudden relapse of malaria (from his New Guinea days). Shaw radioed Dr. Govrin, the Russian-born doctor at the base 25 miles away, and treated his companion with the drugs prescribed. Whitton's temp. had risen to 101, but he soon recovered.

The "Kista Dan" arrived back at Melbourne on January 14, and on her second journey of the season, en route for Mawson, reached the island after a week of extremely rough weather on January 23. Heavy seas damaged the ship's fittings and badly battered one of the expedition's launches which was made fast to the fore-deck. The hull of the launch was later jettisoned, but the engine and fittings were salvaged. At Heard, equipment from the island was taken on board for transfer to Mawson. Nine men were left on the island to await the ship's return from the south. The base was then closed down.

#### Campbell Island (New Zealand).

The annual relief took place, not exactly as intended, early in December, 1954. The M.V. "Viti" of 700 tons left Port Chalmers on December 6 and arrived at Campbell Island on December 9. The new men went ashore but C.G. Clear, one of the meteorological observers, developed appendicitis and the "Viti" left hurriedly on the 11th, carrying Mr. Clear, and also L. McManus, R.G.L. Hayes and M.G. Randall, the returning men. Arriving at Bluff on December 13, the "Viti" left again on the 15th for Campbell Island, with a replacement for Clear, F.M. Collyer. Leaving again on December 18, with the final returning man, C. Capper, the "Viti" reached Wellington on December 21.

The new party comprises I.G. Clark (officer in charge), Byron Hart (senior ionospheric observer), F.M. Collyer and W.L. Taylor (met. observers) and G.P. Kape (geophysical observer).

In radio-telephone conversations with the "Bulletin" on March 3 and 4, much interrupted by heavy rain and electrical storms on the island, which interfered with reception, Ian Clark gave details of the change-over. The necessity for the vessel to return quickly to New Zealand, he said, caused the stores to be unloaded haphazardly. The weather at the time was better than usual, but heavy hail-storms in January coated the surrounding peaks with a brief mantle of white.

On the first trip of any length the party discovered a huge nesting-ground of Royal Albatrosses on the Faye-Fizean ridge, where thousands of birds were seen raising their only children: acres of land were thick with birds, an interesting and memorable sight. On the same ridge a recent skeleton was found with feathers attached: this will be brought back to New Zealand. Nearer to camp, photographs are being taken on the St. Col saddle of nesting birds, eggs and young. The proud parents often stand back and let the men fondle and photograph their offspring. One bird was seen down in the dracophyllum near the camp. There was a high gusty wind but it was unable to take off. Caught and carried back to camp it became a photographers' model. Later, released at Tucker Cove, it was soon off to join its mate which had been circling overhead.

An attempt to find three reputed penguin rookeries was unsuccessful, but the party saw some interesting country, including the 1000 ft. cliff face on Mt. Eboule, and "6' Lake", on the south coast of the Island. Tucked into ledges in the cliffs were several sooty-albatross chicks about a foot long and covered with soft grey down. In an adjacent valley 50 head of sheep were seen, in good condition. High winds this day made it difficult to travel, especially on the ridges, and crawling was necessary to reach the summit of Eboule. Near 6' Lake sea-elephant wallows were found with 35 "bathers" packed in like sardines. There is a similar large wallow near Garden Cove. Some weeks previously at Shoal Point an old sea-lion with his harem was seen: he had the mane and authentic regal appearance of the King of Beasts.

In December a she-bear came up to the camp and found her way into the hardware and paint store, apparently with a view to using it as a maternity ward, but found the

floor too hard and retired into the scrub. Basking sea-lions often lie around in the water near where the men are working, often quite close, and show no reaction when approached. Men building a new jetty at Beeman Cove one day saw several sea-lion cubs - each two feet of golden brown.

The camp boasts 35 chickens, but has been having considerable skua-trouble. The balance sheet so far is

Dr. 3 chicks + 75 rounds .303      Cr. 1 skua + excitement and fun.

A skua-proof hen-house has now been built.

Three lambs are tethered on the grassy flat at Tucker Cove. Catching them alive has been preferred to shooting, though it entails much hard work. The lambs do not approve of the route being taken to camp, and often have to be carried. Hans, the dog, has become adept at lamb-catching. Hans also figures in a recurring domestic scene. One of the hens has taken to laying her eggs in his kennel, and Hans willingly waits outside while the hen attends to her duties within.

Rats are also a nightmare to the island poultry farmers. Two chickens had disappeared the night before: but forty odd rats were shot with the help of a torch - and a .22.

The station was in radio contact with the U.S. ice-breaker "Atka" on January 9, and with Macquarie Island on March 3, when a conversation was held with Dave Grant, the New Zealander with the Australian party (which incidentally also includes two Hungarians).

#### MARION ISLAND (UNION OF SOUTH AFRICA).

The members of the eleventh relief party on Marion Island returned to South Africa at the end of November. Ever since the annexation in December 1947, extension and improvements have taken place. Today the settlement consists of a weather office, a radio-station, a radio-sonde hut for generating hydrogen and filling balloons, a fowl run and a water pumphouse. The living quarters include a large dining-room (which also serves as a library and billiard room), two well equipped bathrooms, a photographic darkroom and separate bedrooms for all members of the staff. All the roofs are covered with copper-plate while portholes provide ventilation. All the buildings are linked by telephone. Duck-boards have been laid between the buildings as the surface is very swampy.

The lonely island must have some irresistible attraction for those who have lived there. The last relief party consisted of three meteorological observers, a radio operator, a radio technician, a Diesel mechanic, a cook and a medical orderly. Three of these were members of the previous party while the writer had lived on Marion Island with three previous parties. The cook of the last relief party stayed on. Several other members have also in the past returned or stayed on for further spells of duty.

All the trees planted in 1950 and 1951 have now died. These trees grew very well at first but that was probably while the roots were still in the original soil in which they were planted.

Australorp fowls do very well and provide many of the eggs used for domestic purposes, the remainder being sent from South Africa and preserved in water-glass. Dormel-slap do very well on the fine grass which grows in certain spots, but losses in the swamps deprive the "Islanders" of a fair portion of mutton.

Fresh vegetables and fruit are taken out by every relief ship. These last for a few weeks, and after that, apart from a sheep once a month and the fowl eggs, all food comes from tins or boxes.

The weather during the last relief inclined to extremes. Two months had record amounts of rain while for two others record lowest amounts were measured. A wind gust exceeding 100 mph. was encountered. The snowfall during winter was extremely heavy. One ice-berg of which the height was estimated at + 500 feet, was seen.

The King Penguin rookeries are rapidly extending. This year chickens were also found in Ship's Cove and Archway Bay. Several Grey Headed albatrosses were seen at Ship's Cove while previously they were confined to a ridge on the Southern side. During the previous two reliefs, three fur seals were seen on the north-eastern coasts while previously they were seen only on the North-Western side.

The members of the relief party now on Marion Island will probably not be relieved before April, 1956. As usual the South African Broadcasting Corporation will arrange a New Year's Eve program in which they can exchange messages with their relatives in South Africa.

BOUVETOYA (NORWAY).

Norway has granted permission to the Union of South Africa to establish a weather-station on Norwegian-owned Bouvetoya (Bouvet Island), 54°26'S., 3°24'E., some 1600 miles south-west of Cape Town. A landing-party from the South African frigate "Transvaal" went ashore at the north-west tip of the island on February 1 and the leader of the expedition, Captain Paul Dryden-Dymond, later stated that he believed a weather-station could be built anywhere on the ice-covered island. A final decision will be made after a conference in Pretoria has considered the expedition's report.

LES ILES KERGUELEN (FRANCE).

The ship "Vercors" carrying the personnel of the 1954 expedition to Kerguelen reached Madagascar on January 30. Unloading at Port-aux-Francais was carried out as planned and without incident. The animals taken south, reindeer, Shetland ponies, and sheep, all arrived in perfect condition and were immediately quartered on the island.

The vessel brought back a seal and seven penguins for the Vincennes Zoo.

International Geophysical Year activities on Kerguelen will be concerned principally with magnetism, radio-electricity and atmospheric physics.

I.G.Y.

The International Geophysical Year 1957-8.

Thirty nations are expected to participate in the pole-to-pole activities of the third International Geophysical Year, which will range over the fields of meteorology, geo-magnetism, glaciology, ionospheric-physics, solar activity, the aurora, and oceanography, as well as rocket probes of the upper atmosphere. While this will not be exclusively a "polar year", considerable attention will be directed to the Antarctic which constitutes, says Mr. L.V. Berkner, vice-chairman of the Special Committee on the I.G.Y., "the major geophysical challenge still. It is strange," he adds, "in this day and age that so little is known of the great continent of extremes that may so enormously influence our lives."

The working group on the Antarctic of the Special Committee (CSAGI) has formulated a series of recommendations, of which the following is of particular interest to New Zealanders:

"The CSAGI invites the attention of the New Zealand government to the very great desirability of a station at Ross Island or at a suitable site between Ross Island and Cape Adare. Such a station would represent an important link in the chain of Antarctic circumpolar stations and in the meridional chain consisting of the South Pole plateau station, Ross Island, Campbell Island, Macquarie Island, Invercargill and Christchurch. The CSAGI recommends that the following types of observations be conducted during the IGY: meteorology, geomagnetism, aurora and airglow, ionospheric physics, seismology, gravity measurements, glaciology and oceanography. The CSAGI emphasises the very great importance of these observations during the IGY and respectfully asks the consideration of these recommendations by the Government of New Zealand."

The recommendations will be considered by the New Zealand National Committee for the Geophysical Year, set up by the Royal Society of New Zealand, which will then make its own recommendations to the Government.

The "Atka" cruise outlined elsewhere in this issue was primarily a reconnaissance to decide on suitable sites for the American IGY research bases, of which at least three are planned. It is expected that the first construction expedition will head south next summer. It will probably be a large expedition with heavy equipment, carried in possibly eight ships. It is expected that in 1957-8 big four-engined planes will be flying from New Zealand airfields to the 150 yd. wide, mile-long airfields it is proposed to establish in the Antarctic. Mr. E.H. Moser, who represented the U.S. Navy Bureau of Yards and Docks on the "Atka", said that techniques learned on the Greenland ice-cap would enable "compacted snow" runways to be built which would support these giant planes, thus opening the base all the year round for the supply of

fresh stores and mail, personnel changes and emergency flights.

The proposed Marie Byrd Land station is expected to be located at approximately 80°S., 120° W., i.e. 350 miles inland and some 500 miles from Little America.

A French expedition will leave in October under Dr. Paul-Emile Victor to prepare bases for French I.G.Y. activities. These will include co-ordinated seismic soundings at ten-mile intervals along routes on the Antarctic ice-cap.

#### CHILEAN ANTARCTIC BASES:

Chile calls the sector claimed by her "Territorio Antartico Chileno" and from the administrative point of view it is under the control of the Administration of the Province of Magallanes, with headquarters in Punta Arenas. The area comprises all territories between 53° and 90° W., from Chile itself as far as the South Pole.

In this territory Chile maintains four permanent stations:

1. Base Bahia Soberania (Sovereignty Bay) on Greenwich Island in the South Shetland Group. The island lies between Livingston and Roberts Islands and was rechristened Isla Gonzalez Videla by Chile in 1947. Bahia Soberania is the Chilean name for Discovery Bay. The station stands on a small promontory at the north-eastern end of the Bay at 63°30' S., and 59°40' W., and was established by a Chilean Expedition in 1947. The personnel are relieved every year by a Chilean transport.
2. Base Militar General O'Higgins, the first Chilean station on the mainland, was opened by a Military expedition with the personal participation of the President of Chile, Dr. Videla, on 14 February, 1948. It is in the vicinity of Cap Legoupil on the small ice-free Peninsula of Isabel Riquelme at 63°19' S. and 56°54' W.
3. A hut established in 1951 in the vicinity of the Argentinean Station Almirante Brown in Paradise Bay at 64°49'S., and 62°52'W. This station was given the name of Base Arturo Prat.
4. Base Presidente Carlos Ibanez del Campo, named after the President of Chile, and inaugurated with due ceremony by the Minister of Defence at Pendulum Bay in Port Foster, Deception Island, (62°59'S., 60°35'W\*), on February 18 this year. This base is to be maintained by Chilean Air Force personnel.

In the summer of 1948-49 an attempt was made to establish an Air Force Base in Marguerite Bay. The bad ice conditions that year did not allow the expedition to press so far south.

Chile has placed its stations under the control of the Armed Forces. The Base Arturo Prat is under the control of the Naval Chief of Staff, the Base O'Higgins under the control of the Army, and Bahia Soberania under the control of the Chilean Air Force. Near the latter station, not far north of the station hut, there is a landing strip which was laid out in the months of February and March of 1947. The runways of 500, 570 and 950 metres length allow the landing and taking off of heavy transport planes.

Chile also maintains three beacons in the Antarctic. The Rancagua Beacon, on a hill to the south-west of Base O'Higgins, was established in 1948. It is an acetylene-powered metal mast, near which is an emergency shelter for six men. The Arturo Prat Beacon, likewise a metal mast 11 metres in height, is on the south coast of Roberts Island; the third is on the north-west corner of Roberts Island on Punta Cornwall. The Beacon began working in 1947. The Beacons, which are completely automatic, function during the navigation period.

Chile bases its claims to Antarctic territory on historical continuity, on the administrative measures which it has carried out, and on the theory that Grahamland (which, incidentally, has been rechristened Terra O'Higgins by Chile) is the natural continuation of the Andes.

#### NEW ARGENTINE BASE.

Argentina reports the establishment of her ninth Antarctic Station, the General Manuel Belgrano Base, in lat. 78°S., long. 39°W., only 812 miles from the South Pole. This is in the vicinity of Vahsel Bay (77°48'S., 34°39'W.) in the Weddell Sea, where the Commonwealth Trans-Antarctic expedition hopes to establish one of its bases, and is the southernmost station at present occupied by any country in the Antarctic.

The Argentine expedition, led by General Hernan Pujato, president of the Argentine Antarctic Institute, travelled on the new German-built ice-breaker "General San Martin" recently purchased by the Argentine Navy. The vessel left Laurie Island in the South Orkneys on December 27 and traversed 1250 miles of ice-fields, the ice-breaker's two helicopters scouting ahead. During the voyage south, the Weddell Sea coast was mapped as far as Vahsel Bay and in less detail to Gould Bay.

On January 3 General Pujato selected a site and the ice-breaker entered an inlet which was named Captain Piedrabuena Inlet. Here unloading and the construction of the station began next day. General Pujato remained in charge of ground operations, with a group of Army and Air Force men and civilian scientists.

While the ship was moored in the inlet a gigantic flat iceberg more than 300 miles long and with a surface of 270 square miles was moving slowly southward, straight for the inlet. The helicopters discovered it in time and kept its movements under constant observation, enabling the "San Martin" to weigh anchor and proceed northward, narrowly escaping through a channel only three miles wide which was all that remained between the iceberg and the continental coast.

The Navy has carried out the normal relief of the other Argentine bases. One of the vessels, the Bahia Aguirre, pushed south of 65° and reached the site where Charcot wintered in 1909. It is reported that Lieut. Camara, a naval pilot, was killed when struck by part of a helicopter undergoing repairs.

#### ANTARCTIC BOOKSHELF.

Frank Crisp: "The Adventure of Whaling" - London: Macmillan, 1954. 142 pp. English price 6/6d.

This book by a noted boys' writer is intended primarily for young people, but is in no sense childish. It is simply written, and avoids technical and scientific terms which might confuse the layman: but it gives a first-rate account of whales and whaling from the earliest times to these days of vast factory ships and "echo whale-finders". Much of the book, naturally, is concerned with whaling in northern waters, but the final section (of some 40 pages) deals with whaling in the Antarctic. There are numerous line drawings which add materially to the book's value as an introduction to whaling methods.

#### "HELL BELOW ZERO".

Those interested in the Antarctic who see the Columbia production "Hell Below Zero", based on Hammond Innes' thriller "The White South", will be impressed by the fine shots of Antarctic seascapes, whaling activities and ships which are well known, at least by repute, to "Bulletin" readers. The story itself more than strains one's credulity, but the 20-man camera team under Anthony Bushell which went south for two months during the whaling season 1952-53 in the "Kista Dan" secured some striking shots which are well worth seeing. The "Kista Dan" met the Salvensen Co's factory ship "Southern Harvester" on December 27 at lat. 59°S., long. 70°W., and the whole unit stayed with the "Harvester" four days, one section remaining to film further whaling scenes, both on the factory ship and on catchers, while the other section sailed south of the Orkneys into the Weddell Sea. The meeting of the two well-known ships is the subject of a fine shot, and the scenes on the factory-ship, showing, in colour, the flensing operation etc., are so effective that one could wish there was more of this in the film and less of highly-coloured, studio-shot "romance". The final "fight" sequences were filmed on the Fortuna Glacier in South Georgia.

#### THE WHALING FLEETS.

Mr. Onassis is reported to have paid the 3,000,000 dollar fine imposed by Peru on five of his whaling ships, including the factory ship "Olympic Challenger" seized off the Peruvian coast last December. Peru asserts that the payment of the fine implies recognition of Peruvian sovereignty over the 200-mile wide strip claimed as territorial waters. The ships were released in time to participate in the Antarctic whaling season, which commenced for fin whales on January 7 and for blue whales on January 21. They immediately began to take on provisions at Callao.

A Foreign Office spokesman said on January 18 that the British cruiser "Superb" and the frigate "Burghead Bay" were sailing from the West Indies to the Pacific round Cape Horn, and that they would be ready to protect British whaling vessels if necessary. Peru's claim to a 200-mile wide strip of territorial waters is significant in view of the claims by Argentina and Chile to possession of the Graham Land area. Chile has associated herself with Peru in the matter, in a joint declaration in 1952, and has more recently declared that the 200-mile limit applied not only to the coasts of the mother country but to any part of the world where Chile had territory.

The Norwegian Whaling Gazette reports that the 19 expeditions operating this season are employing an aggregate of 235 catchers. The 17 expeditions in the 1953-4 season employed 206 catchers.