

THE POLAR RECORD

NUMBER 1: JANUARY 1981

PRINTED IN GREAT BRITAIN FOR
THE SCOTT POLAR RESEARCH INSTITUTE
CAMBRIDGE : AT THE
UNIVERSITY
PRESS
1981

Price One Shilling



CONTENTS

FOREWORD	page 1
THE SCOTT POLAR RESEARCH INSTITUTE	2
OBITUARY	4
ARCTIC REGIONS :	
Svalbard, Franz Josef Land and Russian Arctic Regions :	
Norwegian Svalbard and Arctic Ocean Expedition, 1930	5
Soviet Union Expeditions, 1930	6
Cambridge Spitsbergen Expedition, 1930	8
Greenland:	
German Expedition, 1930-31	9
British Arctic Air Route Expedition, 1930-31	10
University of Michigan Expedition, 1930-31	14
Danish Expedition, 1930	15
Norwegian Expedition to East Greenland, 1930	15
American Expedition to East Greenland, 1930	15
Arctic Canada	16
ANTARCTIC REGIONS :	
Ross Sector :	
Byrd's Antarctic Expedition, 1928-30	17
Enderby Sector :	
<i>Norvegia</i> Expeditions, 1929-30 and 1930-31	19
British-Australian-New Zealand Antarctic Research Expeditions, 1929-30 and 1930-31	21
Weddell Sector :	
Work of the <i>William Scoresby</i> and <i>Discovery II</i> , 1929-30 and 1930-31	24
Antarctic Whaling Season, 1929-30	26
THE SECOND POLAR YEAR, 1932-33. By Dr G. C. Simpson	28
BRITISH POLAR EXHIBITION, July, 1930. By L. C. Bernacchi	30
REVIEW. <i>The Andrée Diaries</i> . By J. M. Wordie	31
BIBLIOGRAPHY	34

Pages

*Exchanged
against
liquidation.*

President

ddy 6/5/32
in liquidation

Director

Director

Long

Secretary-General

[Signature]

Assistant-Secretary

[Signature]

Technical-Assistant

[Signature]

Technical-Assistant

Translator

THE SCOTT POLAR RESEARCH INSTITUTE

In the past, the leader of a projected polar expedition has had to face two difficulties of a peculiarly aggravating nature. In preparing his equipment he has had no centre to which he could go for information on the type of gear which had been tested by use on previous expeditions, its cost and its manufacturers, nor could he come by such information in any simple way. Secondly, on his return he has had to face the problem of working out and publishing his results at a time when expedition funds were low, if not exhausted.

The result has been, firstly, that each expedition has had to do all over again the spade work that was done by previous ones, and, secondly, that the results of expeditions have had either to remain in manuscript, which may ultimately become buried in some family cupboard, or else they were condensed into the appendices of a more or less popular narrative. A third possible fate of the results was happier, but not entirely satisfactory, namely, when they were published in the journals of those societies which take them as papers read by the author.

There has, in short, been no centre for information on polar matters, or for the collection of polar equipment, and no fund available for completing the work of expeditions at the critical stage when the tumult and the shouting have died.

It was the realization of these deficiencies that led a member of Captain Scott's Last Expedition to begin, in 1921, to cast about for a remedy, and he happily discovered the nucleus of one in the residual sum of money held by the Trustees of the Mansion House Memorial Fund to Captain Scott. This sum, amounting approximately to £12,000, had been allotted somewhat vaguely to polar research.

The idea of applying this capital to establish a Polar Research Institute, as an active memorial to Captain Scott, appealed to the Trustees, and the money was finally made over to the University of Cambridge for that purpose, it being considered that a University centre would be desirable in order to carry out the various activities of the Institute.

In 1926 the Institute was formally inaugurated and its progress has been steady since that date. Half of the initial sum has been set aside for a suitable building to be erected within the next few years as funds permit, and the Institute is at present installed, rent free, in a house belonging to the University. The maintenance of the Institute and all its activities have so far had to be carried out on the interest of the other half of the initial capital, so that these have had to be as modest as its income.

It is clear, however, from its steady growth, from the number of visitors, and from the numerous applications for information, that the Institute has a very definite function and will continue to grow in utility, even hampered as it is by lack of funds.

The aims may be described briefly as follows. The collection of a library of books, papers, manuscripts and maps is obviously of the first importance and has been well begun, thanks largely to the generosity of donors. The collection of polar equipment is hardly less important and this too has been commenced, though the material gathered is still very far from complete. A permanent exhibition of pictures and photographs in the rooms of the Institute is already an important feature, which has appealed strongly to the general public.

The Institute is quite international in its point of view and an endeavour is constantly made to keep in touch with what is going on in other countries in polar matters. The facilities of the Institute are offered freely to polar students of every nationality. There are research rooms available, for instance, for the use of those who wish to consult the library, to inspect the original records or to carry out work on the reports of any expedition. In brief, the fulfilment of its purpose as a centre of information has, we believe, been well started and the future can safely be left to natural growth.

The other purpose, assistance to expeditions, or private individuals, in the matter of publication of polar work has been severely limited by lack of funds. The Committee of Management has planned for a special Publication Fund which must, however, wait the help of some generous donor before it can become effective.

The Institute is, for the purpose of organization and accountancy, a University Institution, its Director being a University Officer, but its scope and outlook are world-wide. The Committee of Management is appointed by the Senate of the University and includes one member nominated by the Royal Geographical Society. At present it consists of:

Dr A. C. SEWARD, F.R.S., Master of Downing College, Professor of Botany.
(*Expedition to Greenland.*)

Dr H. R. MILL, Royal Geographical Society Representative.

Mr R. E. PRIESTLEY, M.C., Assistant Registrar of the University. (*Member of Shackleton Expedition, 1907-09, and Scott Expedition, 1910-13.*)

Mr J. M. WORDIE. (*Member of Shackleton Expedition, 1914-16, and leader of several expeditions to the Arctic.*)

Professor F. DEBENHAM, O.B.E., Director of the Institute, Professor of Geography. (*Member of Scott Expedition, 1910-13.*)

OBITUARY

Any review of the principal events in polar circles in 1930 must begin with a reference to the death of DR FRIDTJOF NANSEN, the outstanding Arctic explorer of the last two generations. Though occupied very fully in recent years with League of Nations' business, and famine relief, Nansen remained keenly interested to the last in polar work, and was even contemplating a voyage by air in the Graf Zeppelin over the Arctic seas. But for the misfortune of the general strike in England in 1926 Dr Nansen would have formally opened the Scott Polar Research Institute, and the aims of the Institute have been the subject of warm letters of encouragement from him.

By a strange fate he has been followed after a few months by his old comrade, Otto Sverdrup, who captained the *Fram* on her memorable three year drift. Afterwards he took her to the Canadian Arctic Archipelago on an expedition of his own, and did very much more solid work than many others which have claimed a greater share of public attention.

Captain William Colbeck, R.N.R., who died on October 19, 1930, was the magnetic observer of the *Southern Cross* Antarctic Expedition under Borchgrevinck in 1899. Subsequently he was in command of the relief ship *Morning* in 1902 and 1903, which kept up communications with Scott during the National Antarctic Expedition of 1901-04.

Reference must also be made to the death, in 1930, of one other polar explorer. Rear-Admiral C. W. R. Roys, who died on December 31, was the First Lieutenant of the *Discovery* in the National Antarctic Expedition, 1901-04. He will be remembered as the leader of a very notable sledge journey half way across the Ross Barrier, in 1903. It was at the cape named after him that Shackleton wintered in 1907-09.

THE ARCTIC REGIONS

SVALBARD, FRANZ JOSEF LAND AND RUSSIAN ARCTIC REGIONS

Norwegian Svalbard and Arctic Ocean Expedition, 1930.

On July 30 the *Bratvaag* left Trömso and sailed north for Franz Josef Land on a summer expedition for hunting and scientific work. The scientific staff, under orders from the Norwegian Svalbard Office, was led by Dr Gunnar Horn (geologist), assisted by Olav Hannson (botanist), and Adolf Soerensen (zoologist).

After calling at Hope Island, where an excursion ashore was made, the ship sailed for the eastern islands of the Svalbard Archipelago and another landing was made on Abel Island.

The summer of 1930 was marked by unusually open ice conditions in the north, allowing places which as a rule are quite inaccessible to be reached in ice-free water. Several ships had already, as early as July, been in the neighbourhood of Kvitø or White Island (also known as Gilles Land), and Victoria Island, which lie between Svalbard and Franz Josef Land. It was decided, therefore, that the *Bratvaag* should visit these little-known islands on her way to Franz Josef Land. Sailing north from Abel Island, she first called at Great Island (Storo): this was found to lie 12 miles further west than appears on the charts, thus confirming the position fixed for it by the British Arctic Expedition of 1925 under Algarsson and Worsley. Excursions ashore were made at the south-east and north-east sides of the island, where there are stretches of barren and desolate land free from the ice covering of the centre. At the north-east point a hut was erected for the use of future expeditions, and near it is a dépôt which was made for Amundsen and Nobile in 1928 and has remained untouched.

White Island was reached through ice-free water on August 5, and here too it was found that the chart gave a wrong position, the island being marked too far to the east. Landing on the south-east shore on August 6, the three scientists had worked for several hours when they were suddenly called to the assistance of the walrus hunters. Two of the crew had by chance come upon a boat almost buried in the snow and in it they found a boat-hook on which was engraved "Andrée Polar Expedition, 1896." Thus began the discovery of the fate of this expedition of which nothing had been heard since its departure, 33 years ago, when

Andrée, Strindberg and Fraenkel left Danes Island, Svalbard, on July 11, 1897, in an attempt to fly across the North Pole in a balloon. The balloon was fitted with guiding ropes by means of which Andrée hoped to be able to steer it to a certain extent; but he relied chiefly on his theory of the existence of a northerly upper air current which would carry the balloon across the Arctic Sea. Two days later a message brought by carrier pigeon stated that all was well and gave a position of $82^{\circ} 2' N.$, $15^{\circ} 5' E.$ That was the last that was heard of the adventurers up to the time of the discovery on White Island. Excavation in the frozen snow brought to light a complete camp, the bodies of two men and many of their personal belongings. Among these the items of the greatest interest were Andrée's two diaries.

The *Bratvaag* Expedition left White Island on August 7 and the ship sailed for Victoria Island and thence to Franz Josef Land. The scientific programme was carried out here as originally intended and the coast of Cambridge Bay was recharted. Eventually the expedition returned to Trömso on August 29.

A second vessel, the *Isbjorn*, reached White Island on September 3 and landed a party which continued the work of excavation begun by the crew of the *Bratvaag*. A third body was found and also a number of photographic films and Strindberg's almanac log. It is probable that everything of value has now been brought away. Very careful treatment has made it possible to decipher most of the journals and, even more remarkable, some of the films have been developed with complete success. The Swedish authorities have arranged for the publication of a book dealing with the whole history of the Andrée Expedition and containing a number of the explorer's photographs and extracts from their journals. The scientific results of the expedition will also be published later.

Soviet Union Expeditions, 1930.

The chief work carried out by the U.S.S.R. during the summer of 1930 was an expedition in the ice breaker *Sedov* under the leadership of Professor O. J. Schmidt.

The ship left Archangel on July 15 with 40 people on board; 17 of these were concerned with the general scientific work and 13 were to be left to winter in Franz Josef Land and Nicholas II Land. The scientists included:

Professor R. L. SAMOILOVITSCH.
Professor W. J. WIESE.
Professor B. L. ISSATSCHENKO.
V. P. SAVICZ.

In 1929 the government of the Soviets formally notified Vienna that it was going to take over the Franz Josef Land Archipelago, discovered by Weyprecht and Payer in 1873: this year it renamed the group Fridtjof Nansen Land. Nicholas II Land had previously also been renamed, and is now called Severnaya Zemlya (Northern Land).

The *Sedov* reached the meteorological wireless station on Hooker Island, Franz Josef Land, on July 22, 1930, and the party of seven who had passed the previous year there was relieved. A party of nine was left to take their place under the geographer I. Ivanov, who is accompanied by his wife, the biologist, Mme Nina Demme and other scientists. Besides the official party, two hunters have also been left on the island. While the station was being equipped the *Sedov* visited, among others, Bell, McClintock and Alger Islands. The hut on Bell Island erected by Leigh Smith in 1881 was found to be in good repair, but that of the Baldwin-Ziegler Expedition on Alger Island was in a bad state. Provision dépôts were left at both these places. An attempt to penetrate into Markham Sound was prevented by the pack ice.

The expedition left Franz Josef Land on August 3 and the *Sedov* proceeded to Russen Harbour in the north-west of Novaya Zemlya. Here she was met by the *Sibirjakov*, from which a further supply of coal was obtained, and the party relieved from Hooker Island was transhipped. Leaving on August 12, a course was set for the north-east with the object of reaching Severnaya Zemlya. This archipelago was discovered in 1913 by Vilkitski, who approached it from the east. Nothing has been known of its western side until this year, for although Nobile, with his *Italia*, on May 16, 1928, reached a position of 79° 16' N., 91° 40' E., no land was sighted.

On August 13 a new island, named Wiese Land, was discovered in 79° 27' N., 76° 41' E. The probability of land in this vicinity had been suspected from the ice conditions met with by the *St. Anna* during her drift further west in 1912-14. The island is flat and low, nowhere rising higher than about 80 ft. above sea level: it is about 19 miles long and 6 miles wide. A belt of land-fast ice, 4 miles wide, surrounded it, through which it was not possible to force the ship, so a party crossed it on foot.

Rounding the north coast of the island, the *Sedov* was unable to continue eastward as had been hoped and a southerly course had to be taken: even so, considerable difficulty was experienced with the pack ice. On August 21 in 76° 43' N., 79° 30' E., it was possible to turn east again. The course lay 20 nautical miles to the south of Einsamkeit (Lonely) Island,

which was not sighted, but a small new Island, named Issatschenka Island, 50 nautical miles to the south-east of Einsamkeit, was discovered. Another new island was seen on the same day, lying 55 nautical miles west of Cape Neupokojev on Severnaya Zemlya. This was called Voronin Island after the captain of the *Sedov*.

Ice barred all further progress eastwards but the way was open to the north. On August 23, close to the coast of Severnaya Zemlya, another small island was seen and named after Samoilovitsch, and on the next day, to the north-west, a group of small islands was met with. One of these had open water up to its west coast and there the new meteorological station was established in 70° 24' N., 91° 3' E. The islands are about 15 miles from the mainland of Severnaya Zemlya and were called the Kamenev Islands; they are very flat and only rise to about 50 ft. above sea level. By August 30 the station was established and a party of four put ashore with provisions for three years, and 40 dogs. The leader is G. A. Uschakow, who had previously spent three years in Wrangel Island, and with him are a geologist (N. N. Urwantzew), a wireless expert and a hunter. If ice conditions during the next three years make relief impossible, the party will make their way across Boris-Vilkitski Sound to Cape Cheljuskin and travel westward along the coast to the Dickson Island station.

Continuing northward, the *Sedov* crossed the 90th meridian on August 31 and reached a latitude of 80° 58' N., within a few miles of a completely ice-covered island, named Schmidt Island, which appeared to be the last of the Severnaya Zemlya group in a north-west direction. Ice barred the way north, so the *Sedov* turned south and then west to Russen Harbour, returning to Archangel on September 14.*

A second Soviet ship, the *Beluga*, left Archangel in August, 1930, to attempt the North-East Passage, carrying out scientific work on the way. It was also intended that she should land a party of scientists and hunters on the Taimyr peninsula to establish a whale fishery for the white whales reported in numbers along this coast by the Soviet airman Chuknovsky. Further reports of this expedition have not so far been available.

Cambridge Spitsbergen Expedition, 1930.

Mr R. M. Jackson, with Messrs W. N. Pirie, P. Lamartine Yates, and C. G. Monkhouse, made a preliminary investigation, in August, 1930, of the New Friesland Mountains in Spitsbergen: the expedition is pre-

* (See *Arktis*, Heft 1/2, 3/4, 1930. Also, map of the Polar Sector between Novaya Zemlya and the New Siberian Islands, produced by L. Breidfuss and T. Siewke.)

paratory to a more extended topographical and geological survey next year. The party landed from a sealer at Klaas Billen Bay at the head of Ice Fiord on August 2. From the base camp in Ebba Valley a route was taken up the Ebba Glacier and then in a northerly direction to the Mittag-Leffler Glacier, which was followed down to the shore of Wijde Bay. From here two of the party went up the Stubendorf Glacier, and followed it north-eastwards to its head. The mountains in this region were regarded as among the most alpine in appearance in Spitsbergen. One was climbed in the neighbourhood of Mt Irvine, reached by Odell and Irvine of the Oxford party in 1923; it was not possible, however, to connect definitely with the Oxford survey, but it is hoped to clear up difficulties such as this next year. The return to the base camp was made by the Mittag-Leffler and Ragnar Glaciers. Travelling, even at 1700 ft., had been almost invariably on bare ice. From the base the party sailed across Ice Fiord on August 26 in an 18-foot boat to Advent Bay, and returned to Norway by collier.

GREENLAND

Attention has been focussed on Greenland during the year 1930, expeditions having been sent out by five countries: Denmark, Germany, Great Britain, Norway and the United States. The motive underlying some of these expeditions is the possibility of establishing air routes from Europe to America, using a station in Greenland *en route*.

German Expedition, 1930-31.

This expedition is under the leadership of Dr A. Wegener, and his party, which numbers about twenty, includes the following:

- Dr JOHANNES GEORGI, German Institute of Marine Research, Hamburg.
- Dr FRITZ LOEWE, Prussian Aeronautical Observatory.
- Dr HOLZAPPEL, Prussian Aeronautical Observatory.
- Dr KOPP, Prussian Aeronautical Observatory.
- Dr ERNST SORGE, Berlin.
- Dr HERDEMERTEN, Berlin.
- Dr SCHIEF, Aeronautical Research Institute, Berlin.
- Dr WEICKEN, Geological Institute, Potsdam.

The expedition has been largely financed by the German Scientific Exploration Fund and its equipment appears to be very complete and the transport facilities excellent. Besides 25 Iceland ponies and 100 dogs, two Finnish motor sledges with air-cooled aeroplane engines are being used for work on the ice cap: there are no aeroplanes.

The duration of the expedition was planned for 18 months and the

chief object is to establish three meteorological stations, one on the west, one on the east coast and one on the ice cap about 250 miles from either coast at an altitude of about 9,000 feet. Geological and glaciological research work also form an important part of the programme.

This is Dr Wegener's fourth visit to Greenland. A considerable amount of the preliminary work for this year's efforts had been carried out beforehand. From the point of view of the expedition now in the field the chief result of last year's work was the finding of a practicable way up on to the ice cap from the coast up the Kamarujuk Glacier, in approximately latitude 71° N. An interesting feature of the preliminary work was an attempt to determine the thickness of the ice by means of echo sounding, but more observations seem necessary before a full report of the results can be published.

Wireless messages received up to the end of December, 1930, state that the three meteorological stations have been established. The western station is near the Kamarujuk Glacier; the central station on the ice cap is in $71^{\circ} 8' N.$, $40^{\circ} W.$, about 275 miles north of the British Expedition's ice cap station, and the eastern is in the inner part of Scoresby Sound.

The provisioning of the central station was difficult; bad weather hampered transport, and the fear with which the Greenlanders regard the inland ice prevented the natives from being of as much use as had been hoped. The original plan was that Georgi and Sorge should remain at the central station throughout the winter, but reports received in December make it probable that Wegener and Loewe are also with them. The eastern station is under the leadership of Dr Kopp.

The motor sledges appear to have been most satisfactory, once the difficulty of getting them on to the ice cap had been overcome. They were taken up the glacier in pieces and fitted together at the summit. Loads of about half a ton were carried to a dépôt about 120 miles inland on the plateau, sometimes for short distances at a speed of nearly 50 miles per hour. These journeys were apparently experimental, and reliance for effective transport is mainly placed on dog teams.

British Arctic Air Route Expedition, 1930-31.

Far to the south of the German stations the British Expedition, under the leadership of Mr H. G. Watkins, is investigating the same general problems, the nature of the ice cap and the possibility of an air route across it, but, whereas the ice problem is Dr Wegener's main interest, Watkins makes the possibility of an air route his chief objective.

There are fourteen members of this expedition, all of them young but some with past experience of polar work.

The party consists of:

- H. G. WATKINS, leader.
- A. COURTAULD, surveyor.
- J. M. SCOTT, surveyor and dog driver.
- Flight-Lieutenant N. H. D'AETH, pilot and meteorologist.
- Captain P. LEMON, wireless operator.
- L. R. WAGER, geologist.
- A. STEPHENSON, chief surveyor.
- F. S. CHAPMAN, ornithologist and ski expert.
- Q. RILEY, meteorologist.
- W. E. HAMPTON, engineer.
- Lieutenant M. LINDSAY, surveyor.
- Surgeon-Lieutenant E. W. BINGHAM, M.B., R.N., medical officer.
- Flight-Lieutenant H. I. COZENS, photographer.
- J. RYMILL, surveyor.

The expedition has been financed largely by private enterprise, but it is under the patronage of the Royal Geographical Society, and the services of several of its members have been lent by Government Departments.

The party left London on July 6, 1930, in the *Quest* with the intention of being absent about fifteen months.

For transport, dogs are being relied on entirely, 50 of them having been brought by J. M. Scott from West Greenland to the Faroe Islands where they were picked up by the *Quest* on her way to East Greenland. Two De Havilland Moth aeroplanes are being used for surveying purposes, but this work will be supplemented by that of at least four topographical surveyors working on the ground.

Wireless reports received up to December 31, 1930, show that the original programme of work has been carried out with considerable success. Angmagsalik was reached on July 24, and a base camp established on the mainland to the west. Once this task was completed, immediate steps were taken to equip the meteorological station on the ice cap. A party of five, Rymill, Bingham, Riley and Lindsay under the leadership of Scott, left for this purpose on August 11 and after a twenty-three days' trip returned to headquarters on September 3. The ice cap station is at a height of approximately 8000 ft. in $67^{\circ} 3' N.$, $41^{\circ} 48' W.$, a position corresponding with the highest point on De Quervain's crossing. Riley and Lindsay were left at the station to carry out the first month's observations.

Watkins has adopted the new plan of making journeys in a north and

south direction along the plateau. He and Scott left the base on September 15, supported by D'Aeth and Bingham as far as the central station, which was reached on October 2. Turning south from there, Watkins and Scott travelled for 100 miles along the summit of the plateau. They hoped that they might be able to reach the line of Nansen's crossing, 180 miles to the south, but this was not found practicable. In the course of this journey the height dropped about 800 ft.: showing that there is a hollow between Nansen's highest point and Watkins' central station, both of which are 8000 ft. above the sea. Weather conditions were excellent, with a clear sky, bright sunshine and little wind. The surface, however, was very poor for sledging; owing to the absence of wind the snow was soft and deep and 50 degrees of frost caused much friction on the sledge runners, and the daily mileage was low. Watkins reports that the summit of the plateau is not completely flat, but consists of gently rounded elevations about two miles apart, thus restricting visibility to a certain extent. He considers the surface quite suitable for aeroplane landings. Turning out to the east on October 24 and later travelling north along the edge of the plateau, the party suffered from a succession of violent gales, but eventually reached the base on November 11.

Two sledge journeys have also been made to the central station with further supplies of provisions and to relieve the staff. Chapman and Rymill undertook the first of these, leaving the base on September 21. They overtook the southern journey party on the 28th and, proceeding in company with them, reached the station on October 2. Conditions at the station were reported excellent up to that time. The weather had been good, with plenty of sun, little snow and the wind force never above 15 miles per hour. The average day temperature was 0° F. and the lowest night temperature recorded, -17° F. Bingham and D'Aeth were left to continue observations, while Rymill, Chapman, Riley and Lindsay returned to headquarters. Soon after they left, the weather broke, and a strong north wind, reaching 50 miles per hour, accompanied by temperatures of -52° F., made travelling far from pleasant. The base was reached on October 15.

The second supply party left the base on October 26 with six sledges. The party consisted of Courtauld, Lemon, Stephenson, Wager and Hampton under the leadership of Chapman. Progress was much delayed by a series of gales. A supporting party under Rymill returned on November 3, and shortly after Watkins and Scott were met on their way

back from the southern journey. The serious delays resulting from the bad weather necessitated some reorganization of plans and it was finally decided that Chapman, Wager and Courtauld should proceed to the ice cap station, taking with them sufficient food and fuel to maintain one man there till March. The remainder of the party returned to the base. The weather conditions experienced by Chapman's party on the rest of the journey inland and back to the coast were severe. The average temperature was -28° F. and frequent blizzards and a bad surface made travelling at that altitude extremely difficult. On the inward journey conditions improved suddenly about 42 miles from the station. This was reached on December 3 in a temperature of -58° F. and with only half a day's dog food left. Courtauld volunteered to remain alone at the station to carry on the work until such time as he could be relieved by aeroplane, or sledging again became possible. Chapman, Bingham, Wager and D'Aeth set out for the base camp. For the first 85 miles the travelling was straightforward, but then once more the surface deteriorated, the fine weather ceased, and bad conditions, apparently characteristic of the plateau edge in autumn, returned in full force. The base was at last reached on December 19.

Besides this work on the plateau, a survey of the east coast was made from Cape Dan as far north as Kangerdlugsuak Fiord. The only previous survey of this coast was made by Amdrup from a small boat in 1900, when ice and weather conditions were unfavourable and often prevented accurate observation. The new survey therefore forms a very valuable piece of work. The extraordinary absence of sea ice in 1930 allowed the mapping to be carried out with accuracy and ease. The ground survey party worked partly from the *Quest* and partly from a small motor boat: whenever conditions were suitable their work was supplemented by aerial photographs. The *Quest* left Angmagsalik on August 12 and proceeded north, keeping inside the chain of islands which here fringes the coast. D'Aeth and Watkins were in charge of the aeroplane, while Stephenson, Courtauld, Wager and Chapman formed the land party. On August 14, in latitude $66^{\circ} 26'$ N., Kangerdlugsuatsiak Fiord was reached and explored for the first time. Stephenson describes this as a diminutive form of Kangerdlugsuak Fiord, further north. The weather was too cloudy for air photography but the fiord was carefully mapped from the ship and motor boat. It stretches inland for 20 miles between sharp needle-like peaks, 5,000-7,000 ft. high, and at its head is a glacier about 2 miles wide. The night of August 15 was spent further north up the coast in

Lake Fiord, so called because of a large lake just beyond a col at its head. The lake formed an excellent base for the plane to work from and it was decided that the *Quest* should remain for some days in attendance here, while the ground survey party continued northwards by motor boat. Working up the coast, under cliffs in places 2,000 ft. high, this party reached Cape Gustav Holm on August 20 and were picked up the next day by the *Quest*, which then made straight for Kangerdlugsuak Fiord. No large boat has ever previously been able to reach the mouth of this fiord, but on the morning of August 23 the *Quest* sailed in through open water, and the next day made her way right up to the head of the fiord. The land party were again left with a motor boat to map the neighbourhood while the *Quest* left with the plane to find suitable water for a take-off for an aerial survey. According to Stephenson's report, Kangerdlugsuak Fiord stretches inland in a north-west direction for 40 miles and is about 6 miles wide. At its head, in $68^{\circ} 30' N.$, $32^{\circ} 35' W.$, there is a glacier with a large floating ice tongue. The *Quest* picked up the survey party on September 1 and turned southward down the coast, while the aeroplane flew straight back to the base. On the return voyage an attempt was made to map those portions of the coast which had not been surveyed on the journey north. The base camp was reached on September 14.

Watkins' further plans include the ascent of Mt Forel, which lies about 60 miles to the north of the base camp. Surveying will be carried on continuously and there will be special opportunities for geological work. A sledge journey to the north, another over to the west coast and an aeroplane flight across to the west and possibly on to Canada are all included in next season's programme.

University of Michigan Expedition, 1930-31.

Two parties from the University of Michigan, under the instructions of Professor W. H. Hobbs, are carrying on meteorological research in west Greenland for a year. One party is stationed near Upernivik ($72^{\circ} 47' N.$). Besides the study of the upper air, their programme of work includes a resurvey of the front of the Cornell Glacier, 125 miles north of Upernivik, which was last surveyed 30 years ago. The southern party is stationed at Ivigtut in south Greenland and will also carry out glaciological as well as meteorological research. This is the fourth of Professor Hobbs' expeditions, and the present stations are respectively 450 miles north and south of the Mt Evans Station, which was the headquarters of the last two expeditions.

Danish Expedition, 1930.

A Danish Expedition spent the summer of 1930 in the scientific exploration of north-east Greenland. The party of 25, including Dr Lauge Koch and five other scientists, sailed from Copenhagen on June 14 in the *Godthaab* with Riis Carstensen in command. A landing was made at Jan Mayen, and the ship reached the pack ice on June 30 in 74° 12' N., 14° 33' W., and after five days forced a way through it to the coast.

Geological research came first in the scientific programme, but magnetic, topographical, zoological and botanical work was also included and, when possible, oceanographical and meteorological observations were taken as well.

The *Godthaab* first visited the neighbourhood of Clavering Island, entering Tirol Fiord and Gael Hamkes Bay. A land party explored to the head of the Wordie Glacier, which was found to be over 70 miles in length, and discovered great areas of ice-free land. Proceeding south, past Hold-with-Hope (Cape Broer Ruys), she rounded Cape Franklin and explored Franz Josef Fiord, North Fiord, Muskox Fiord, Sofia Sound and King Oscar Fiord. All attempts to enter Nathorst Fiord and Dröm Bay failed, and ice and bad weather also prevented an entry into Scoresby Sound. The Liverpool Coast, however, was remarkably free from ice. On the return voyage the *Godthaab* called at Iceland, where Dr Koch's party were disembarked.

Norwegian East Greenland Expedition, 1930.

Unfortunately it has not been possible as yet to obtain particulars of the work of this expedition, but a full account of its activities will be given in the next issue of *The Polar Record*.

American Expedition to East Greenland, 1930.

A party of American scientists, under the guidance of Captain Robert Bartlett, also visited the east coast of Greenland last summer, in the schooner *Morrissey*. The party included:

- H. WHITNEY, naturalist.
- J. BIRD, archaeologist.
- E. MANLEY, radio operator.
- J. DOVE, chief engineer.
- W. BARTLETT, the captain's brother;
and seven others.

After calling at Iceland the ship continued north as far as Shannon Island, where Bird found remains of Eskimo houses of which he made a

thorough investigation. The farthest north reached was Cape Bismarck, 77° N., and reports describe a certain amount of difficulty with ice and fog in this neighbourhood.

The *Morrissey* returned to New York on September 27 with an excellent collection of animals, alive and dead, for the various zoological societies and museums on behalf of which the expedition was sent out.

ARCTIC CANADA, 1930

In Arctic Canada many polar journeys go more or less unrecorded except in the annals of the police, but Canada takes its polar zone seriously and every year sees more exact charting of the land which forms its Arctic possessions. During last September a series of surveying flights by Major Burwash along the coast of King William Island were especially interesting in that the airmen made special landings in order to search for relics of the last march of the Franklin survivors in the forties of the last century. They found several cairns and brought back a few relics, but found no papers and no large burial place.

ANTARCTIC REGIONS

So much of the work in progress in the Antarctic during the present season, 1930-31, is either a continuation of that of the previous season or is being carried out by the same ships or men, that it is convenient to give a brief résumé of the 1929-30 season before outlining this season's programmes. Reports of this season's work will appear in the next number of *The Polar Record*.

ROSS SECTOR

Byrd's Antarctic Expedition, 1928-30.

The spring of 1930 saw the return to America of Admiral Byrd's Antarctic Expedition after an absence of nearly two years. Leaving New York in the autumn of 1928, the expedition arrived at the Ross Barrier on December 25 and established a base camp, Little America ($78^{\circ} 34' S.$, $163^{\circ} 48' W.$), close to Amundsen's Framheim near the Bay of Whales. One long sledge journey for geological work was made to the Queen Maud Mountains and ten aeroplane flights of importance were successfully carried out.

The first extensive flight was made on January 27, 1929. Flying inland south of the Scott Nunataks and Alexandra Mountains, Byrd discovered a new mountain range, the Rockefeller Mountains, forming a crescent between $78^{\circ} 14' S.$, $155^{\circ} 15' W.$ and $77^{\circ} 35' S.$, $153^{\circ} 5' W.$ On February 18 on a second flight in the same direction, but to a point about 15 miles south of the Rockefeller Mountains, another range of mountains was sighted lying east of the 150th meridian and running in a south-easterly direction. This range formed the boundary of some high land still farther east which was named Marie Byrd Land. These flights were immediately followed by another in order to make, as far as possible, an aerial photographic survey of the newly discovered region.

On March 7 Dr Laurence Gould with two others flew to the Rockefeller Mountains and camped at $78^{\circ} 9' S.$, $154^{\circ} 27' W.$ for 15 days during which time geological work was carried on.

The first flight of the next season was on November 18, 1929, with stores to establish a base for a great polar flight. The base was made at the foot of Mt Nansen to the west of the Axel Heiberg Glacier. Mountains extending thence to the south-east were seen and called the Charles

Bob Range, but no land in the position of Amundsen's Carmen Land was seen. The polar flight was made on November 28 and 29 by Commander Byrd, Bernt Balchen, Harold June and Ashley McKinley. The polar plateau was reached by way of the Liv Glacier, while after circling the South Pole the return journey was made down the Axel Heiberg Glacier. A valuable series of photographs was secured.

On December 5 an important flight to the east of King Edward VII Land, as far as the 145th meridian, was made. A range of mountains, running north and south along the 144th meridian, was sighted and followed from about 75° S. to 77° 30' S. This range was found to be the northern extension of the Marie Byrd Land mountains. From 75° S., 146° W. where the plane turned south the coast could be seen trending north-east and then east after a slight bend to the south. A photographic surveying flight was made on January 20, 1930, to Discovery Inlet on the Barrier edge. This was followed on January 21 by a longer flight 140 miles south of the inlet to 80° 45' S., 172° 30' W. to seek an explanation of this apparently permanent feature of the Barrier. Some 15,000 square miles were viewed, but the only change seen in the monotony of the Barrier surface was evidence of pressure about 80° S., 173° W. Later in the month the Bay of Whales was carefully surveyed from the air.

Dr Gould started on a sledging expedition for geological work in the Queen Maud Mountains on November 4, 1929. The foot of the Liv Glacier was reached on December 1 and a camp was finally established at the foot of the Axel Heiberg Glacier to the west of Mt Betty at 85° 2' S., 165° 30' W. On December 7 Mt Nansen was climbed to a height of 6500 ft. On December 13 a journey eastwards to 85° 27' S., 147° 30' W. was made which confirmed Byrd's observations on the non-existence of Amundsen's Carmen Land and the continuation of the main mountain range in a south-east direction. The return journey was started on December 31 and Little America reached on January 19, 1930.

The *City of New York* was due to return and take the expedition home in January, but owing to difficult pack ice she was unable to reach the base camp at Little America till February 18. The expedition was re-embarked promptly and the ship was clear of the pack again by February 26 on her return to New Zealand*.

* See *Work of the Byrd Antarctic Expedition, 1928-30*, by W. L. G. Joerg, American Geographical Society. *Little America*, by R. E. Byrd.

ENDERBY SECTOR

"Norvegia" Expedition, 1929-30.

The *Norvegia* Expedition of 1929-30 formed the fourth of the series of annual expeditions for Antarctic exploration and a search for whaling grounds initiated by Consul Lars Christensen of Sandefjord, Norway. It was under the leadership of Captain Riiser-Larsen, the total personnel numbering 18.

This was the *Norvegia's* third season. During the southern winter of 1929 she had been docked for repairs at South Georgia. Thence she made her way to Bouvet Island to leave a provision dépôt and hut, and then proceeded westwards to meet the *Thorshammer* from which she received a supply of general equipment, a Lockheed Vega monoplane and a seaplane. On November 8, 1929, the *Norvegia* and *Thorshammer* separated, the former returning to Bouvet Island which she sighted on the 11th. During a three days' stay an aerial survey of the coast was made, and a hut with provisions left on Lars Islet off the south-west coast. On November 14, on an easterly course, the *Norvegia* followed the edge of the ice till on December 1 further progress was barred in 55° E., 66° S. by heavy pack. A gale, however, cleared the way to the south as far as 64° 21' S., 53° 14' E. which was reached on December 6. A flight made on the next day gave a view from a height of 4000 ft. of ice-covered land to the south: in the distance to the east a mountain range protruded and far inland and to the west several nunataks were visible. The ship continued westwards, trying to find another opening to the south. A flight was made on December 22 in 65° 10' S., 49° 30' E. when the coast was reached and a cape, Biscoe's Cape Ann, rounded; but the seaplane was too heavily loaded to rise over the steep ascent of the inland ice. A landing was effected near two snow-covered skerries (66° 33' S., 50° 40' E.) which were visited, but the sixty-foot high wall of coast ice prevented progress inland.

The *Thorshammer* was met with again on December 30 about 64° S., 23° E. and the *Norvegia's* coal supplies were replenished. She had been experimenting with the use of a mixture of seal blubber and coal in the interval and found the result very satisfactory. On returning towards Enderby Land a more southerly course was possible for the ships, and on January 8 a great bay opened out in the pack ice to the south. The coast ice was reached on January 13, 1930, and the ship moved slowly eastwards along its edge. The *Discovery* was met on January 14, but the next day

further progress to the east was barred and the *Norvegia* turned to the west. From this point Enderby Land was clearly visible to the east, and to the south new mountainous land could be seen. A flight was made along the new coast line, which runs due south a little to the east of the 50th meridian and then, after forming a large bay, named Ice Bay, turns westwards. This new land was named Queen Maud Land. At 44° E. another short flight was made and the mapping of the coast line continued to 43° E. Inland, many nunataks were seen.

The *Norvegia* then proceeded westwards towards Coats Land, carrying out oceanographical work on the way. Except at one point on this westward voyage, it proved impossible to penetrate as far south as either Bellingshausen or Biscoe had done. On February 1 a submarine bank was discovered: in latitude 68° S. between 32° 11' and 32° 38' E. soundings of about 300 fathoms were obtained: it was named Gunnerus Bank. To the south-south-east of it an appearance of land was seen.

On February 16 a north-west corner of the pack ice was rounded and the *Norvegia* sailed south into a singularly ice-free Weddell Sea. A large bay, named Seal Bay, was discovered on February 18 and the ship came within 500 ft. of the wall of inland ice. A two hours' flight showed the direction of the coast line to the west to be south and then south-west, but visibility was too poor for detailed observations. This new land was named Crown Princess Martha Land. The ship continued its course on February 19 to 71° 26' S., 14° 58' W. where it was stopped by pack ice. At this point on the 20th a flight to 5000 ft. showed the coast line of Coats Land stretching eastwards to the land discovered two days before. No nunataks were seen protruding through the ice here. This feature is also characteristic of Caird Land and Luitpold Land as described by Shackleton and Filchner.

February 21-23 were passed in Seal Bay weathering a violent gale, after which the *Norvegia* moved eastwards and the coast was mapped from the ship till the pack ice barred the way. After being forced north and then west the south-west corner of this ice was at last rounded in 69° 28' S., 13° 54' W. and an eastward course could be followed once more. The *Thorshammer* was met again on March 2 for refuelling; the aeroplanes and their equipment were returned to the larger ship and the *Norvegia* then sailed for Cape Town, which she reached on March 27*.

* See "The *Norvegia* Antarctic Expedition of 1929-30," by Hjalmar Riiser-Larsen, in *The Geographical Review*, October, 1930.

"Norvegia" Expedition, 1930-31.

A report from Cape Town enables us to give a brief account of the plans for this season's cruise. The *Norvegia* sailed from South Africa on October 1 with the intention of calling first at Bouvet Island and then continuing east, working along the edge of the pack ice to the Ross Sea. Both there and at an earlier point arrangements had been made for taking on board further supplies of coal from one of the whaling ships. Still continuing to the east, a search was to be made for Dougherty Island. A hut and provision dépôt are to be left at Peter I Island and then, after calling at the South Shetlands, the ship will return to Norway.

British-Australian-New Zealand Antarctic Research Expedition, 1929-30.

This expedition left Cape Town on October 19, 1929, its main objective being the neighbourhood of Enderby Land, a part of the Antarctic continent which had not been visited since it was first sighted by Biscoe in 1831. Besides geographical exploration, a full programme of oceanographical, meteorological and biological work had been planned. Sir Douglas Mawson was in command, with Captain J. K. Davis as his second and captain of the ship, *Discovery*, chartered from the Falkland Islands Government. With officers and crew the ship's company totalled 39.

On November 2 the Crozet Group was visited and a stay of two days was made at Possession Island. Kerguelen Island was reached on November 12 and 12 days were spent there, primarily for the purpose of coaling, but the opportunity was taken of making a thorough investigation of the neighbourhood of Royal Sound. On November 26 Heard Island was sighted and a short stay made there also. The vessel left again on December 3 and, taking a course somewhat east of south, she was able to define more exactly the extension of the Kerguelen-Heard Island rise, the existence of which had been indicated by the *Challenger* and *Gauss* expeditions. The water became shallower with progress southward till on December 7 in $59^{\circ} 10' S.$, $77^{\circ} 45' E.$ a sounding of 350 fathoms was made. After this the depth again increased.

On December 9, in $61^{\circ} 36' S.$, $77^{\circ} 57' E.$, the vessel encountered pack ice in quantity for the first time, and on December 15 in $65^{\circ} 41' S.$ further progress to the south was definitely barred by heavy unbroken pack. A second attempt to press south was also stopped by ice on December 26, when $66^{\circ} 57' S.$ was reached in longitude $71^{\circ} 57' E.$ A sounding of 258 fathoms and other indications pointed to land being not

far off. Up to that time it had not been practicable to get the Moth aeroplane ready for use, but on December 31, when a position of $66^{\circ} 10' S.$, $65^{\circ} 10' E.$ had been reached, in a third attempt to get south, conditions were satisfactory for a flight. From a height of 5000 feet, undulating ice-covered land could be seen across about 40 miles of pack ice and a strip of open water, and away to the south-west the black tips of several small islands were visible. These were named the Douglas Islands, while the mainland lying to the east of the 60th meridian was named Mac-Robertson Land. A second flight to a height of 4000 feet was made on January 5, 1930, in approximately $61^{\circ} E.$ The coast line was seen about 30 miles from the ship and high ice-covered land stretched away to the southern horizon, east and west. Mountain tops rose at intervals through the ice plateau and 70 or 80 miles to the west a number of dark peaks loomed through the haze.

On January 12 Kemp Land (discovered 1833) was sighted in $66^{\circ} 3' S.$, $57^{\circ} 43' E.$ and the *Discovery* voyaged slowly west within sight of the high coastal ice cliffs. A striking island of black rock, about 800 feet high and close to the mainland, was reached on January 13 and named Proclamation Island. A party landed on this island and climbed to the summit. On the mainland, the ice-covered surface was seen to rise gradually to 5000 feet and to be pierced in places by sharp rocky peaks. A bold peak (4870 ft.) was seen to the south-west which seemed to correspond with Biscoe's Mt Codrington. A conspicuous summit (1600 ft.) in $66^{\circ} 13' S.$, $51^{\circ} 25' E.$ was named Mt Biscoe. A range running east along the 67th parallel was called the Scott Mountains and the farthest inland peak (6100 ft.) of this range was named Mt Riiser-Larsen in honour of Sir Douglas Mawson's friendly rival.

On January 14, about $47^{\circ} E.$, $66^{\circ} 22' S.$, the *Norvegia* was met with, and on January 15, after reaching the 45th meridian, the *Discovery* turned back towards the east and again passed the *Norvegia* on the 16th on her return voyage. It was possible on the way eastwards to keep much closer to the land, which was seen again on January 22 in $46^{\circ} E.$, $66^{\circ} 40' S.$ On January 24 several short aeroplane flights to 5000 ft. were made near Proclamation Island which confirmed the previous observations of the inland ice. The projecting rocky peaks, some of them 7000 ft. high, were seen to represent the summits of mountain ranges running in an east and west direction across the plateau.

The *Discovery* turned north on January 26, remaining from February 8 to March 2 at Kerguelen, from which a course was set for Australia,

observations at a series of oceanographical stations being conducted on the way to Adelaide, which was reached on April 1*.

British-Australian-New Zealand Antarctic Research Expedition, 1930-31.

Sir Douglas Mawson sailed again in the *Discovery*, leaving Hobart on November 22, 1930. The 40 persons on board include the following scientists and officers:

Professor HARVEY JOHNSON, senior biologist.
R. G. SIMMERS, meteorologist.
A. F. HOWARD, chemist, hydrologist.
R. A. FALLA, ornithologist.
H. O. FLETCHER, zoologist.
Lieut. R. E. OOM, hydrographic surveyor.
J. F. HURLEY, photographer.
K. N. MACKENZIE, captain.
A. M. STANTON, chief officer.
W. R. COLBECK, second officer.
J. B. CHILD, third officer.
W. J. GREGGS, chief engineer.
B. F. WELCH, second engineer.
A. J. WILLIAMS, wireless operator.
Flight-Lieutenant E. DOUGLAS, flying officer.
S. A. CAMPBELL, aviator.
W. W. INGHAM, medical officer.

By December 4 the *Discovery* was in the reported vicinity of the Royal Company's Islands (approx. lat. 47° S., long. 146° E.), which, though often looked for, have never been sighted since their alleged discovery, and no sign of land was seen on this occasion. A course was then set in order to determine the western limits of Mill Rise, and after carrying out this work the *Discovery* arrived at Macquarie Island on December 12. The possibility of using huts already erected on the island for a meteorological station during the polar year in 1932 was investigated, but they were found to be in a very bad state of repair and the old wireless station was also found to be completely ruined. Leaving Macquarie Island, the ship passed close to Bishop and Clark Islands for observations and soundings, and then sailed for the position of the doubtful Emerald Island, never seen since its discovery was reported a century ago. No land was sighted, but weather conditions were very unfavourable, so that the existence of this island must still remain in doubt. A course was set for the Balleny Islands and the first pack ice was encountered in 62° S. By

* See Australian Government Report by Sir Douglas Mawson, June 27, 1930.

December 16 a position of 63° S., 168° E. had been reached. The last report received announced the meeting of the *Discovery* and the *Sir James Clark Ross* to the east of the Balleny Islands, where 100 tons of coal and a supply of fresh water were successfully transhipped.

Sir Douglas Mawson hopes to be able to continue the work of his 1911-14 expedition and intends therefore to visit his old headquarters in Adelie Land and proceed from there along the coast to Queen Mary Land. From there the ship will return to Australia.

WEDDELL SECTOR

Work of the "William Scoresby" and "Discovery II," 1929-30 and 1930-31.

The Discovery Committee's research ships, *Discovery II* and *William Scoresby*, are both at work this season, continuing their investigations on the life natural history of whales on behalf of the Government of the Falkland Island Dependencies.

The *Discovery II*, specially built for oceanographical work, left England on her first commission on December 14, 1929. Commander W. J. Carey was in command of the ship and Dr Stanley Kemp was Director of Research. She spent the first months of 1930 in the vicinity of South Georgia, the South Orkneys and the South Sandwich Islands. Three weeks were devoted to charting the South Sandwich Islands, taking advantage of a remarkably ice-free season. The Candlemas Islands were found to be two in number as reported by Cook when he discovered the group, and one of these was named Vindication Island to mark the disproof of other reports that there was only one island. On May 28 the *Discovery II* arrived in Cape Town and carried out work in South African waters during the winter months. She left for subantarctic regions again on October 7, 1930. The party on board consists of 9 officers, 6 scientists and 35 petty officers and men.

The proposed course for the 1930-31 season is via Bouvet Island and the South Sandwich Islands to South Georgia, where a Marine Laboratory is maintained at Grytviken in Cumberland Bay. From there it is proposed to visit the South Orkneys, the west coast of Graham Land and the South Shetlands, and then return to South Georgia by way of Cape Horn and the Falkland Islands.

Bouvet Island was reached after a week's voyage from the Cape. Sailing south from this point the pack was met with in latitude 58° S. After

considerable difficulty with the ice the South Sandwich Islands were passed, and 29 days after leaving Cape Town the *Discovery II* reached South Georgia.

Besides the regular biological and oceanographical work which forms the main feature of the Discovery Committee's programme, a considerable amount of surveying is also being carried out. The results of some of the earlier work appear in the British Admiralty Charts:

3579 Harbours and Anchorages in South Georgia.

3213 Plans in South Shetlands, South Orkneys and vicinity of Graham Land.

3585 Preliminary Chart. Plans in South Georgia, South Shetlands and adjoining islands and lands.

During the 1929-30 season the *William Scoresby* acted as base for Sir Hubert Wilkins' flights of exploration in the region to the west of Graham Land without detriment to her regular oceanographical work.

The ship left Simon's Town on October 10, 1929, with Captain Shannon in command, and made her way to Deception Island, calling at South Georgia *en route*. At Deception Sir Hubert Wilkins, his two pilots and wireless operator, with two Lockheed Vega planes and other equipment, were taken on board and on December 12 the expedition left for Melchior Island, which was reached the same night. Sailing through the Neumayer Channel, Port Lockroy was made on December 13. The first pack ice was encountered off the Biscoe Islands but no snow surface suitable for an aeroplane to take off from was met with, even though the south-west of Adelaide Island was reached and some days spent cruising about in that neighbourhood. On the return voyage to Neumayer Channel an attempt to reach apparently satisfactory ice in the Grandidier Channel was frustrated by thick and hummocky pack ice. Port Lockroy was regained on December 18 and on the next day Wilkins took off from the water and made a flight across to the Weddell Sea by way of Beascochea Bay and Richthofen Valley, and confirmed some of his previous season's observations.

The *William Scoresby* then sailed to the south-west in search of land-fast ice, or a floe with a smooth surface, from which a start could be made for a long flight.

On December 28 a short flight from a point in $68^{\circ} 12' S.$ in the direction of Charcot Land was spoiled by bad weather, but on the 29th another attempt proved more successful. Flying south from $67^{\circ} 47' S., 75^{\circ} 21' W.$, Wilkins reached Charcot Land, and following its coast line he proved that land to be insular. He saw a small low island north of Charcot Land

and two other new islands, possibly belonging to the Finley Group, were seen far to the east between $69^{\circ} 30' S.$ and $70^{\circ} 30' S.$ South of Charcot Land, some 30 miles away, low, sloping, snow-covered land was visible as far as $80^{\circ} W.$, appearing to be the coast of the mainland. Bad weather prevented further work here and the expedition returned to Deception Island.

The *William Scoresby* visited the Falkland Islands for supplies and on January 25, 1930, embarked Wilkins again and sailed south. The course taken led to the south of Peter I Island but no ice was met with till $69^{\circ} 20' S., 90^{\circ} W.$ The edge of the pack ice was then followed to the west until February 1, when from $70^{\circ} 10' S., 100^{\circ} 45' W.$ a long flight was possible to the south. Wilkins reached a position of $73^{\circ} S., 101^{\circ} W.$ but no land was seen. The general trend of the pack ice towards the west appeared to be south-westerly as far as $71^{\circ} S.$ and then west as far as could be seen. This flight is important as proving that the Antarctic coast is at least 150–200 miles farther south in this region than was formerly supposed. Bad weather and shortage of fuel compelled the *William Scoresby* to turn east again along the edge of the pack. In longitude $81^{\circ} 55' W.$ a farthest south record was reached at latitude $70^{\circ} 34' S.$ on February 8.

The *William Scoresby* reached Deception Island on February 14 and arrived in London on June 15, 1930: she thus ended a four years' commission, having sailed from Dartmouth in July 1926.

After a thorough refit, the *William Scoresby* left London on a further two years' commission on October 28, 1930. The first season's programme consists of oceanographical work round South Georgia, and later at the mouth of the Weddell Sea, while for the winter months the ship will go to South Africa*.

ANTARCTIC WHALING SEASON, 1929–30.

The 1929–30 Antarctic whaling campaign was on a scale far exceeding that of any previous year. A Norwegian paper gives the following comparative figures which show the importance of this polar industry:

* (For a report of the work of the *Discovery II* and *William Scoresby*, see Annual Reports published by the Colonial Office and the first two volumes of the scientific memoirs appearing as *Discovery Reports*, published by the Cambridge University Press.)

Season	Barrels		
	<i>Norwegian</i>	<i>Foreign</i>	<i>Total</i>
1926-27	557,979	314,337	872,316
1927-28	747,952	280,039	1,027,991
1928-29	1,163,992	467,348	1,631,340
1929-30	1,720,775	811,670	2,532,445

Thus the total production for the 1929-30 season exceeded by 55% that of the previous season; the value of the Norwegian share is estimated at about £7,000,000. The development of the use of floating factories is largely responsible for this expansion. Last season 37 of these factories were operating in the Antarctic, 28 belonging to Norwegian companies, while the number of whale catchers amounted to 183. Besides these floating factories there were a number of shore stations also at work. The number of floating factories and catchers has been more than doubled since 1927-28.

Reports from South Georgia comment on the early disappearance of the pack ice in the season 1929-30, and as a result of this the whaling fleets were able to operate over a wider field than usual. Another unusual feature was the prevalence of a north-east wind which continued to blow up to the end of January.

THE SECOND POLAR YEAR, 1932-33.

By Dr G. C. SIMPSON

In 1875 Lieutenant Weyprecht—an Austrian sailor who had himself led the “Tegetthoff” Arctic expedition—gave an address before a German scientific society in which he complained about the small scientific results which had been obtained by the numerous expeditions which had recently been in the Arctic. Although, he said, nearly every branch of science is deeply interested in the Arctic, practically no scientific data had been brought back. He laid the blame on two facts; first, that the main objects of the expeditions had been the winning of fame by geographical discovery, and secondly the entire absence of co-ordinated and simultaneous observations. He therefore proposed that there should be concerted international action to send a series of expeditions into the polar regions whose main object would be to take meteorological and magnetic observations for a complete year.

The idea was taken up enthusiastically by a number of countries; Weyprecht died, but the scheme went on, chiefly owing to the driving force of Professor Neumeyer, the Director of the Deutschen Seewarte.

The “Polar Year” was fixed for 1882-83, and twelve countries took part, sending twelve expeditions to the Arctic and two to the Antarctic. As an international undertaking the Polar Year was a great success, and the scientific results fill about twenty large volumes.

In 1928 Admiral Dominik, a successor of Neumeyer at the Deutschen Seewarte, proposed to celebrate the jubilee of the first Polar Year by repeating the undertaking in 1932-33. The suggestion has been received with general approval and the International Meteorological Conference which met in Copenhagen in 1929 undertook to organize a second Polar Year; while the International Union of Geodesy and Geophysics at their General Assembly in Stockholm approved the scheme and promised financial aid.

The International Commission for the Polar Year 1932-33 has been set up, and has already issued a preliminary programme of work and invited all countries to take part.

This programme is based on the establishment of a number of observing stations in both polar regions at which synchronous observations will be taken during the thirteen months August 1932 to August 1933.

Three main types of stations are visualized.

(a) Weather reporting stations, reporting by wireless telegraphy, which will extend the present network of synoptic stations towards the poles.

(b) Main meteorological and magnetic stations carrying out an extensive programme of observations, supplemented by self-registering instruments.

(c) Mountain stations chiefly engaged in aerological observations.

The fundamental basis of the scientific work is to investigate those problems which require for their solution simultaneous observations over a large area. Problems which can be investigated at any time and at individual stations are not to be undertaken except for very special reasons.

The chief problems which it is hoped to investigate are (a) the general circulation of the atmosphere in polar regions both at ground level and in the upper atmosphere, (b) the vertical structure of the atmosphere (the height and temperature of the atmosphere are practically unknown within either polar circle), (c) terrestrial magnetism, and (d) the aurora.

It is intended that these stations shall be established as far as possible in regions which can be reached without great difficulty by ordinary means of transport and that they will be in charge of small parties, four or five, of trained observers. There is to be no common international fund, but each country taking part will equip and support one or more parties.

It is not possible at the moment to say how many countries will take part and what expeditions they will despatch; but in practically all large countries the proposals have been welcomed and provisional plans prepared which are now before the governments concerned for the purpose of obtaining funds. There is every reason to believe that all the countries which took part in the first Polar Year will take part in the second, and that many other countries will either send new expeditions or co-operate in taking special observations during 1932-33.

THE BRITISH POLAR EXHIBITION, JULY, 1930

By L. C. BERNACCHI

A British Polar Exhibition, under the auspices of the Royal Geographical Society, was held at the Central Hall, Westminster, from July 2 to July 19.

H.R.H. the Prince of Wales kindly consented to be its Patron, and the exhibition was opened by Colonel Sir Charles Close, K.B.E., President of the Royal Geographical Society, in the presence of a distinguished company representing various official and scientific bodies.

The exhibition illustrated the achievements of British explorers, past and present, from the 16th to the 20th century, and consisted of polar relics, documents, pictures, photographs, medals, etc. These were lent by the Admiralty, the British Museum, the Hull Corporation Museum, the Moravian Mission, the Hudson Company, the Wellcome Historical Medical Museum, the Royal Geographical Society, the Scott Polar Research Institute, etc., and also by many private owners and collectors. The exhibition not only recalled the great deeds of the past by bringing together such an interesting collection but it demonstrated modern means of scientific exploration. In this respect the exhibit arranged by the Discovery Committee was instructive, more particularly in regard to investigations on whales.

The educational advantages of the exhibition were augmented by *The Polar Book*, which was compiled specially for the occasion. The various aspects of polar work were brought together in a series of articles written by well-known experts on polar knowledge, and two maps of the polar regions (brought up to date by Bartholomew) were bound with the book.

The exhibition would have been impracticable without the enterprising support of British firms who have specialized in supplying polar expeditions with their goods in the form of equipment and provisions. Their exhibits were shown separately in one of the halls.

The expenses of organizing such a unique exhibition were somewhat heavy, but, due to some generous donations from exhibiting business firms, the sale of polar books and the voluntary services of the organizers and helpers, the Exhibition Committee were enabled, after paying all expenses, to make a clear profit of £250, of which £200 was handed over to the Scott Polar Research Institute and £50 to the Building Fund of the Royal Geographical Society.

REVIEW

THE ANDRÉE DIARIES

The finding of the bodies of Andrée and his two companions on White Island last summer, by its dramatic and tragic nature, has already in many details been widely reported and published in the popular press. The recently published *Andrée Diaries* provides the first fully connected account. Apart from this, the book forms a basis for reconsidering Andrée's work and properly appreciating an adventure which at the time was very widely discussed and almost always adversely criticized. It may now be said that such views on Andrée are no longer possible, except from those who are also prepared to comment adversely on Nansen's voyage in the *Fram*. Both voyages consist of a drift, the one by air, the other locked in pack ice, into the centre of the unknown Arctic basin; followed in each case by a sledge journey over pack-ice towards land, and the necessity of wintering till travel was once more possible.

Andrée's balloon voyage lasted three days. At the very start (July 11, 1897) the guide ropes, on which the height at which it was hoped to drift depended, were broken off. The balloon immediately rose to an excessive height, and very much more gas was lost than had been planned. Quite apart from reaching the Pole and travelling beyond, the balloon was unable to travel more than a comparatively short distance; loss of gas and unexpected fog brought her down in $82^{\circ} 56' N.$, $29^{\circ} 56' E.$ after a zigzag course of nearly 500 miles, and a distance made good of 288 miles north-east of the starting point.

The sledge journey started a week later, on July 21, with Franz Joset Land as the objective; this had to be given up, and the party then tried to reach northern Spitsbergen; finally wind and current made it necessary to land on White Island. The journey of over two months on the pack-ice is a splendid record of endurance and courage. The rate of travel, though seldom as high as three miles a day, must be considered exceptionally good; the mileage was generally much less, and contrary winds and currents might easily have broken Andrée's spirit and resolve. This journey compares with De Long's after the loss of the *Jeannette* and with Nansen's in the later stages when near the ice edge and with water leads continually forming; the comparison is much in Andrée's favour.

The party drifted under the lee of White Island on September 18. They decided not to land, but to remain on the ice, even though winter

had practically set in. A snow and ice hut about 12 ft. by 6 ft. was built on a selected floe, and took ten days to make. Four days later the floe broke under the hut; the break was the result no doubt of a swell, showing that open water was very near. The party saw their labours at hut building lost and had no other obvious course but to land on White Island; this appears to have taken place successfully on October 5.

After this date the records become scanty. Andrée, who had made only intermittent diary entries since September 23, a period during which work on the ice hut kept them very busy, appears to have made a long entry again on October 5 and 6 after the landing. Unfortunately this part of his diary is only partly legible, but the portions which can be read, taken together with the long account of the journey on the pack-ice, point to the party having landed in good spirits and physically sound; there had been plenty of food, and even a certain amount of leisure. At this period, Strindberg, probably also through lack of time, only made very brief entries in his almanac:

Oct.
 5 Tu. Moved to land.
 6 W. Snowstorm. Reconnoitring.
 7 Th. Moving.
 17 S. Home 7.5 o'cl. a.m.

It seems fair to conclude that during the ten days between October 7 and October 17 every effort was being made to construct a second winter hut, this time on land. Strindberg's last entry is a perfectly natural one, and suggests a bear hunt, and inability to return immediately owing to darkness or, if on the pack-ice, owing to adverse wind and tide.

When the bodies were found, those of Andrée and Fraenkel were lying in the position of death in a marked-off area about 13 ft. by 6 ft. In the official account this area is described as a tent, but its great size, Andrée's apparent intentions as shown in his log, and Strindberg's previous success on the pack-ice make it almost certain that, in addition to a tent lining, a hut of snow and ice must have stood here.

The ultimate cause of death is ascribed to cold and insufficient clothing. This conclusion is not altogether borne out by published evidence. Andrée had previous experience in wintering in Spitsbergen, bundles of unused clothing were found in the camp, and there was no lack of balloon silk which must have been nearly windproof. Apart from these facts, the absence of diary entries (it is not made clear whether further entries were made and are now obliterated) after records written as occasion offered

and in good spirit, would suggest some other explanation, and that death when it came was sudden. This does not seem the place to discuss all the possibilities, but it seems not impossible that a re-examination may show that André lost his life, not through lack of foresight in choosing his clothing, but by some chance and unexpected misfortune, when shelter and food were assured, and there was every appearance of safety and security.

J. M. W.

BIBLIOGRAPHY

- NOBILE, UMBERTO. *With the "Italia" to the North Pole.* (Translation by Frank Fleetwood of *L'Italia al Polo Nord.*) London, George Allen and Unwin, Ltd. 1930. Size $8\frac{1}{2} \times 5\frac{1}{2}$ ins. Pp. 347. Index. 8 photographs. 2 maps. Price 15s.
- MILLER, FRANCIS TREVELYAN. *Byrd's Great Adventure, with the complete story of all polar explorations for one thousand years.* Forewords by General A. W. Greely and Dr Henry Fairfield Osborn. London, Stanley Paul and Co. 1930. Size 9×6 ins. Pp. 383. Illustrations. Maps. Price 15s.
- The Antarctic Pilot, comprising the Coasts of Antarctica and all the Islands Southward of the Usual Route of Vessels.* 1st edition. London. Published for the Hydrographic Department, Admiralty, by His Majesty's Stationery Office. 1930. Sold by J. D. Potter, Agent for the Sale of Admiralty Charts, 145 Minories, E.C. 3. Size $9\frac{1}{2} \times 6$ ins. Pp. xxiv + 194. Index. Illustrations. Index charts to Admiralty Charts alluded to in book. Bibliography. Price 10s.
- ZIMMERMAN, MAURICE. *Régions Polaires Australes*, being the fourth part of *Géographie Universelle*, Tome x. Paris, Librairie Armand Colin. 1930. Size $11\frac{1}{4} \times 7\frac{3}{4}$ ins. Pp. 368. Index. Illustrations. Maps. Bibliography. Price 90 francs.
- The Polar Book.* (Published in connection with British Polar Exhibition, July, 1930.) London, E. Allom and Co. 1930. Size $8\frac{1}{2} \times 5\frac{1}{2}$ ins. Pp. 115. 2 maps. Price 1s.
- WEGENER, ALFRED. *Mit Motorboot und Schlitten in Grönland.* With chapters by Johannes Georgi, Fritz Loewe, Ernst Sorge. Bielefeld and Leipzig, Velhagen and Klasing. 1930. Size $8\frac{1}{2} \times 6$ ins. Pp. iv + 192. 73 photographs. 1 map.
- JOERG, W. L. G. *Brief History of Exploration since the Introduction of Flying.* To accompany A Physical Map of the Arctic and A Bathymetric Map of the Antarctic. American Geographical Society. 1930. Special Publication No. 11. Size $10 \times 6\frac{1}{2}$ ins. Pp. 50. 8 text maps. Map of the Arctic, 1:20,000,000. Size 13×22 ins. Map of the Antarctic, 1:20,000,000. Size 23×25 ins. 1st edition. Also, 2nd revised edition. New York, 1930. 8vo. pp. viii + 96.
- JOERG, W. L. G. *The Work of the Byrd Antarctic Expedition, 1928-30.* American Geographical Society. 1930. Size $10 \times 6\frac{1}{2}$ ins. Pp. 70. 14 text maps. 2 folding maps.
- FILCHNER, W. *In China, auf Asiens Hochsteppen. Im Ewigen Eis.* Freiburg, Br., Herder and Co. 1930. Size 9×6 ins. Pp. x + 202. Index. 39 illustrations. 13 maps. (Spitsbergen crossing occupies pp. 87-98; Antarctic voyage of the *Deutschland* occupies pp. 99-153.)
- TAYLOR, GRIFFITH. *Antarctic Adventure and Research.* New York, D. Appleton and Co. 1930. Appleton's New World of Science Series. Size 8×5 ins. Pp. xii + 244. Index. Illustrations. Maps. Price 2 dollars.
- MAWSON, SIR DOUGLAS. *The Home of the Blizzard.* (Abridged popular edition.) London, Hodder and Stoughton. 1930. Size $9\frac{1}{2} \times 6\frac{1}{2}$ ins. Pp. xxxii + 438. Index. 92 photographs. 18 diagrams. 3 folding maps. Price 12s. 6d.
- MILL, H. R. *The Record of the Royal Geographical Society, 1830-1930.* London, Royal Geographical Society. 1930. Size $10 \times 6\frac{1}{2}$ ins. Pp. xvi + 288. Index. Illustrations. Price 10s. (In addition to references to other polar expeditions details of Scott's expedition in the *Discovery*, 1901-04, are given in pp. 154-168.)
- KOHL-LARSEN, LUDWIG. *An den Toren der Antarktis.* Stuttgart, Strecker und Schröder. 1930. Size $8\frac{1}{2} \times 6$ ins. Pp. xii + 288. 39 plates of illustrations and 3 maps.

- The Andrée Diaries.* Authorized translation from the official Swedish edition by Edward Adams-Ray. London, John Lane, the Bodley Head Ltd. 1931. Size $8\frac{1}{2} \times 5\frac{1}{2}$ ins. Pp. xx+471. Index. 103 illustrations. 6 maps. Plans and diagrams. Price 21s.
- BYRD, RICHARD EVELYN. *Little America.* London, G. P. Putnam's Sons. 1931. Size $9\frac{1}{2} \times 6$ ins. Pp. xvi+422. Index. 70 illustrations. 4 maps. Price 21s.
- AAGAARD, BJARNE. *Fangst og Forskning i Sydishavet.* Oslo, Gyldendal Norsk Forlag. 1930. Two volumes. Illustrations and maps.