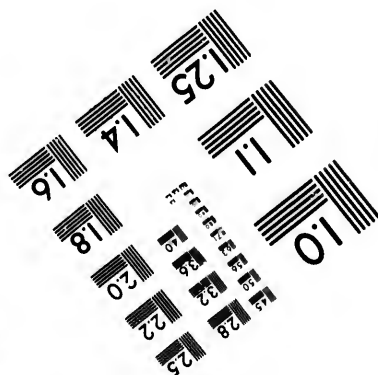
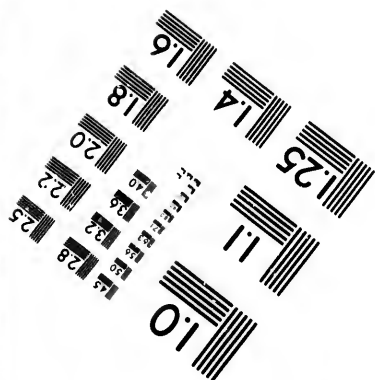
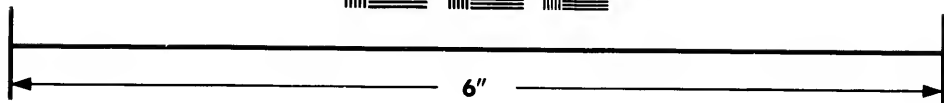
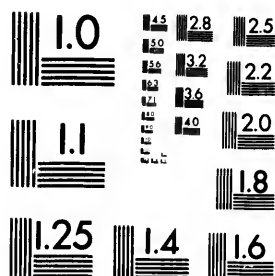


# IMAGE EVALUATION TEST TARGET (MT-3)



Photographic  
Sciences  
Corporation

23 WEST MAIN STREET  
WEBSTER, N. Y. 14580  
(716) 872-4503



**CIHM/ICMH  
Microfiche  
Series.**

**CIHM/ICMH  
Collection de  
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques



**© 1982**

**Map  
diffe  
entl  
begi  
righ  
requ  
met**

**L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.**

- ☐ Coloured pages/  
Pages de couleur
- ☐ Pages damaged/  
Pages endommagées
- ☐ Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
- ☒ Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
- ☒ Pages detached/  
Pages détachées
- ☒ Showthrough/  
Transparence
- ☐ Quality of print varies/  
Qualité inégale de l'impression
- ☐ Includes supplementary material/  
Comprend du matériel supplémentaire
- ☐ Only edition available/  
Seule édition disponible
- ☐ Pages wholly or partially obscured by errata  
slips, tissues, etc., have been refiled to  
ensure the best possible image/  
Les pages totalement ou partiellement  
obscurcies par un feuillet d'errata, une pelure,  
etc., ont été filmées à nouveau de façon à  
obtenir la meilleure image possible.

10X			14X			18X			22X			26X			30X		
12X			16X			20X			24X			28X			32X		

The copy filmed here has been reproduced thanks to the generosity of:

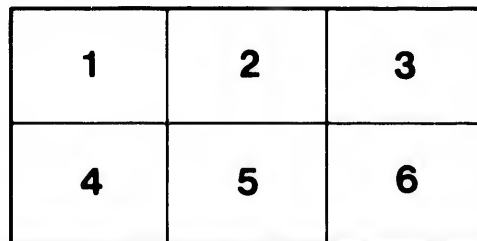
Library Division  
Provincial Archives of British Columbia

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol ➡ (meaning "CONTINUED"), or the symbol ▼ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

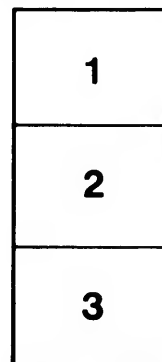
Library Division  
Provincial Archives of British Columbia

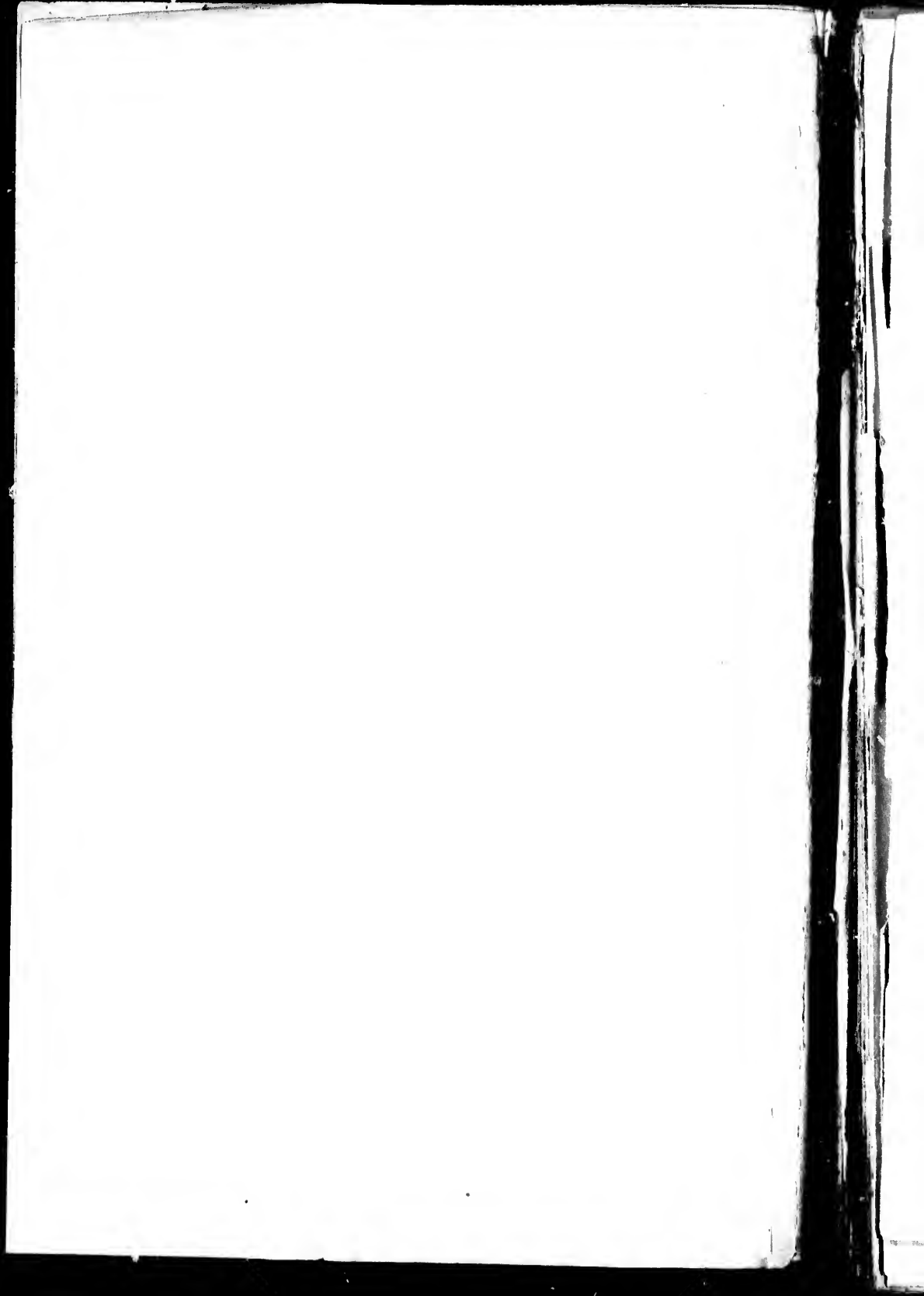
Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

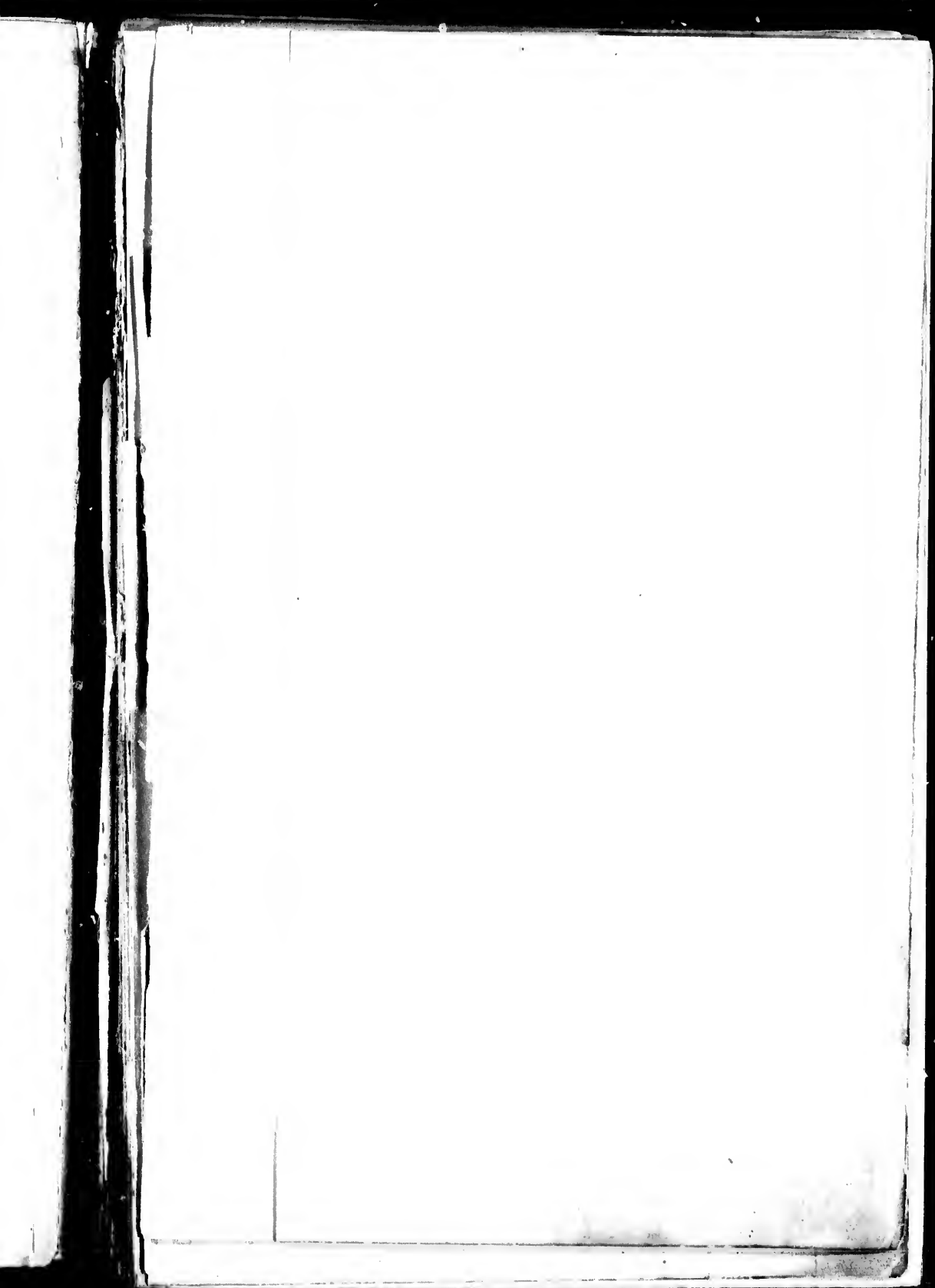
Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

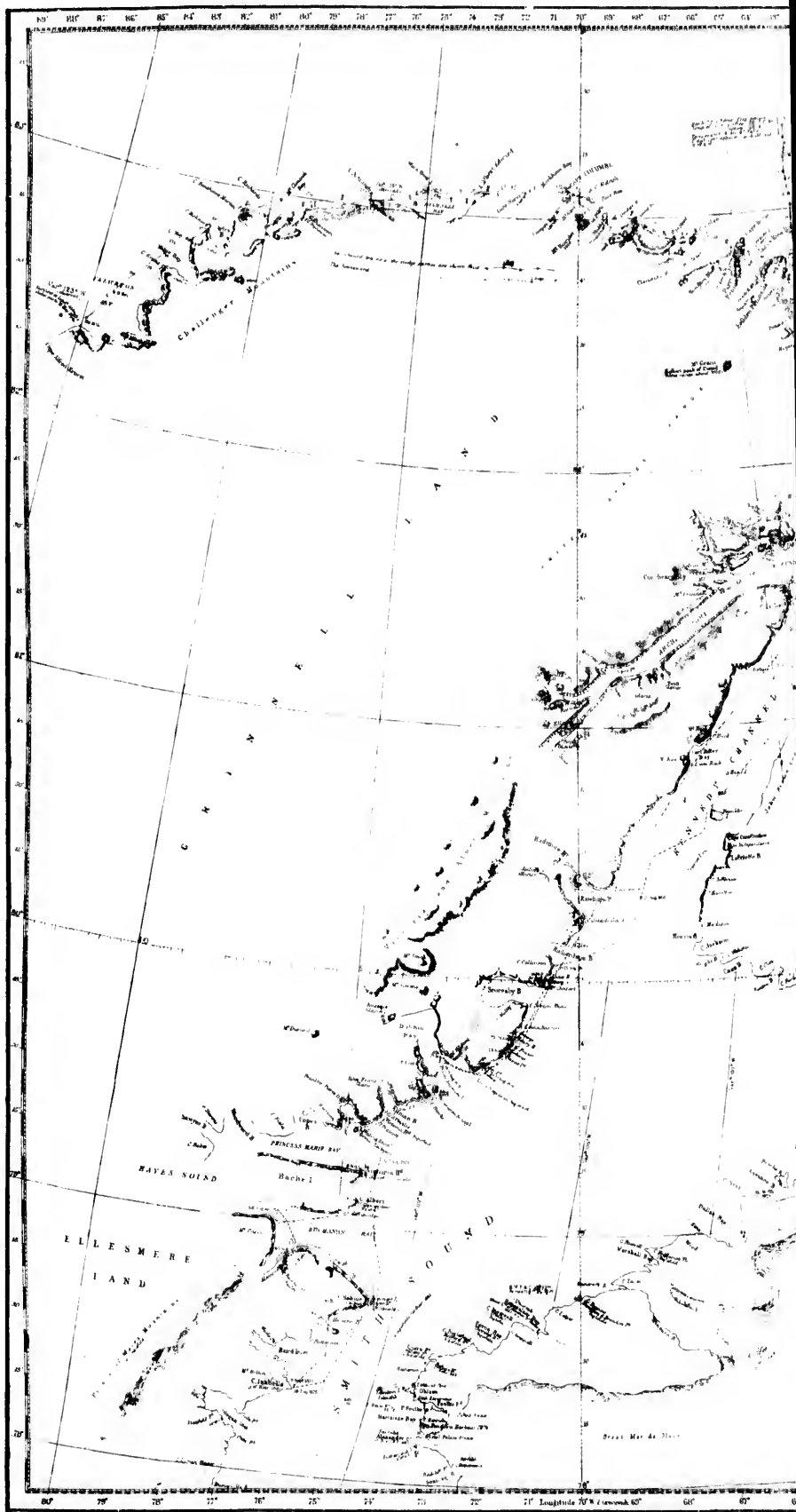
Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole ➡ signifie "A SUIVRE", le symbole ▼ signifie "FIN".

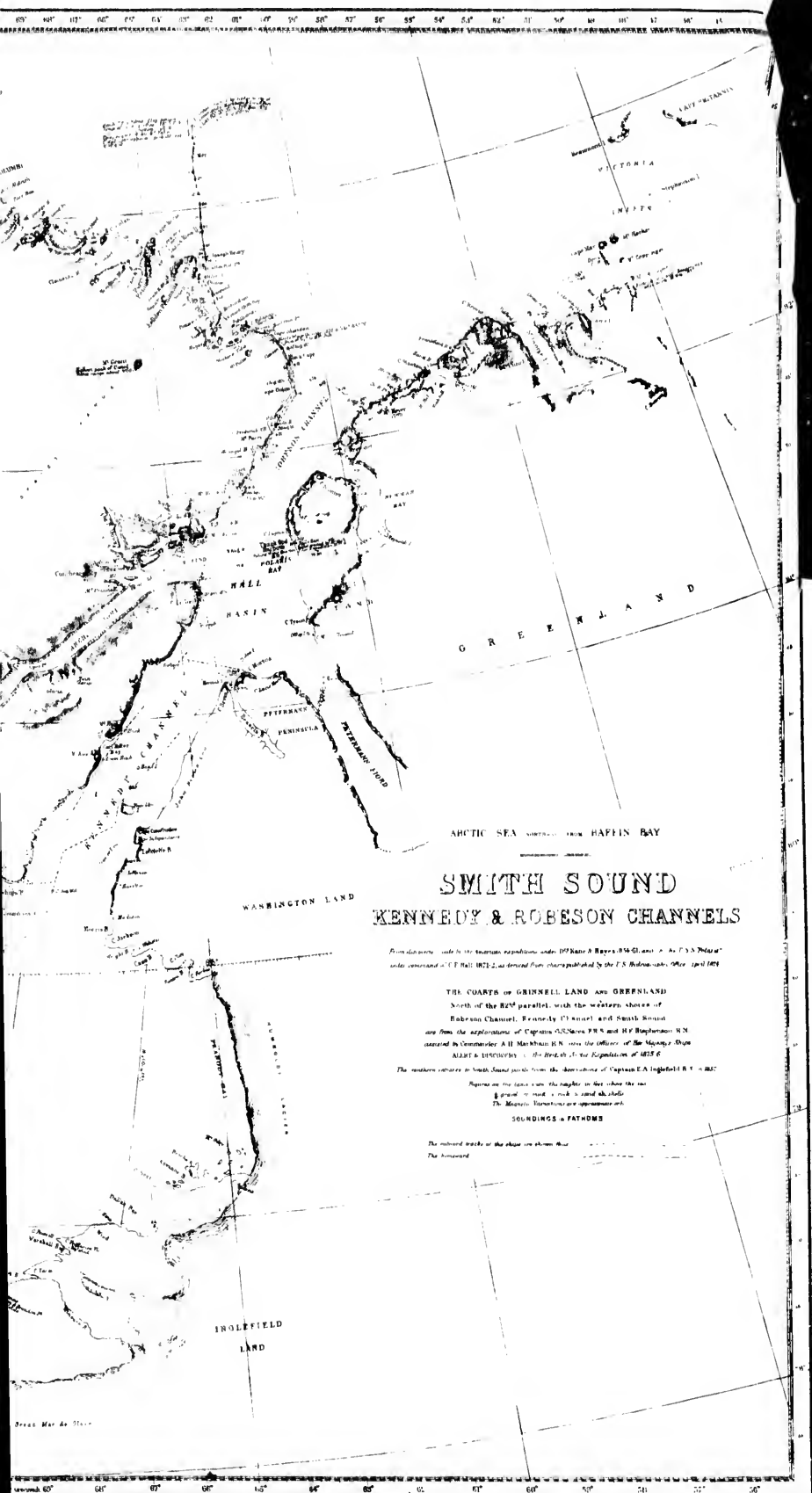
Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.



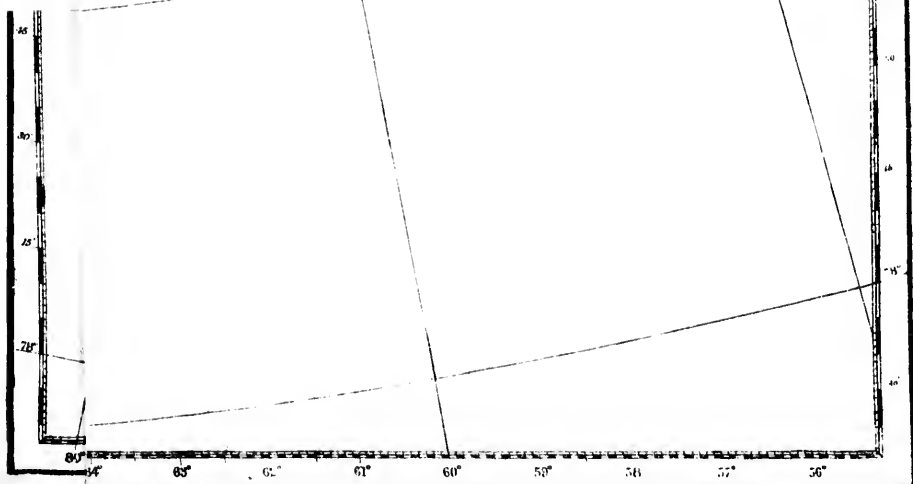












THE  
ARCTIC EXPEDITION  
OF 1875-6

*Compiled from Official Sources*

WITH A SUMMARY OF PREVIOUS ADVENTURES  
IN THE ARCTIC SEAS

BY

R. JOHNSTON, F.R.G.S.

AUTHOR OF 'THE COMPETITIVE GEOGRAPHY,' &c.

---

MAPS AND ILLUSTRATIONS

---

LONDON:  
FREDERICK WARNE & CO.  
BEDFORD STREET, STRAND

NWp  
998  
J73

## P R E F A C E.

---

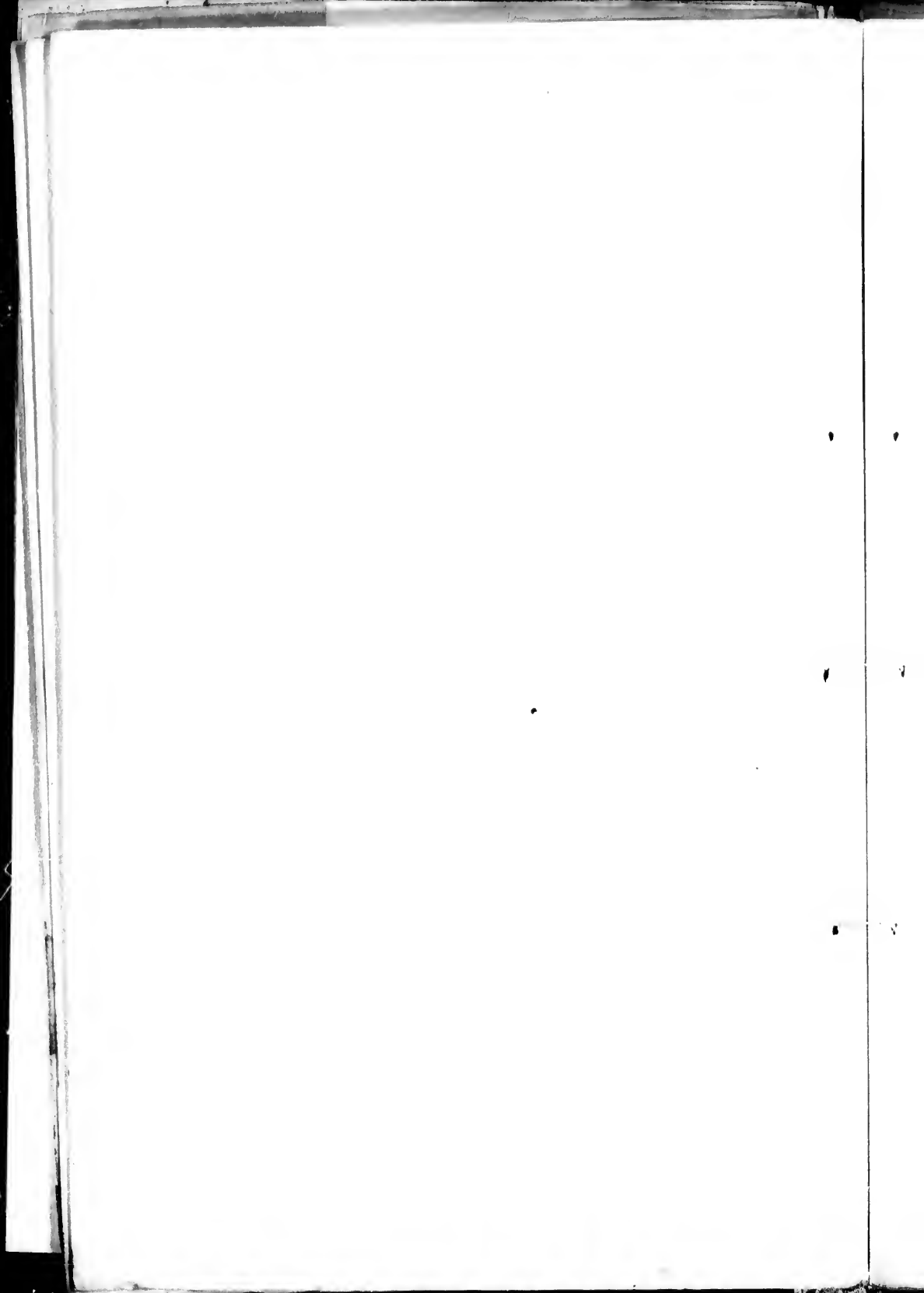
THE Arctic Expedition of 1875-6 excited a greater amount of interest among the British public than any previous enterprise of a similar nature ; and on its safe return the newspapers, without exception, gave accounts of its proceedings. These were necessarily fragmentary and incomplete. It is believed that a full and connected narrative of its details, now that the last parliamentary papers on the subject have been issued, will be acceptable, particularly when it is published at a price within the reach of all.

The writer has had access to the official reports, journals, charts, and drawings of all the officers of the Expedition ; and has attempted to reproduce the substance of the valuable information contained in these volumes, and to give the details of the sufferings and heroic achievements of the gallant companies of the *Alert* and *Discovery*. He hopes his efforts will be favourably received. At all events an account of the privations, so nobly endured by our countrymen in the cause of science cannot be unwelcome ; and the solid results accomplished are so honourable to the British nation, that a permanent record, within the reach of all, is absolutely necessary. Indeed it is only after a careful perusal of the narrative of the Expedition that the heroic efforts of the brave men who took part in it can be truly appreciated.

*19th May, 1877.*

103449

RECEIVED  
MAY 21 1877  
VICTORIA, B. C.



# CONTENTS.

---

## INTRODUCTORY CHAPTER.

	PAGE
OUR EARLIEST NAVIGATORS—WILLOUGHBY AND IVAN THE TERRIBLE— DRAKE, HUDSON, BAFFIN—NORTH-WEST PASSAGE—PARRY, FRANKLIN, M'CLURE, M'CLINTOCK—AUSTRIAN EXPEDITION . . . . .	7

## CHAPTER I.

THE ORIGIN OF THE EXPEDITION—SIR H. RAWLINSON AND THE PREMIER— THE ARCTIC COMMITTEE—THE SELECTION OF THE VESSELS AND PRELIMINARY PREPARATIONS—THE START—AT DISCO ISLAND . . . . .	19
---	----

## CHAPTER II.

IN SMITH SOUND—RECORDS OF THE POLARIS—THE PACK—CAPE FRAZER— THROUGH KENNEDY CHANNEL—THE WINTER QUARTERS OF THE DIS- COVERY—IN ROBESON CHANNEL—FLOEBERG BEACH—PALÆOCRUSTIC SEA—FINAL IMPRISONMENT IN THE ICE . . . . .	29
--	----

## CHAPTER III.

AUTUMN WORK—SLEDGING PARTIES—THE DEPARTURE OF THE SUN— WINTER IN THE ARCTIC REGIONS—WORK AND PLAY—THEATRICALS— THE ROYAL ALEXANDRA THEATRE—GUY FAWKES IN ROBESON CHANNEL— CHRISTMAS AMIDST THE ICE—RECOLLECTIONS OF HOME . . . . .	39
---	----

## CHAPTER IV.

THE SUN ONCE MORE—PREPARATIONS FOR THE SPRING CAMPAIGN—THE DELIGHTS OF SLEDGING—JOURNEY TO THE DISCOVERY—DEATH OF HANS PETERSEN—EXPLORING IN ADVANCE—LAYING THE DEPÔTS—VISIT TO POLARIS BAY—THE GRAVE OF CAPTAIN HALL . . . . .	48
--	----

## CHAPTER V.

THE START—EN ROUTE FOR THE NORTH POLE—BY CAPE JOSEPH HENRY— FLOES AND HUMMOCKS—FIRST SYMPTOMS OF THE SCURVY—SUFFERINGS OF THE PARTY—ROAD-MAKING UNDER DIFFICULTIES—THE FARTHEST POINT NORTH EVER REACHED—A PIC-NIC PARTY AT 83° 20' 26"—THE RETURN—PROGRESS OF THE DISEASE—DEATH OF GEORGE PORTER— RELIEF AT LAST—HOME ONCE MORE . . . . .	61
---	----

## CHAPTER VI.

DEPARTURE OF THE WESTERN SLEDGING PARTY—ACROSS CAPE HENRY— MOST NORTHERN POINT OF GRANT LAND—DESCRIPTION OF CAPE COLUMBIA—MOUNTS DISRAELI AND GLADSTONE—SCURVY—ALDRICH'S— FARTHEST—VELVERTON BAY—THE RETURN—SUFFERINGS OF THE PARTY—NEWS FROM THE SHIP—RELIEF—HOME AGAIN . . .	79
--	----

## CHAPTER VII.

THE START—REPULSE HARBOUR—SNOW SLOPES—SCURVY—PREMATURE RETURN OF LIEUTENANT RAWSON—MOUNT FARRAGUT, AND A FULL STOP—THE RETURN—A DISTANT PROSPECT OF THE FAR NORTH— SUFFERINGS OF THE PARTY—MEETING OF RELIEF PARTY—DEATHS OF HAND AND PAUL—THE HOSPITAL AT POLARIS BAY—IN THE DRIFT ACROSS ROBESON CHANNEL—THOUGHTS OF HOME—DEPARTURE FROM FLOEBERG BEACH—STRUGGLING THROUGH THE PACK—MEETING OF THE ALERT AND DISCOVERY—CAPTAIN ALLEN YOUNG AND THE PAN- DORA—HOME AT LAST—RECEPTION OF THE EXPEDITION—FETES, HONOURS, AND REWARDS—SUMMARY . . .	97
--	----

---

## INTRODUCTORY CHAPTER.

OUR EARLIEST NAVIGATORS—WILLOUGHBY AND I'AN THE TERRIBLE—  
DRAKE, HUDSON, BAFFIN—NORTH-WEST PASSAGE—PARRY, FRANKLIN,  
M'CLURE, M'CLINTOCK—AUSTRIAN EXPEDITION.

THE deeds of the brave inspire us with a kind of emulation, which is much more easily felt than described ; they set before us an example worthy of imitation ; they present to us a true and honest ambition, a healthy rivalry, a bloodless contest ; and these feelings apply equally to nations and to individuals. Our object, in the present chapter, is to give a simple narrative, necessarily succinct, of most of the explorations that have been equipped for the Northern Seas, whether their aim was to reach the North Pole, to discover the North-West Passage, or to find out a readier route to China than that round the Cape of Good Hope. Nor can our successful continental wars in past ages, or our unrivalled career as colonizers all over the world in modern times, exhibit better illustrations of national character, or more of British pluck and manful exertion, than the records of our Arctic adventures for many generations. When those dreadful pests, the Northern Sea-kings, preyed upon our comparatively peaceful shores, burnt our towns, despoiled our crops, and, finally, seized our lands and made permanent settlements, amalgamating easily with our ancestors, they laid, unintentionally, the firm foundation of a love for seamanship, and of a great seafaring country : they little dreamt that hundreds of years afterwards their descendants would undertake longer and more hazardous voyages, not for the sake of plunder, but simply as explorers for the good of humanity and the advancement of science.

It seems that the composite qualities which predominate in the modern Englishman, though the German element is most prominent, have, in an especial manner, contributed to our great success as legislators, as financiers, as engineers, as rulers, and last, not least, as explorers on land and sea. We must fairly ascribe to the Norman element, a part, at least, of our fondness for maritime life ; for it was only 150 years after the Conqueror's death that our fleet obtained a complete victory over powerful enemies at Sluys ; and it is to be regretted we have not further details of this engagement. It was not, however, until the last traces of the Wars of the Roses had



passed away, and until the country had enjoyed internal tranquillity for many years, that the modern spirit of seafaring adventure became a national characteristic.

#### Early English Expeditions.

As early as 1527, one Robert Thorne, of Bristol, then as now an important seaport, proposed a passage to India by going across the North Pole, which was actually attempted the same year. Bristol had the enviable honour of giving birth to Sebastian Cabot, the first Englishman who set foot on the American Continent. Indeed, so far as early maritime enterprise is concerned, the west countrymen, including Drake, Hawkins, &c., stand unrivalled for skill and bravery. The merchants of London, in the reign of Edward VI., 1553, equipped three vessels under the command of Sir Hugh Willoughby, ancestor to the present Lord Middleton, to search for a safe passage through the icy seas of the north of Europe to the mysterious land of Cathay (China), then reputed a place exceedingly rich in the precious metals. These vessels were fitted out at Deptford, under the direction of Sebastian Cabot, and sailed on 11th May, carrying with them fifteen months' provisions. On the 30th July they reached a prominent point in the island of Mageroe, on the north of Norway, which they named the North Cape, still a well-known promontory. Soon after one of the vessels separated from the others, and was drifted into the White Sea. The remaining two selected the most sheltered spot they could find on the north coast of Lapland, and there determined to pass the winter. It thus appears that the idea of wintering in the northern regions, in order to resume the process of exploration at the earliest opportunity in the following year, originated in the very infancy of Arctic expeditions. In that part of the world it is the custom of the fishermen to retire south on the approach of winter, and to retrace their steps when the season opens in the following year. On their return in the following spring, 1554, an appalling spectacle presented itself—the crews of both English vessels frozen to death.

The crew of the third vessel which had entered the White Sea effected a landing near the mouth of the North Dwina River, and were conveyed on sledges to Moscow, then the capital of Russia, and were admitted into the presence of Ivan, better known as 'the Terrible,' who occupied the Kremlin, as Potentate of all the Russians.\* On

\* Ivan came to the Russian throne in 1533, at the age of three years; and during his long minority the country was distracted by the selfish feuds of rival nobles, each striving to secure power for himself. On reaching his majority, Ivan found himself under the beneficent influence of two wise counsellors, and the first part of his reign turned out one of the most beneficial for his country. Printing was introduced, the first standing army was established in Russia; the kingdom of Kazan was subdued, and its dominions annexed; Astrakhan shared a similar fate soon after; and the

his being presented with a letter from King Edward, the shipwrecked Englishmen were treated to his semi-barbaric hospitality, dining daily at his table; and were finally dismissed in the ensuing spring, accompanied by an ambassador to England. Their return, however, was not propitious: most of them were lost on the coast of Scotland: the remainder with the ambassador reached London in safety: and shortly afterwards a company was established to trade with the White Sea. It is worthy of remark that neither Archangel nor St. Petersburg was in existence at this remote period. Several additional expeditions were equipped both by the English and the Dutch, into the details of which it would be superfluous to enter.

The first person who attempted a NORTH-WEST PASSAGE, was *Sebastian Cabot*, whose crew becoming stricken with fear at the entrance to Baffin Bay, compelled him to return to England.

The troubles of Mary's reign, and the diffidence in the early part of Elizabeth's, combined with a strong feeling of individual insecurity, were utterly adverse to foreign adventure. In 1576, however, Martin Frobisher set out in a second expedition, equipped at the expense of the Earl of Warwick, in quest of a North-West Passage, which was only discovered in 1854, as we shall see further on. He sighted the coasts of Greenland and Labrador, and reached Hudson Bay. Returning safely home, wide-spread speculation arose on the sanguine reports of the sailors of the existence of gold in the regions which they had visited. Three vessels were sent out in the following year, at the expense of the Queen, who seems to have inherited with the arbitrary spirit of the Tudors some of her grandfather's desire for money. Nor was the result of this expedition sufficient to dispel the national delusion, and Frobisher soon after found himself in command of another expedition in the midst of fogs and icebergs on the coast of America. All that need be mentioned in connection with this voyage, is, that it safely returned to England in time to allow its gallant leader to signalize himself in the defence of his country against the formidable Spanish Armada.

*Drake*, in 1578, after sailing through the straits of Magellan, plundered the Spanish possessions on the coast of Peru, and secured treasure to the value of £150,000. Fearing if he returned southwards the Spaniards would intercept him, he determined to go northwards in anticipation of meeting a northerly opening from the Pacific to the Atlantic, similar to that on the south of South America. He pro-

Tartars of the Crimea were held in check. Ivan's character, however, suffered a complete change, he banished his wise old counsellors; he beheaded many of his nobles, and exiled many more; and finally he murdered his eldest son with one fell blow. Hence the cognomen which has clung to him in history. He died, A.D., 1584.

ceeded north to about the mouth of the Columbia River, explored the coast for some distance, landed, and called the country New Albion. But the increasing cold so affected his men, that he determined to sail across the Pacific, and return home by the Cape of Good Hope, an achievement which he duly effected, landing at Plymouth in September 1580, having circumnavigated the globe.

In 1583 *Sir Humphrey Gilbert* sailed at the head of five ships to make western discoveries. He arrived safely in the harbour of St. John's, Newfoundland, but on the return voyage, he went down with his ship in an Atlantic storm.

The expeditions of *Captain John Davis*, after whom the strait at the entrance to Baffin Bay is named, brought little further information.

In this year (1606) *John Knight*, an adventurer, was killed by the Esquimaux, and little further trace remains of his expedition.

*Henry Hudson* was the first who was sent out with instructions to try and reach the Pole itself. But he was interrupted by the ice on the coast of Spitzbergen. It was in 1610 that he partially explored that capacious bay, which still appropriately bears his name, and which he took for an inlet of the Pacific Ocean. On prolonging his stay, however, the sailors became mutinous, and finally lowered him and the carpenter in a boat, which they sent adrift. Shortly afterwards, Greene, the chief instigator of the mutiny, was killed in an encounter with the Esquimaux, but poor Hudson was never after heard of.

*Sir Thomas Button*, an enterprising sailor, wintered at the mouth of the Nelson River, in 1612, after crossing Hudson Bay from the E. side, and returned safely home, though many of his crew perished from the effects of the extreme cold to which they were subjected.

No part of the Arctic regions, of late years, has been so much frequented as *Baffin Bay*, so named from an English pilot, who in those days of maritime speculation, thought he could reach Japan, by a North-West route. In latitude  $78^{\circ}$  he discovered a sound, which he named Smith, after his patron Sir Thomas Smith. It will be seen, this sound was in some degree the scene of the labours of the late expedition. This worthy adventurer also entered Jones and Lancaster Sounds; but on his crew becoming sickly he returned to Europe. The tides in Hudson Bay were long observed to be different from those of other inland seas, such as the Mediterranean, and hence a strong argument in favour of the existence of a North-West passage. *Baffin* performed this wonderful voyage in a vessel of only 55 tons burden, the very vessel used by Hudson. The *Discovery* sailed from the Thames in 1616 with a crew of only 17 men.

It was in 1631 that *Fox* and *James* partially explored the respective seas, which bear their names.

The Russians sent out an expedition under *Behring* in 1741, which made considerable explorations. He was stopped at the East Cape by the accumulated ice.

The Hon. Daines Barrington, collected, early in the reign of George III., all the information he could find bearing on the circumnavigation of the Pole. Having read an interesting paper on the subject, before the Royal Society, an expedition was sent out in 1773, under the command of Captain Phipps (afterwards Lord Mulgrave), consisting of two vessels, the *Racehorse* and *Carcase*. Finding it impossible to penetrate the wall of ice which they met, about 80° N. latitude, north of Spitzbergen, they returned to England. In this, the first polar expedition fitted out by our Government, there was a boy, who was afterwards destined to figure as the maritime hero of his country. We need not say the boy's name was Nelson.

Captain Cook sailed north through Behring Strait, and explored both the eastern and western coasts; but was compelled to retrace his steps on meeting a compact wall of ice in latitude 70° 44' in the neighbourhood of Icy Cape in Alaska.

#### The North-West Passage.

About the beginning of the present century one of the most convincing proofs of a North-West Passage was afforded to mariners. A whale that had been captured in Behring Strait, had actually carried with it a harpoon that was fired at it on the coast of Greenland. But the attention of all Europe having been engrossed for many years by the wars which followed the French Revolution, scientific research was allowed to slumber, and naval discoveries were unheard of. Our Admiralty, however, in 1818, sent out Captain Ross in the *Isabella* and Lieutenant Parry in the *Alexander*, which left the Thames in April. On 26th May, the *Isabella* fell in with above forty whalers, detained by the ice, a little north of Disco Island. The two vessels were frequently in imminent danger, arising from pressure, grips, or concussions of the ice floes, and the crews in trying to get them freed, underwent indescribable hardships. Having explored Baffin Bay, and penetrated Lancaster Sound for 30 miles, Ross returned with the positive conviction that no west-ward passage existed. Parry, however, did not agree in this conclusion of his chief, and boldly declared he could see no land at the bottom of Lancaster Sound.

In conjunction with this expedition, another was despatched to the north of Asia, under Captain Bucan, who reported on his return, that he had seen the sun at midnight; and he gave an account of other Arctic celestial appearances unknown in lower latitudes. He encountered

many storms, and at 80° N. became entangled in the ice, from which, after many perils, Captain Bucan, and Lieutenant Franklin succeeded in escaping with their vessels the following year.

In 1819, Parry was again sent out, and about the end of July, entered Lancaster Sound. An eastern breeze wafted them westwards, until they reached 110° W. longitude. Here a nook was selected to winter in, and Parry took particular care to assemble his men daily, to whom he served out lime juice and sugar as a preventive against scurvy. To keep the crew healthy during the long Arctic winter, many expedients were adopted, into the minute details of which it is needless to enter. As the winter set in, all animals, save a pack of wolves, betook themselves southwards. It was in the following February when the sun reappeared, after being three months below the horizon, that the most intense cold was experienced, the thermometer remaining several hours 76° below the freezing point. Just as the greatest heat of the day is not at noon, but a few hours after, the heat continuing to accumulate, so with the Arctic winter, the greatest cold is not on the 21st December, but several weeks after. About the beginning of May, the temperature having risen to freezing point, and beasts and birds having come back to their summer haunts, the hardy mariners determined to return to Europe, but only succeeded in getting away from their winter moorings on the 2nd of August, and made for England, which they reached after an absence of eighteen months, or a month longer than the recent expedition; and, on their return, were awarded the £5000 that had long been promised by Parliament to the first vessel that should reach the 110th meridian. Only one death occurred, and this from natural causes. This expedition was considered by all parties eminently satisfactory, and the explorers received the warmest congratulations.

It was now determined to go further west in lower latitudes, as a means of at least partially avoiding the ice which previously had been so troublesome. Commander Parry went in the *Fury*, and Commander G. F. Lyon in the *Hecla*, with 118 men all told. They left the Nore on 8th May 1821, and on 17th June one of the quarter-boats of the *Hecla* was carried away. Captain Lyon gives some very interesting details in his history of this voyage, of the habits of the Esquimaux, and of the animals and plants of the Arctic regions. This expedition, however, came far short of the previous one, and his third voyage in the summer of 1824, was similarly unsuccessful. Parry says the thermometer remained below zero for 131 days; and the sun was not visible for 121 days. Many exploring parties were sent out. One of his vessels was lost in a collision against an ice field. The coast of North America through Behring Strait was examined up to 109° W. longitude, and only 1° remained to be explored.

While Parry was thus bravely battling by sea, a land expedition was fitted out (1825), with the object of co-operating with him, under the command of Lieutenant Franklin, a native of Spilsby, in Lincoln, who, with great difficulty, penetrated the North American woods and morasses, west of Hudson Bay and the Coppermine River. At length they reached a place, in frail canoes, which they named Cape Enterprise, in the north centre of the continent, about 400 miles east of the mouth of the Coppermine River, from the mouth of which they had set out. On the return journey they underwent indescribable misery and wretchedness. During eighteen days Franklin and a pioneer party lived on a kind of soup made from the skins of the deer which they had shot the previous winter. On the arrival of Dr. Richardson and the remaining men at Fort Franklin, they heard even more harrowing tales of suffering. Their voices had become sepulchral; their countenances lean and haggard, and their frames extremely emaciated; and, had not relief, long-promised but delayed by one of those unaccountable mishaps which are so often experienced in human affairs and so seldom explained, arrived, a few days more would have terminated their earthly sojournings. The details of the exploration of the Coppermine River the following year by these intrepid men, Franklin and Richardson; of their almost meeting Captain Beechey, near Barrow Point, who had sailed round by Behring Strait in the *Blossom*; of the murder of some of their companions, by the treacherous Indian, named Michel, who, in turn, was shot by Dr. Richardson; of their difficulties and dangers, are fully as interesting as a first-class novel.

#### Parry's Fourth Voyage.

In 1827, Parry, who brought with him eight reindeer from Norway, was sent out in the *Hecla*, which he and his party left on the north shore of Spitzbergen on 22nd of June, and attempted to cross the ice to the North Pole, by means of boats and sledges. They floated the boats for about eighty miles. Here they came to a mixed surface of ice and water, and their difficulties began. They chiefly travelled by night, and slept by day in their boats, which had been specially prepared in England for this kind of journey. It was only on the 22nd of July they discovered to their intense chagrin that the ice was proceeding south just as fast as they, with mighty exertions, were going north; and accordingly, after reaching  $82^{\circ} 45'$ , and enduring untold hardships and risks, Parry returned towards the south. They reached the ship on 21st of August, after sixty-one days of constant exposure to wet, cold, and fatigue.

Another energetic explorer, Captain John Ross, already named, who

remained four winters (1829-33) in these desolate regions, arrived home when every vestige of his existence had disappeared, and every hope of seeing him again had been abandoned by his friends. It was this dauntless individual who discovered the peninsula of Boothia, which is north-west of Melville peninsula. Ross's expedition having been equipped by Sir Felix Booth, who contributed £17,000 for the purpose, the name of the newly-discovered land was given in honour of the patron. Ross himself was so enthusiastic that he subscribed £3000 out of his private means. On this occasion the *Victory*, a small Liverpool steamer, was equipped, and only twenty-eight individuals formed the crew. It is on the west of this peninsula that the magnetic pole is, 97° W. longitude and 70° N. latitude, at which the needle is perpendicular. This was found out in 1831, and the spot was visited by M'Clintock in 1859. In 1833, Captain George Back, R.N., was placed at the head of a relief party, which was partly fitted out by private subscription, and partly by the Government. They proceeded from Montreal west, to Lakes Winnipeg and Aylmer, and explored the Great Fish River to the Sea. He returned in 1835, not before he had received the welcome intelligence, that the object of his search, Captain Ross, had landed in England, and was awarded the Gold Medal of the Royal Geographical Society.

In 1838-9, Dease and Simpson made further explorations in the same district, having been despatched by the Hudson Bay Company to survey the northern coast of their territories. They discovered the *Colville* river, wintered at Great Bear Lake, and went as far north as Cape Parry. They had hoped to find a channel at the south of Boothia, which, in 1847, was found out by Dr. John Rae\* to be a peninsula.

After several smaller enterprises in various parts of the globe, the Government of England, still anxious to be in the van of maritime discovery, fitted out a larger expedition than any of the previous, consisting of 139 men, and placed Franklin, now in his sixtieth year, at its head, 1845.†

On 22nd June the expedition entered Davis Strait, and arrived at *Disco*, a place of which we shall speak more particularly further on, about the 1st of July. On 12th July, Franklin sent out despatches, which

\* A gentleman whom we had the pleasure of seeing a few days ago, and who still takes deep interest in Arctic Explorations.

† The second in command was Captain Crozier, a native of Banbridge, in the County of Down, who had been out three times with Parry. Another officer, *Fitz-James* had served as Captain in the Eastern Seas. Lieut. *Gore* had been under Back in 1836. Lieut. *Fairholme* had visited the Niger. Dr. *Stanley* had long practised in China; and *Goodsir*, his assistant, had been Curator of the Edinburgh museum. Franklin was Captain of the *Erebus*, and Crozier of the *Terror*; and Dr. Richard King had been with Back at the mouth of Great Fish River.

duly reached England ; and he then proceeded northward. In July, Captain Martin, a Peterhead Whaler, met the ships in latitude  $75^{\circ}$  N. Another captain saw them in Hudson Bay a few days later. Franklin was instructed to enter Lancaster Sound, then proceed through Barrow Strait, to avoid Melville Island, but to make for Behring Strait. Having been provisioned for three years, anxiety touching their absence only arose when they did not return the third winter. Several relief parties were sent forward, and people vied with each other to enter the ranks of these forlorn hopes, in almost twenty dreary voyages. An expedition under Captain *Ommanney*, and Lieut. *Osborn* first found traces of Franklin in 1850, at the entrance to Wellington Channel, where it appeared some tents had been pitched, and a few graves were discovered on Beechey Island. Captain H. T. Austin was chief in command of this expedition, which consisted of two sailing vessels, the *Resolute* and the *Assistance*, with two steam-tenders, in charge of one of which, the *Pioneer*, was Lieut. Osborn. It was in this expedition that M'Clintock, afterwards Sir Leopold, perfected the system of sledge travelling, which has been so much resorted to in the recent enterprise, under Captain Nares. After the ships were frozen in, they immediately organized exploring parties for the purpose of training the men in the arduous duties of sledging, pitching tents, &c., before the winter cold became extreme. And, again, on the approach of spring, the necessary equipments were prepared, provisions were got ready, and other necessaries arranged for the exploring parties, which they despatched at the earliest moment possible. Captain Ommanney, at the head of a sledge party, passed over Barrow Strait, and, having explored Prince of Wales Land, returned safely to the vessels after an absence of sixty days. Indeed, this expedition is particularly remarkable for its immunity from sickness, which is attributed to good ventilation, open air exercise, rational amusement, and, above all, cleanliness, and a judicious use of lime juice.

#### Discovery of the North-West Passage.

Vice-Admiral *Sir Robert M'Clure*, whose father, a Captain of the 89th Regiment, served with distinction under General Abercrombie, in Egypt, was sent out as Commander of the *Investigator* in search of Franklin, 1850. He doubled Cape Horn, passed northwards near to the Sandwich Islands, sailed through Behring Strait, and 'keeping close along the American coast, he rounded Point Barrow, the extreme point to which exploration had been carried by a ship from the westward.' After very difficult navigation they wintered in the pack, within thirty miles of Banks Strait, on 16th September. Having



started with a sledge party, in October, they ascended a hill on Banks Land, from which they clearly discerned the long sought connection between the waters on the east and those on the west of the North American Continent. In the immediate neighbourhood of Banks Land, M'Clure passed three dreary winters. On the 6th April 1854, two gentlemen from the *Resolute*, commanded by Captain Henry Kellett, a native of Clonmel, succeeded in reaching the *Investigator*, which its crew abandoned, and all having passed the following winter in the *Resolute*, it in turn was deserted in the ensuing spring, and the whole party succeeding in returning to Europe in some Whaling ships, thus making the long sought North-West Passage. Captain M'Clure was knighted on his arrival in England, and the officers and crew of his vessel received £10,000 from our Government.

The first important information concerning Franklin was obtained from the Esquimaux in 1854. They reached the mouth of the Great Fish River, a little north of the Arctic circle; and here there was conclusive evidence that they succumbed to starvation. At the mouth of the river, in 1857, Captain M'Clintock in the *Fox*, succeeded in tracing the remains of the Franklin expedition—human remains, human skeletons, the saddest of spectacles. A document found here described the death of Franklin, 11th June 1847, and the abandonment of their vessels.

In 1854, the Americans reached  $82^{\circ} 27'$ , and their vessel the *Polaris*, in 1871, reached  $82^{\circ} 16'$  N. latitude. We consider it necessary to dwell more particularly on the Austrian expedition, 1872-4.

Though the British Government for many years discountenanced a renewal of the attempts to reach the Pole, yet many enterprises with this object in view were undertaken by other countries. A Swedish *savant*, in 1868, went almost as far north as Parry did in 1827. The Germans, with their usual pluck, equipped an expedition in 1869, which on reaching the northern latitudes was subjected to untellable hardships. One of the vessels, the *Hansa*, on attempting to force a passage through the ice on the east coast of Greenland, in  $73^{\circ} 6'$  N. latitude, became completely frozen in, and as the winter began to advance it was foundered by the closing in of the ice. Meanwhile the crew, anticipating the worst, had transferred all their provisions, &c., to a large floe, where they determined to pass the winter, if the natural southward drift of the ice did not lead to their rescue. About the beginning of January 1870, they had gradually drifted to  $68^{\circ}$ , and shortly after reached the neighbourhood of Cape Farewell, about  $60^{\circ}$ . The break-up of the floe from the increased roughness of the sea brought them into imminent danger. Fleeing to their boats they struggled successfully to reach the shore, and finally reached the Danish Station, *Fredericksthal*,

in Greenland, whence they succeeded towards the end of the summer, in getting a return passage to Europe. The second vessel, the *Germania*, was also frozen in, and seems to have passed the winter in comparative comfort. On the approach of spring they found the ice an insuperable barrier against their further northern progress, and they only succeeded in tracing the coast line of East Greenland for some distance, and going into a spacious fiord, discovered a mountain range, which, from its approximate height to 15,000 feet, they denominated the Arctic Alps. They also reached Europe in safety, when, to their great consternation, they found the buoys removed from the mouths of the Elbe and Weser, and a pilot unattainable at the usual signal station, off Heligoland. The explanation was soon given. The recent Franco-German war was raging.

Whalers in their hardy mission frequently went almost as far north as the Government expeditions. One in particular, in 1871, is worthy of mention, namely, a steam-whaler, under the command of Captain Hall, which reached 82° 16' N. latitude, the most northern point reached by any vessel before the recent expedition, 1875-6.

#### Austrian Expedition, 1872-4.

The preliminary to this very successful expedition was a voyage in a yacht, by Lieutenant Weyprecht of the Austrian navy, who, in 1871, made an experimental summer trip to the Arctic regions, as far as Spitzbergen, accompanied by Payer, who had himself been inspired with an ambition for Arctic discovery, and was on the scientific staff of the German expedition briefly referred to above. In 1872 these two braves sailed as joint commanders of the Austro-Hungarian expedition for the exploration of the seas east of Nova Zembla, purposing to return by Behring Strait, and through the Pacific, by rounding Cape Horn. Though only twenty-three souls constituted the ships' company, yet Germans, Italians, Slavs, Magyars, and Norsemen were among them, Italian being the official language used. These southern Europeans departed from the mouth of the Weser, with their characteristic light-heartedness, and the merry Italian airs wiled away the hours until they reached a dreary clime, almost the very opposite of that which is experienced on the smiling Italian plains. Their hopes, which had been bright, were soon damped, by their vessel, the *Tegethoff*, becoming, on 20th August, completely beset by ice off the Nova Zembla coast, where probably she still remains, as all efforts for her release were fruitless. During an unusually severe winter, 1872-3, she drifted they knew not whither, until at length on 30th of the following August, in latitude 79° 43', longitude 59° 33' E., they beheld to their infinite

delight a bold rocky coast looming in the distance, evidently a new land, hitherto unknown, and unexplored. This discovery is best given in Captain Payer's words:—

‘About midday, as we were leaning on the bulwarks of the ship, and scanning the gliding mists through which the rays of the sun broke ever and anon, a wall of mist, lifting itself up suddenly, revealed to us afar off in the north-west the outlines of bold rocks, which in a few minutes seemed to grow into a radiant Alpine land! At first we all stood transfixed, and hardly believing what we saw. Then, carried away by the reality of our good fortune, we burst forth into shouts of joy—“Land! land! land at last!” There was not now a sick man on board the *Tigethoff*. The news of the discovery spread in an instant. Every one rushed on deck to convince himself with his own eyes that the expedition was not, after all, a failure. There before us lay a prize that could not be snatched from us.’

Yet the floe on which they were seemed to drift at random, and they naturally experienced great uneasiness, for as yet they had found out no harbour in which they could winter; and besides it seemed utterly impossible to reach this land, which they named, ‘Francis Joseph Land.’ From the edge of the floe they could clearly discern its mountains and mysterious glaciers. Yet it was only on 10th March 1874 that they succeeded in exploring this land by sledge parties; and by the beginning of May they had carefully noted 450 miles of new sea, land, and island archipelago. They endured very great hardships indeed; the cold was often  $72^{\circ}$  (Fah.), below zero. Though the hardy Adriatic seamen are accustomed to fare poorly, yet they said the bears’ flesh which made up their sole diet was so bad that they declared it ‘only fit for the devil on a fast day.’ Their stay here was as cheerless and dreary as detention in a prison, which it was in reality. They never despaired, but in the very depth of winter, they remembered the Arabic proverb, ‘This too will pass away,’ and never became insubordinate. No trace of scurvy appeared, and only one death occurred, that of an officer from phthisis. Abandoning their vessel on 20th August 1874, they attempted to return to Europe on sledges. But after two months of incredible exertion they had only got two German miles from the ship. Fortunately, however, ‘leads’ opened in the ice, and they succeeded in reaching the open water at  $77^{\circ} 40'$  N. latitude, where they met some Russian fishermen, by whom they were conducted to *Vardö*, at which they arrived on 3rd September—once more, after 812 days’ absence, within the range of the Telegraph. For courage, energy, and noble endurance, as well as for successful exploration, the members of this expedition will be long remembered.

# THE ARCTIC EXPEDITION OF 1875-6.

## CHAPTER I.

THE ORIGIN OF THE EXPEDITION—SIR H. RAWLINSON AND THE  
PREMIER—THE ARCTIC COMMITTEE—THE SELECTION OF THE  
VESSELS AND PRELIMINARY PREPARATIONS—THE START—AT  
DISCO ISLAND.

FOR several years the subject of Arctic Exploration had attracted the attention of geographers and men of science; and one especially was distinguished by the zeal and earnestness with which he advocated a resumption of the labours of Parry, M'Clure, Franklin, and M'Clintock. We allude to the late Admiral Sherard Osborn. In January 1865 he read a paper before the Royal Geographical Society, eloquently supporting this object, and its reception convinced men that his advice would eventually be adopted. He was called away from this country by the duties of his profession and the necessity of supporting his family; but on his return he resumed the subject with characteristic energy. He was most ably assisted by the distinguished scholars and geographers of the day, including Sir H. Rawlinson, Sir F. L. M'Clintock, Sir R. Alcock, &c., &c. The public mind was deeply impressed by their exertions, and it only remained to convince the Government. In 1872 an exhaustive memorandum was presented by the Geographical Society, the greater part of which was written by Osborn, and he took a leading part in the deputation which afterwards waited upon Mr. Lowe and Mr. Goschen, then Chancellor of the Exchequer and First Lord of the Admiralty respectively, in Mr. Gladstone's Government. The deputation represented the Royal Geographical Society, the Royal Society, the British Association, and the Dundee Chamber of Commerce. The memorandum embraced several points, including the best route to the Arctic Regions, the advantages to be derived from an Expedition, and the proper mode of conducting its operations. The route through Smith's Sound was that recommended, and the reasons for the recommendation given at considerable length. The advantages expected to be derived from the labours of the explorers were also the object of an extensive disquisition. The unexplored area surrounding the North Pole was nearly 2,400,000 square miles in extent; and the

examination of any region of such a size had hitherto never failed to yield results, most important both practically and scientifically. 'Further,' the memorandum says, 'it is necessary to bear in mind that the Polar area is, in many most important respects, of an altogether special character, affording exclusive opportunities for observing the conditions of the earth's surface, and the physical phenomena there to be seen, under certain extreme and singular circumstances, which are due to the relation of this area to the position of the axis of revolution of the terrestrial spheroid, and which have to be considered not only with reference to the present time, but to the earth's past history. It may be, therefore, received as certain that discoveries will be made in all branches of science, the exact nature of which cannot be anticipated.' The particular branches of science which an Arctic Expedition might be expected to benefit were named, and the grounds for expecting important additions to our stock of knowledge concerning each fully examined. These branches were Geography, Hydrography, Geodesy, Meteorology, Magnetism and Physics, Geology, Botany, Zoology, and Ethnology. Some of the reasoning and anticipations regarding these branches of science was necessarily of a speculative character; and it will be seen that no opportunities whatever were afforded of contributing to the last-mentioned study.

The memorandum likewise showed that private Expeditions were not competent to accomplish the necessary work successfully, and that an Expedition under Government auspices, and with the officers and men amenable to naval discipline, was likely to do far more than any previous enterprise of this nature. It was explained that, if due care were taken in selecting the vessels and crew, and if there were a proper supply of provisions and other equipments, there was very little risk of loss of life. The result of it and the deputation was unsatisfactory.

In the meantime the Austrian Expedition, an account of which has been given in our introductory chapter, returned; and the results attained still further excited the attention of the country. What followed is best conveyed in the words of Sir Henry Rawlinson, President of the Royal Geographical Society, in an address delivered to that body a few days before the Expedition left our shores.

'ARCTIC EXPLORATION.—Unquestionably the most important subject on which I have to address the Society on the present occasion is that of Arctic Exploration, especially with regard to the progress made in the great question of the resumption of Arctic Research by England since the Anniversary Meeting last year. When my predecessor, Sir Bartle Frere, reviewed the position of Arctic matters last June, as you all remember, the question of Government action, owing to a change of

Ministry, remained in abeyance, and it was stated that the Council proposed to bring the matter again before the present Ministers. Accordingly, in July, accompanied by Dr. Hooker and Admiral Sherard Osborn, I had the honour of waiting on Mr. Disraeli, and explaining our views to him in detail; and on this occasion I received his assurance that the question should be fully reconsidered during the Recess. Later in the year I addressed to him the following letter:—

*October 12th, 1874.*

‘DEAR MR. DISRAELI,

‘The late announcement of the success of the Austrian Exploring Expedition under Lieuts. Weyprecht and Payer in discovering land to the north-west of Spitzbergen as high up as 83°, which is the point nearest to the Pole yet sighted on the face of the earth, has excited an intense interest throughout Europe, and especially amongst our own Arctic Geographers, who have in consequence besieged me on all sides with inquiries as to the fate of the application which I had the honour to make to you in last July, relative to a proposed Government Expedition which should leave our shores for the Arctic Seas in the course of next spring, and should endeavour to reach the Pole by way of Baffin Bay and Smith Sound. You were good enough to say at the time that you should take the matter into consideration, and would consult those departments of the Government which were interested in the question, and it is with reference to this promise that I now again venture to address you. May I announce to the Council of the Royal Geographical Society, whom I shall have to meet in a very short time, at the opening of our Autumn Session, that the papers relating to the proposed Expedition, which were handed over by Mr. Gladstone’s Secretary to Mr. M. Corry, have been laid by you before the present Board of Admiralty for consideration and Report? or may I, at any rate, state that this preliminary step will shortly be taken? Pray excuse any appearance of impatience; but the Naval Authorities on my Council, who have urged me again to write to you, assert that the whalers are now returning from the Polar Seas, and that if there is any prospect of an Expedition such as is proposed in the papers above alluded to being sent out in the course of next spring, it is full time that local inquiries were made, and measures taken to obtain one or more of these vessels, and to secure the services of seasoned crews and officers. I have only further to mention that the Council of the British Association, on the recommendation of a Committee of Section E., are about to pass a resolution which will in due course be laid before you, strongly supporting our prayer for a new Arctic Expedition in 1875 as an almost indispensable sequel to the cruise of the Challenger.

‘I remain, dear Mr. Disraeli,

‘Yours most faithfully,

(Signed)

‘H. C. RAWLINSON,

‘President of the Royal Geographical Society.

‘The Rt. Hon. B. Disraeli.’

All the papers submitted by us to the Government, were soon afterwards referred by Mr. Disraeli to the Board of Admiralty for examination and report, accompanied by an important new chart of the Polar Regions, by Captain Evans, the Hydrographer, on which the portions discovered by the various nationalities were marked by distinctive colours; the result was, that I was favoured on the 17th of November by the receipt of the following letter:—

'DEAR SIR HENRY RAWLINSON,

'Her Majesty's Government have had under consideration the representations made by you on behalf of the Council of the Royal Geographical Society, the Council of the Royal Society, the British Association, and other eminent scientific bodies, in favour of a renewed Expedition, under the conduct of Government, to explore the region of the North Pole; and I have the honour to inform you that, having carefully weighed the reasons set forth in support of such an Expedition, the scientific advantages to be derived from it, its chances of success, as well as the importance of encouraging that spirit of maritime enterprise which has ever distinguished the English people, Her Majesty's Government have determined to lose no time in organizing a suitable Expedition for the purposes in view.—'I remain yours faithfully,

'B. DISRAELI.

'Major-General Sir Henry C. Rawlinson, K.C.B., &c., &c., &c.'

The decision of Her Majesty's Government was no sooner communicated to the Admiralty than energetic steps were immediately taken to hasten the preparation of a Polar Expedition, so that it should be in a position to leave this country at the proper season in 1875.

Officers were despatched to examine the men-of-war in reserve, as well as our mercantile whaling fleet, for two vessels strong and fit for navigation in Polar Seas; and on the 24th November 1874, the Admiralty appointed three experienced Arctic officers to form a Committee to report on the following points:—

The scope of the proposed Expedition and what instructions should be given to its leaders. The description of ships to be employed, and the various kinds of boats, sledges, fittings, stores, provisions, and clothing with which it was to be equipped. And, lastly, to recommend such arrangements as were advisable for preserving the health of the officers and men to be employed.

That Committee, by the 14th February 1875, had completed its labours, and made a lucid Report, embodying its recommendations on all the points referred to, a Report which has been subsequently presented to both Houses of Parliament; but within a few days of its assembling the important question of the selection of the ships was decided, and the Admiralty authorized the immediate strengthening of H.M.S. *Alert*, 1045 tons, 381 H.P., and the purchaser of the whaler *Bloodhound*,\* about the same size, which was likewise immediately prepared for Arctic service. At the same time the Admiralty decided on appointing to the command of the Expedition, Captain George Nares, R.N., F.R.S.,† the distinguished officer then commanding the *Challenger*, and he was immediately ordered home from Hong-Kong.

\* Re-named *Discovery*.

† The *Challenger* was a vessel sent by the Government in 1873 to circumnavigate the world for scientific purposes. It had on board several eminent men distinguished for their acquirements; and their valuable observations regarding the depth of the ocean and the character of its bottom in various places, geography, botany, zoology, &c., have been published.

Acting on the recommendations of the Committee, it was decided that the two ships should be manned and officered with complements, all told, of 121 souls; and it is calculated that the ships could stow, on leaving England, three years' provisions for the entire cruise, and a fair amount of fuel for their engines.

In February 1875, Captain Nares arrived, and had no difficulty in selecting his officers, as of lieutenants alone there were more than sufficient volunteers to have manned the Expedition. Throughout the past spring the Expedition has been most carefully equipped, travelling-gear, and provisions prepared in the most elaborate manner; and it is not too much to say that never has an Arctic Expedition been equipped in so methodical and liberal a manner, and, so far as the Admiralty is concerned, no expense or care has been spared to ensure the most perfect safety and success.

The scientific objects for which this Expedition has been so especially despatched to the Polar Seas have been kept steadily in view. Every officer has been carefully trained to labour in some branch of science, and the Royal Society have been allowed to name two persons whom they deem especially qualified as naturalists, one of them being embarked in each of the ships. The Expedition leaves England a few days hence, accompanied by an extra ship (the *Valorous*) as far as Disco, in Greenland, so as to complete the two vessels with fuel and stores at the very threshold of their labours.

The instructions given to Captain Nares are not yet officially made public; but it may be considered pretty certain they will not deviate from the recommendations of the Arctic Committee, and I assume, therefore that we may consider the following as the programme:—

The *Alert* and *Discovery* leaving Disco some time in July, will proceed leisurely up Baffin Bay, following the East Coast up towards the entrance of Smith Sound in 78° N. They need not hurry, for previous navigators have never found the ice cleared out of that strait before the first week in August. On reaching its entrance they will make for Littleton Island, and there place records of their progress, and Captain Nares will then decide whether that island, with its adjacent shelter of Port Foulke, is to be the real base of his operations, or whether some better spot on the west side of the entrance can be selected; and his decision is to be recorded in the despatch to be there left.

To this point, if nothing is heard of the Expedition in 1876, a ship will be despatched by the Admiralty in the summer of 1877, to act as a depôt for the Expedition to fall back upon in case of any untoward accident to the vessels composing the Expedition.

According to the state of the ice in Smith Sound, Captain Nares



will then push up north for a headland named Cape Fraser, avoiding the great elbow on the east side about Humboldt Glacier; but experience tells us that it is not likely he will find open water within Smith Sound much before the middle or end of August; and Arctic experts assure us that much of the success of this Expedition depends upon the patience and judgment of the leader at this crucial point of the voyage.

The ice of Smith Sound must be allowed time, according to the season, to clear out into Baffin Bay, and an impatient dash into this outflowing-pack may lead to the regrettable accident of the ships being caught in it, and swept either on shore, or down with the ice-stream throughout the following winter into the Arctic Ocean. Happily, Captain Nares' past Arctic experience will keep him fully alive to this danger. On the other hand, winter will now be fast approaching; and it will be a race against time, in which we can only hope Providence will so far favour our seamen, that what the Americans, in Hall's Expedition, were fortunate enough to accomplish, may be granted to H.M.S.'s Alert and Discovery, and that in lat.  $81^{\circ} 30'$  or  $82^{\circ}$  N., about Hall's farthest points, good winter-quarters may be secured for one ship on the Greenland shore. The Alert now alone will tackle to her work, and in whatever days of mild weather or open water may remain in September, struggle to reach a position well to the north of, but not exceeding 200 miles from her consort. By this means, and with intermediate depôts of provisions, it is calculated that the safety of the crews in their retreat, should it be necessary, to Baffin Bay, will have been secured.

The advance-ship it is expected, with its crew strengthened by a portion of that of the depôt-ship, will have at least six strong sledge parties and four dog-sledges, with which to attempt the accomplishment of the main object of the Expedition, that is, reaching the North Pole. But it must be borne in mind that sledge-travelling has never yet been found practicable over any considerable extent of open frozen sea, and that everything depends upon the conditions of land and water that may be found in the progress northward. The sledge-operations will commence from the advance-ship, should it have attained the high northern latitude here indicated, in early spring; and all the sledge companies will be employed in the first instance in pushing forward the North Pole party, which will be provided with at least one boat, before attending to any other exploration. Meantime communication will be kept up, if possible, by means of dog-sledges between the two ships, and Captain Nares will rejoin his consort towards the end of the summer of 1876, if his parties have returned with reasonable success

from their spring journeys towards the Pole. In the latter eventuality, and if no serious accident happens to either ship, both vessels will return to England in that year; but if another season should be absolutely necessary in order to complete a reasonable amount of exploration, it may be necessary for the advanced ship to fall back towards her consort, or for the latter to retreat to a more southerly position whence a final withdrawal might be more certainly effected. Regarding these and other points, the instructions furnished to Captain Nares leave him a free choice of action according to the circumstances that may arise.'

The Committee referred to in the preceding statement of Sir H. Rawlinson, consisted of Rear Admiral G. H. Richards, Rear Admiral F. L. M'Clintock, and Rear Admiral Sherard Osborn, all distinguished by their achievements as Arctic explorers, and all gentlemen perfectly competent as regards talents, professional, and general knowledge, to give the best advice as to the scope, route, and general conduct of the proposed Expedition.

The principal recommendations of the Committee have been given in the remarks of Sir H. Rawlinson, and they were the basis of the Admiralty instructions to Captain Nares. The Bloodhound (renamed the Discovery), was purchased from Messrs. Baine & Johnstone, Greenock, and it and the Alert were fitted with everything necessary for the work they had to do, and the perils they had to encounter. The company of the Alert consisted, in addition to the captain, of 1 commander, 5 lieutenants, 2 surgeons, and 52 petty officers and men, including 7 marines. The officers were Commander Markham, Lieutenants Aldrich, Giffard, Parr, May, and Egerton. Captain Feilden, R.A., was attached to the ship as Naturalist. The surgeons were, Fleet-Surgeon T. Colan, and Surgeon Moss.

Captain H. F. Stephenson was appointed to the Discovery, and was consequently second in command of the Expedition. His company consisted of 5 lieutenants, 2 surgeons, and 48 petty officers, marines, and sailors. The officers were, Lieutenants Beaumont, Rawson, Archer, Fulford, and Conybeare; the surgeons were, Staff-Surgeon Ninnis, and Surgeon Coppinger. Mr. Chichester Hart was appointed as Naturalist to the Discovery. Both vessels were furnished with provisions for three years, and everything that could be suggested in the way of clothing, medicines, &c., was supplied in the most ample manner. The pay of all, both officers and men, was to be doubled from the date on which the vessels left England.

Coal is the most important item in the naval stores required for Arctic voyaging. That used by the Expedition was specially prepared

and dressed, so as to occupy the minimum of space, while being of the best quality, it gave the maximum amount of heat.

The Discovery, which had been specially built for whaling purposes, did not require so much alteration as the Alert; but still a great deal had to be done. In the latter vessel, several rotten timbers had to be removed<sup>2</sup> the planking was doubled, and the bows fortified inside and outside, to enable it to resist the 'nip' of the ice. Iron plating was bent all round the stems of both vessels, which were further strengthened by diagonal crutches. Each side of the bows, again, was fortified with iron plates placed on an extra sheathing of wood, called ice-chocks. The fore compartments of each ship became thus nearly as strong as the ram of an iron-clad.

Sir L. M'Clintock superintended the fitting out of the vessels, in which he was ably assisted by Messrs. Froyne and Anstey; and to the indefatigable labours of these gentlemen a great deal of the success of the Expedition is due.

The official instructions were issued to Captain Nares on the 25th May, and little time was lost before the vessels were on the ocean. In the meantime, every mark of good will and feeling was given to the Expedition, both at home and abroad. All interested in Arctic discovery showed their sympathy; frequent visits were paid by old explorers to Portsmouth while the vessels were fitting out; and we regret to say that, shortly after one paid by Rear Admiral Sherard Osborn, that distinguished officer died, so that he was unable to see even the commencement of the work to advance which he had laboured so long and so earnestly.

The United States Government was communicated with regarding the stores of the Polaris Expedition sent by it in 1871; and in the handsomest manner it placed everything of that nature in Thank God Harbour, in Robeson\* Channel (which lies between Grinnell† Land and Greenland), the winter quarters of that Expedition, at the disposal of Captain Nares.

The Mayor and Corporation of Portsmouth entertained the officers and company of both vessels at a banquet on the 22nd, and on the 29th they left the harbour of that city amid the loud cheers and fervent good wishes of the immense crowd assembled.

On the 30th May the ships passed Lizard Point, and on the 1st June, anchored at Bantry Bay.

\* So named after the Secretary to the Naval Department, Washington.

† Called after an opulent New York merchant, the founder and first president of the American Geographical Society, and a munificent supporter of maritime enterprise on the part of his countrymen. He died in 1874.

Here they were joined by the Valorous, Captain Jones, which was sent by the Admiralty to accompany the Expedition to Baffin Bay, to supply them with coal, stores, &c., and to bring back the last intelligence from Captain Nares.

The voyage across the Atlantic was stormy, and the vessels parted company, but were all at Disco Island on the 5th July. Here they were to make their final arrangements in the way of coaling, &c.; and here, also, they were to purchase dogs, and to hire Esquimaux to look after them.

The services of Niel Christian Petersen had been volunteered in London, and accepted by the Admiralty. He was a Dane, accustomed to Arctic travelling, and qualified to act as interpreter, from his knowledge of the Esquimaux language. Sixty dogs were purchased, and two natives hired. One of them was Hans, who had accompanied Captain Hall in the *Polaris*, and who had shown himself most faithful and intelligent; he rendered most important aid to Captain Stephenson's command at a very critical emergency.

In all the arrangements, the Danish Inspector of North Greenland, Mr. Krarup Smith (Disco, it may be remarked, and that part of Greenland, belongs to Denmark), and his fellow-officials, rendered excellent help. They were indefatigable in their exertions, and gave all the information in their power.

On the 16th the ships left Disco, and proceeded to Ritenbenk and Upemvik; the health of the officers and crew was excellent; there was no one sick on board, and the utmost hope and enthusiasm for the success of the work before them filled every bosom.

Captain Nares was to leave records of his progress at some place, either at Littleton Island, or at Carey's Islands; and the *Pandora* afterwards visited the entrance to Smith Sound, in order to take these records, communicate the last news of the Expedition to the Admiralty, that help, if need be, might be despatched to a suitable place.

NOTE.—An explanation of the following terms used in the narrative will be useful. *Hummock*, a raised mass of ice, formed by the collision of two floating pieces. *Floes*, level floating masses of ice, varying in extent and thickness. *Bergs*, raised masses of ice.



## CHAPTER II.

IN SMITH SOUND—RECORDS OF THE POLARIS—THE PACK—CAPE FRAZER  
—THROUGH KENNEDY CHANNEL—THE WINTER QUARTERS OF THE  
DISCOVERY—IN ROBESON CHANNEL—FLOEBERG BEACH—PALÆO-  
CRYSTIC SEA—FINAL IMPRISONMENT IN THE ICE.

ON the 22nd July 1875, the Expedition left the island of Upernivik, and that date may be taken as its farewell for the time being to home and civilization, since, except the slight intelligence from Carey's Islands, alluded to further on, all trace of its whereabouts was lost until the unexpected reappearance of the Alert off Valentia Island in October 1876. From that date, too, the real difficulties of Arctic exploration may be said to have commenced. Navigation in high latitudes is quite as much an affair of chance as of skill; and the narrative we are about to place before our readers will show that, at least in the outset, both these important elements were in favour of Captain Nares and his command. The obstacles and dangers to be experienced may be summed up in the one word—ice. This is the uncertain factor in Arctic voyages; and no conclusion can be drawn from its condition in any year as to the probability of success in the following year. When the winter sets in, the ice gathers around the ship, preventing all motion; when spring returns, and when the influence of summer rouses into activity the fountains of the deep, the fate of the ship in the midst of the floes and bergs is largely dependent on chance. The ice generally moves in masses, in some places tolerably flat, in others more or less elevated, but all moving in a direction depending on the wind or tide, or both combined. The ice thus set in motion generally extends for miles; and it is the object of every experienced Arctic navigator to avoid getting into the 'pack,' as the floating mass is called. Once the ship is thus enveloped, it can scarcely get free; it must move with the surrounding ice, and it is greatly exposed to the danger of being 'nipped' between two colliding masses, the force of which is very powerful. In order to avoid the danger and delay consequent on being involved in a pack, the captain generally hugs the shore; he is thus able to shelter his vessel when the current is too strong; and he is at

the same time ready to take advantage of any temporary opening. In sailing from Baffin Sea to Smith Sound, or any of the adjoining channels, ships generally coast the shores of Melville Bay, which is at its north-east border. Captain Nares, however, boldly deviated from this practice. Judging from the indications of the barometer, the direction of the wind, and other meteorological observations, he concluded he would be able to sail directly for Cape York; and, fortunately, his expectations were realized. He arrived off that cape on July 25th, and, most likely, it is to his deviation from the ordinary course a great deal of the success actually achieved is due. There were several occasions on which the opportunity of proceeding would have been lost, had the vessels been even a few hours later, so that the time saved by avoiding the Melville Bay coast was eventually most important.

When land was sighted, the *Discovery* proceeded to Cape York, on the opposite coast, to communicate with the Esquimaux, and endeavour to procure the assistance of a brother of Hans; in this Captain Stephenson was not successful. The *Discovery* then joined her consort at Carey Islands, where both vessels landed a dépôt of 3600 rations and a boat. As our narrative will make frequent mention of this kind of duty, a few words of explanation will not be amiss. An Arctic Expedition resembles, in many respects, the advance of an army into an enemy's country. A prudent general will always look carefully to his base of operations, securing it as he advances, and providing for a retreat. The ice is the great enemy of Arctic explorers, and a very destructive one it has frequently proved. We have explained the dangers of the 'pack,' and many vessels have been shattered in its midst. Again, when a ship has once been frozen into its winter quarters, its chance of escaping is sometimes problematical. Even when the ice breaks up, the vessel may not be able to make its way to open waters, and the limit to its purposeless drifting must necessarily be very brief. In all such cases, the vessels must be abandoned, and the crews must make their way as best they can to the nearest place of relief. Failing to reach the latter in proper time, their fate is sealed. Thus, the vessels which composed Sir John Franklin's Expedition were abandoned in the month of June 1847, and the survivors endeavoured to journey southward. To use the simple language of the Esquimaux, when questioned by Captain M'Clintock, 'they dropped as they walked.' Some of their skeletons were found by the members of the Fox Expedition just where they fell. Had dépôts of provisions been placed beforehand upon their attempted route southward, their chance of escape would have been far greater. It was thus a wise precaution of Captain

Nares to place such a large store immediately at the entrance to the scene of his interded operations.

Having performed this important duty, the two captains examined Littleton Island, the scene of the wreck of the *Polaris*. Here they discovered some boxes of books, instruments, and the remains of food and clothing. A cairn was erected by the new comers, and some records deposited. At this period matters looked promising, the sea was clear of ice, and both vessels sailed across Davis Strait to Cape Isabella, where another cairn was erected, and records and provisions deposited. Then an attempt was made to reach Cape Sabine, and in its neighbourhood was the first serious encounter with the ice. The *Discovery*, which led, was beset by the pack, consisting of floes from six to twelve feet thick ; and the *Alert*, which was comparatively free, had to await the movements of her consort. They finally anchored near the Cape, in Payer Harbour, and the two captains ascended the adjoining hill, to have a good look-out.

If the aspect of affairs at Littleton Island was reassuring, that at Cape Sabine was decidedly the reverse. Nothing but ice was seen to the northward, in Smith Sound ; but as the experienced navigator does not easily allow himself to be lulled into a false confidence, so he is not readily given to despondency. Seeing that they could not for the moment go on, Captain Nares decided on exploring Hayes Sound, and after sailing twenty miles, the vessels anchored in a snug harbour, near a valley which had game in abundance, and was, for the locality, rich in vegetation. Using the right of the first comers, the name of Twin Glacier Valley was given to this region, the title being suggested by two glaciers advancing in opposite directions, and struggling for the mastery. The vessels then steered for Cape Albert, which they reached on the 6th August. The portion of Hayes Sound examined is bordered by high cliffs, and the glaciers are of stupendous dimensions. Princess Marie Bay was crossed, and Franklin Pierce Bay reached on the 8th August. It may be remarked that considerable difficulty was occasioned by the charts delineating this portion of the coast. It was first explored by Admiral Inglefield, who named the principal headlands, &c. ; but the American navigators, Drs. Hayes and Kane, who afterwards visited this region, changed the names thus given, thereby violating the established usage in the case of first discoverers. Had they been content however, with this, comparatively little harm would have been done ; but they entered their positions wrongly on the charts, which are thus very misleading. On the 11th August, they left Franklin Pierce Bay, and skirted the coast to Cape Hawks and Washington Irving Island, the latter being at the entrance to Dobbin Bay. The length of time



spent in making such a comparatively short distance was occasioned by the obstacles presented by the ice. It is on such occasions that the captain of a ship has the most anxious and trying times. When his vessel is in winter quarters, he has comparative ease, though of course he has always the weighty burden of responsibility. But in struggling through the ice, he knows no rest, save what exhausted nature imperatively demands. Besides overcoming the obstacles immediately around the ship, he has to determine in which direction to head his vessel after its escape, so as to avoid fresh difficulties; and for this purpose an elevated position is indispensable. The 'crow's nest,' near the mast head, is the position best adapted for a look-out; but our readers, though the vast majority of them have never visited these high latitudes, can well imagine that to be perched in such a place is the very opposite of comfortable. Yet here Captain Nares spent nearly all this trying time, scanning the horizon, and giving orders to his crew below. Presence of mind and readiness of resource are indispensable to both officers and men in such a situation as that of the *Alert* and *Discovery*, during August and part of September 1875. When they could manœuvre round the ice, that naturally was the course adopted; but frequently main force alone could avail. When the ice was on all sides, and a way out should be made, the ships had to be forced, with full steam on, against it, so as to break through. Here the laws of mechanics received a singular illustration. Our readers know what a difference a good swing makes if they have to strike a heavy blow with a sledge or similar implement. When there was a space behind, the vessels were backed, before their final rush against the opposing barrier; but when there was no room for this operation, it was astonishing what little effect was produced. To obviate the inconvenience of the latter state of things, the ships had frequently to push backwards and forwards until the necessary space was formed in the rere. When the barrier of ice was too thick to be overcome in this manner, it had to be cut through with axes or saws adapted for the purpose, or blasted with gunpowder. It can be easily understood, then, why it took a week to get from Cape Louis Napoleon to the entrance of Kennedy Channel. Between the former and Scoresby Bay is Cape Frazer, generally regarded as a most critical 'milestone' in the navigation of Smith Sound. Here the tides from the Atlantic and Polar Oceans meet, and a constant accumulation and shifting of icebergs is the result. Here Captain Nares observed a difference in the character of the ice-floes and bergs coming from the north through Kennedy Channel, and those met in Baffin Bay and Smith Sound. The former were much thicker, the surface being studded over with worn down

hummocks of the blue bottle-glass colour which denotes great age. This was significant, and augured badly for the chance of meeting the 'Open Polar Sea' described by geographers who drew on their imaginations for their facts.

When a vessel is exposed to the dangers of the ice pack, preparations are made to abandon her if need requires; a store of provisions and other necessities is placed on the deck; and the haversacks are filled with what would be most useful in case of an emergency. Thus, if the 'nip' of two bergs should unfortunately crush the ship, the crew would have the boats, and at least a small stock of provisions. The rudder and screw, likewise, are so arranged that they can be taken up when in danger of breakage; and this operation had to be performed repeatedly by the crews of the Alert and Discovery.

Some days were spent in battling with the ice near Cape Frazer; but knowing that the case was desperate, Captain Nares, on the 19th August, risked boring a passage for two miles, which led him to a channel round the dreaded cape, and by 9 P.M. on that day he was fairly into Kennedy Channel. Keeping still to the west coast, the vessels passed Scoresby Bay, and on the 20th August reached Cape Collinson. Here they were forced by the ice to leave the shore they had hugged so closely for so long a time, and to keep the middle channel until Lady Franklin Island was reached. They sailed along in this course between John Brown Land on the east, and Carl Ritter Bay on the west, until they neared Cape Bryant, when an attempt was made to reach again the western coast, but the ice could not be passed. The vessels bore up for Cape Bryant, and passing this, the Discovery landed 240 rations at Cape Morton. This promontory is 2000 feet high, and as the day was clear, the opportunity was too good to be lost, so Captain Nares ascended, when a magnificent spectacle met his gaze. Looking north, Cape Sumner was plainly visible at a distance of 50 miles, on the eastern side of Robeson Channel, and Cape Union, 70 miles on the west. Thus the most prominent points on these portions of the shores of Greenland and Grinnell Land were within the field of view. But better than the majestic scenery—at least in the imagination of an Arctic explorer—was the prospect that met his eyes when he looked towards Lady Franklin Sound, and the peninsula of which Cape Lieber is the northern extremity. The sea in that direction was open, and still farther to the north could be discerned navigable streams of water through the ice. This opportunity, just at the close of the season, was too good not to be taken advantage of at the moment, so without an instant's delay Captain Nares hurried to the boat, and gave at once the signal to the vessels to get under way. When he got on board, their

course was shaped for the north ; but 5 miles from Cape Lieber the inevitable pack met them, and forced them to enter Lady Franklin Sound. Here a good harbour was discovered, formed at the entrance of the sound by an island which they named after the gallant French Arctic explorer, Lieutenant Bellot.

On examining the locality and the situation of the harbour, Captain Nares came to a most important decision. Finding a well sheltered position, with the promise of game (nine musk oxen having been killed shortly after entering the harbour), and the vegetation on the shore richer than in any place visited since Smith's Sound was entered, he determined to leave the *Discovery* in winter quarters here, and to proceed as far north as he could in the *Alert*. The advantages of this plan were obvious. The *Discovery* was safely anchored, and in a good position for autumn, spring, and summer sledging ; it would thus be an excellent station for retreat in case the *Alert* had to be abandoned, while the latter could work as far as possible to the north, with the certainty of security in the rear, in case of misfortune. He was led to hope for favourable results in his northward advance ; the short Arctic season for navigation was still at its height, and the ice in Robeson Channel was broken, thus promising a reasonable chance of a passage. Accordingly, he gave Captain Stephenson the necessary orders, and made preparations for his own departure in the *Alert*. The general instructions for this event were issued as early as 1st August, and they provided for all probable contingencies. Captain Stephenson was to land a depôt of provisions, to explore the surrounding country as much as possible, during the coming autumn, and to prepare for the arduous work of the following spring. In case he did not hear from the *Alert*, he was to explore the northern coast of Greenland, and to order his parties to rendezvous at a certain point, where they would likely hear tidings of the other vessel. Failing this, he was to assume they had secured a higher latitude than was anticipated, and Captain Stephenson in that event was to communicate with the Admiralty through Smith Sound, in order that relief might be sent to the east coast of Greenland, to meet Captain Nares. Undoubtedly these instructions were sound and judicious, though they now seem a little ludicrous, since we are able to contrast the performance with the promise they foreshadow. The final arrangements having been made, the *Alert* parted company with her consort, on the 26th August 1875.\*

The crew of the *Discovery* viewed the departure of their comrades

\* These directions were in conformity with the recommendations of the Arctic Committee referred to at page 23, upon which the official Admiralty instructions to Captain Nares were based.

with feelings of despondency. In the first place, the latter were about to encounter unknown dangers, to separate from them certainly for an indefinite period, perhaps for ever. In the next place, if their own position were less dangerous, their chances of sharing in the honours and distinctions were proportionately diminished. The countenances of those who watched the receding vessel were gloomy. Captain Stephenson, observing this, addressed a sailor-like harangue to his melancholy crew, explaining the plan of the campaign, and pointing out the necessity of the separation. He showed them that they, too, had their share of duties and risks, and that most important work was reserved for them in the ensuing spring. The oration had the desired result; the lengthened countenances began to assume a less lugubrious expression, and at the close, the sailor-like response of three cheers was given. An order, obeyed with the utmost alacrity, to 'splice the main brace,' completed the effect.

Leaving the Discovery in her snug winter quarters (we omitted to state that the harbour where she spent eleven dreary months was called after herself), we follow the fortunes of the Alert. Lieutenant Rawson and seven men having been added to her crew from the Discovery, her complement of men and officers was raised to 70. She steamed out of Discovery Harbour, and proceeded north through Robeson Channel; but she had not got far when an incident occurred which boded ill for her chances of realizing the promises shadowed forth in Captain Nares' instructions to Captain Stephenson. Having passed what was afterwards called Watercourse Bay, and having reached Cape Murchison, the wearisome pack prevented further progress, and the weather looking threatening, there was no alternative save to return to Discovery Bay. Here she was forced to remain till the 28th, when, there being a favourable chance for leaving, a final good-bye was signalled to the Discovery, and Cape Beechey, 15 miles north-east of the harbour, was reached. Here an accident occurred to the rudder, and the ship had to be secured inside some grounded ice. Some musk oxen were killed; and on the following day an opening being observed in the ice, sail was made towards Lincoln Bay. There was an exciting, in fact a neck-and-neck race, between the Alert and a heavy floe, to Cape Frederick VII.; had the floe won, the progress of the former would have been stopped; but steam and science secured the victory over ice and drift. In Lincoln Bay a depôt of 1000 rations was established, and an effort made to get further north. Here the change in the character of the ice to which we have previously adverted, was strikingly apparent. We quote Captain Nares' own words on the subject:—'Since meeting the ice off Cape

Sabine I had noticed a gradual but considerable change taking place in the character and appearance of the floes. The heaviest that we first encountered were not more than eight or ten feet in thickness. Off Cape Frazer were a few more ancient pieces, estimated at the time as being 20 feet thick, but we now know this was far short of the correct measure. But up to the present time, when the main pack consisted of heavy ice, I had failed to realize that, instead of approaching a region favoured with open water and a warm climate, we were gradually nearing a sea where the ice was of a totally different formation to what we had ever before experienced, and that few Arctic navigators had met, and only one battled with, successfully; that in reality we must be approaching the same sea which gives birth to the ice met with in the coast of America by Collinson and M'Clure, and which the latter, in 1851, succeeded in navigating through in a sailing vessel for upwards of 100 miles, during his memorable and perilous passage from the north-western shores of Bank's Land, from Prince Alfred Cape to the Bay of Mercy, but there sealed up his ship for ever; which Sir E. Parry met with in the same channel in 1820, but with the more difficult task before him of navigating against stream and prevailing wind, was forced to own conquered even him and his experienced companions; which, passing onwards and eastwards down M'Clintock's Channel, beset and never afterwards released, the *Erebus* and *Terror*, under Sir John Franklin and Captain Crozier; and which, intermixed with light Spitzbergen ice, is constantly streaming to the southward along the eastern shore of Greenland, and there destroyed the *Hansa*, of the German Arctic Expedition.' He elsewhere describes the aspect of this ice, as it appeared near Lincoln Bay, about the period of the voyage with which we are now concerned:—'The projecting point of a heavy floe would first ground in from ten to twelve fathoms water; then the outer mass, continuing its course, unable to stop its progress, would tear itself away from its cast-off portion. The pressure, however, still continuing, the severed piece was forced, and frequently by the parent mass itself, up the steeply-inclined shore, rising slowly and majestically out of the water ten or twelve feet above its old line of flotation, and remaining nearly usually upright. The motion was entirely different to that produced when two ordinary floes, some four or six feet thick, met together; then the broken edges of the two pieces of ice, each striving for the mastery, are readily upheaved and continually fall over with a noisy crash. Here the enormous pressure, raising pieces frequently 30,000 tons in weight, in comparative silence, displays itself with becoming solemnity and grandeur. What occurs when two eighty-foot floes meet, we cannot say; but the result, as far as a ship is concerned,

floating as the ice does higher out of the water than herself, would be much the same as the closing together of the two sides of a dry dock on the confined vessel.'

The Alert had to remain near Lincoln Bay for some time; but on the 1st September an opening occurring between the western shore and the pack, sail was made, and the vessel passed northward at the rate of  $9\frac{1}{2}$  knots per hour. At noon on that day, the ship was in latitude  $82^{\circ} 24'$ , a higher latitude than had ever been attained by any vessel; and the ensign was hoisted at the peak in honour of the event. The Alert had now left Robeson Channel, and fairly entered the circumpolar sea\*; but its onward career had now come to a close. In battling with the ice an effort had to be made to clear the pack and escape the southward drift; the vessel accordingly was brought inside a floe-berg, near Cape Sheridan, a point at the north-east of Grinnell Land. Though intended to be merely a temporary station, fate ordained it should be the prison of the Alert for many weary months; the ice formed around, and escape was scarcely possible. The station being exposed, Captain Nares despatched Lieutenant Aldrich to seek a better harbour; but none could be found, so they had to be content with Floeberg Beach, as their station was named; and after events showed that this chance-given harbour was the best they could have selected, had choice been possible.

Thus early in September 1875, both the Alert and Discovery were finally established in their winter quarters, the former in Floeberg Beach, latitude  $82^{\circ} 24'$  N., longitude  $61^{\circ}$  W., and the latter in Discovery Harbour, latitude  $81^{\circ} 44'$  N., longitude  $64^{\circ} 45'$  W. This will be a suitable occasion to take a glance at the progress of the Expedition thus far, and its future prospects. Up to this date, everything had gone on favourably. Both vessels had attained a very high latitude, without sustaining injury or loss of men; they were amply provisioned, and in very favourable positions for the spring campaign. So far, all reasonable anticipations had been realized, and all parties, except perhaps Captain Nares himself, looked forward with hope to the opening of the season. A few words concerning the geography of this region will be here opportune. Robeson Channel opens into the circumpolar sea, forming a communication between the latter and Hall Sound, named after the ill-fated commander of the *Polaris*. The channel has Greenland on the east, and Grinnell Land on the west, has a coast consisting of steep cliffs in some parts, while in others the ice is piled up to the height of 30 or 40 feet, broken here and there by glaciers and water-courses. The regions north were the subject of much speculation, and of

\* Since named by him the 'Palæocrystic Sea,' or 'Sea of Ancient Ice.'

brilliant visions on the part of imaginative geographers. It was stated, and with considerable confidence, that there was an open sea, extending to the Pole, and that land, either Greenland or Grinnell Land, or some islands adjacent, stretched away in the same direction. The climate was described in such terms that one might imagine himself reading of a happy valley. It is not easy to understand how such a delusion could last for any time. That such things as an open Polar sea and a favourable climate could be found in such a situation was so contrary to reason and experience, that nothing but the clearest testimony could establish their existence. From the position of the Pole with regard to the sun, an extreme of cold should be expected near it;\* and experience has invariably proved that every advance into high latitudes, north or south, was accompanied by a corresponding decrease of temperature. The evidence to establish the existence of the open Polar sea, and of Polar land, was of the slenderest description. Some of the look-out men from the *Polaris* and other vessels reported the appearance of land in that direction; and from the *Alert* and the stations of its sledging parties hazy clouds were seen; but it was plainly absurd to take such appearances as certain proofs of the existence of land. Naturally the crew and officers of the *Alert* cast long and inquisitive glances to the northward, to see if the horizon there would reveal the land or water of promise, but nothing could be seen to support the over-flattering tale. What the horizon really contained will be seen further on.

\* The sun shines without intermission for six months upon the Pole itself; but the heat transmitted by its rays must be comparatively trifling in amount from their great obliquity when they strike upon the earth. Again, its complete absence for six months must, to a large extent, counteract the effect which the accumulation of heat for the preceding six months might be expected to produce.



### CHAPTER III.

AUTUMN WORK—SLEDGING PARTIES—THE DEPARTURE OF THE SUN—  
WINTER IN THE ARCTIC REGIONS—WORK AND PLAY—THEATRICALS  
—THE ROYAL ALEXANDRA THEATRE—GUY FAWKES IN ROBESON  
CHANNEL—CHRISTMAS AMIDST THE ICE—RECOLLECTIONS OF HOME.

AND now the work of preparing for the winter commenced. Both vessels were anchored safely in the beginning of September 1875, within about sixty miles of each other ; there was one difference between their circumstances, however ; the crew of the Alert knew where their comrades of the other ship were stationed, but the denizens on board the Discovery were ignorant of the whereabouts of their companions. When they saw them disappear in the north, the future progress and position of the Alert could only be matter of speculation ; whether they were to meet again in the spring, to work together in the endeavour to carry their glorious enterprise to a successful conclusion, or whether they had parted, perhaps for years, or perhaps for ever—all was in the womb of time. In the meantime, the prospects were encouraging to the experienced Arctic travellers. A very high latitude, higher than any hitherto attained by ships, had been reached ; the vessels were safely anchored, in good condition, and well provisioned ; the crews were remarkably healthy and in excellent spirits ; all, both officers and men, were evidently desirous to prosecute the work of exploration to a successful conclusion ; and everything that experience and foresight could suggest had been provided by the Government for their use. The locality in which they found themselves, though imperfectly known, was not an absolute *terra incognita* ; Sir E. Parry, Dr. Kane, and Captain Hall had previously visited these regions ; and the records of their voyages were in the possession of the commanders of the expedition. There was thus every reason to suppose that they would next year be able to accomplish something decisive.

But, while the autumn daylight lasted, it was necessary to utilize it as far as possible. The sun did not set until the 16th October, and much could be done in the interval, before the winter darkness completely enveloped them. Provisions were landed and safely secured, in case fire or other accident should drive them from their ships, and sledging parties were organized to explore the surrounding



localities as much as possible, to make deposits of provisions for the use of the spring expeditions, and to procure game. As we purpose to explain fully the mode in which these parties were equipped and organized, when we come to the narrative of the spring operations, we shall merely state here that they are of two descriptions, dog and men parties. For the former, a number of the Esquimaux dogs were attached to each ship; in the latter, the men themselves were the 'beasts of burden,' dragging their tents, food, and clothing along with them. Besides the direct objects of these parties, they were highly useful in accustoming the officers and men to the duty afterwards to be discharged. We do not purpose to give a detailed account of these autumn sledging parties; it is sufficient now to mention that four such parties were despatched from the Alert, and three from the Discovery. On the 8th September Lieutenant W. Rawson started to examine the country to the north of Cape Sheridan, where the Alert was stationed, and on the following day, another party, commanded by Lieutenant Pelham Aldrich, left the vessel on a pioneering journey towards the north. The former returned after an absence of two days, being unable to travel down Robeson Channel, either by land or water. Lieutenant Aldrich was four days absent, and was able to examine twenty miles of the coast of Grinnell Land, north of the Floeberg Beach. He had been accompanied by Captain Feilden, R.A., the naturalist attached to the Alert, and by Dr. Moss, the second surgeon of that vessel. Autumn sledging is especially difficult; the ice and snow are mostly in a state of 'slush,' and thus keep the travellers continually wet, while the rate of progress is unusually slow and laborious. On the 11th September an opening was seen in the ice, and taking advantage of this, Commander Markham started with a strong party for the purpose of exploring, and placing depôts of provisions. He was absent four days, going over the route previously traversed by Lieutenant Aldrich; but a furious gale occurred which put a stop to his further progress. One of his men, John Shirley, fell from sheer exhaustion, and became seriously frost-bitten; and Commander Markham pushed on in advance, in order to procure assistance for him as speedily as possible, leaving the remainder of the party to follow. He got his patient on board with considerable difficulty, the wind blowing furiously at the time, and Shirley fortunately recovered. Both Markham's and Aldrich's parties confirmed the impression of Captain Nares as to the non-existence of an open Polar sea, or of a Polar continent.

The principal danger experienced in these preliminary expeditions was from the moist snow and ice. The men getting wet, the evening cold froze their extremities, so that nearly every one suffered from frost

bites, more or less severe, while the sledges, too heavy for the support under them, were continually disappearing.

Accordingly, the work of sledging was deferred for some time, in order to allow the ice to become sufficiently strong; and on the 21st Sept. Lieut. Aldrich left with two lightly-equipped dog sledges to pioneer the road round Cape Joseph Henry, for a large party which was to follow; he was absent thirteen days, during which he attained a higher latitude than that reached by Sir E. Parry in his attempt to reach the North Pole by boats. While out, one of his dogs had to be cut adrift; but he afterwards rejoined the party, and the cause was then apparent. His appetite was far beyond what even an alderman would consider desirable; he ate harness, rope, leather, canvas, and on one occasion he even bit two inches out of the iron ladle with which he was fed. On the 2nd October Lieut. Aldrich reached a lake about ten miles south of Cape Henry. He broke the ice on its surface, to get fresh water, and some fish were observed swimming about; by means of a pin and a piece of bacon, he induced three of them to leave their quarters for the open air, and they were found to be a kind of trout. As may be imagined, they were not delivered to the tender mercies of the cook, but were packed in snow, and brought on board as specimens.

On the 25th Commander Markham started, accompanied by Lieutenants Parr and May. He was absent for nineteen days, during which he reached the exact latitude attained by Sir E. Parry, near which he placed a dépôt of provisions.

On the 2nd October Lieut. Rawson was despatched southward in order to open up communications with the Discovery; but he was unable to succeed. He traced, however, the coast line to Cape Union.

There were fewer sledging parties from the Discovery than from the Alert, and their researches were less important. A couple, conducted by the captain, explored Bellot Island, and the mainland near the ship. The latter was found to be extremely rugged, with cliffs and hills, some of the latter having an elevation of 2000 feet. The heavy snow in the ravines, and the moist state of the atmosphere, caused the area examined to be very limited. A few miles north of Discovery Harbour a valuable coal-bed was discovered, which may possibly play an important part in future Arctic expeditions. Game was sought for whenever practicable, and though the 'bags' were not very heavy, they were of great importance. The birds and beasts shot included eider-duck, ptarmigan, foxes, hares, and musk-oxen. The Discovery was much more fortunate in this respect than the Alert, owing, no doubt, to the greater exposure and severer climate of the land near the

latter. The crew of the Alert, while in winter quarters, killed six musk-oxen, twenty hares, seventy geese, twenty-six ducks, ten ptarmigan, one seal, and three foxes. The spoils of the Discovery's men were far more numerous. In the 'Lady of the Lake,' Sir Walter Scott tells us, as a proof of the keen vision enjoyed by Roland Græme, that

'Trained to the chase, his eagle eye  
The ptarmigan in snow could spy.'

and, if this skill be evidence of sportsmanship and sharp sight, there must have been a large amount of both among the members of the Arctic Expedition, since the number of these birds killed was very large. Besides affording relaxation and exercise, the addition to the dietary was both wholesome and agreeable. The disease to which Arctic voyagers are most liable is scurvy; and we shall have to relate afterwards the sad havoc this sickness made among the crews and officers of the Expedition, just when health and strength were most imperatively required. One great preservative against scurvy is a supply of fresh meat and vegetables; the next in potency is lime juice. Fresh vegetables could not, of course, be had; though there were some preserved on board. Surgeon Ninnis, of the Discovery, planted some mustard, cress, peas, and wheat, between decks, and transplanted them in May 1876, placing them under glass in the open air. This experiment succeeded very well; but, evidently, such an attempt at fancy gardening, under difficulties, could not be relied on to supply the wants of an entire ship's crew.

But the efforts of the sportsmen here stood the Expedition in good stead. The crews, especially of the Discovery, had occasionally fresh meat at their meals; and this was a valuable change from the ordinary ship's dietary, though the flesh of the musk-oxen was sometimes unpalatable. As its name denotes, this animal is a species of ox, with a strong flavour of musk from its flesh; but this taste is sometimes hardly perceptible, and is not equally strong in all parts of the body. More of these animals were expected to be found; it was supposed that the destruction wrought amongst them in 1871 by the crew of the Polaris either greatly diminished the breed, or frightened them away.

Early in October, Lieutenants Archer and Conybeare were despatched by Captain Stephenson to examine the upper part of Lady Franklin Sound, and especially a large valley called 'The Bellows,' extending into the mainland. The latter is a most romantic looking place. Its length is about ten miles, and it is surrounded almost at every part with hills and cliffs, nearly 1000 feet in height. The

names given by Lieutenant Archer to some of its prominent points afford a sufficient indication of their nature. They are, Bleak Point, Bifurcation Point, Devil's Back, Knife Edge, Black Rock Vale, &c.

But now the period had arrived when sledging and all parties of the kind had to be abandoned. We have up to the present, spoken almost of nothing but snow and ice; it may seem strange to our readers, when we say that the winter had now commenced. It surely, one would imagine, was winter ever since Melville Bay was crossed on the 22nd July; we can only say that there are winters and winters. Hitherto the radiant orb of day had shed, more or less, his beneficent influence upon our voyagers; the time was now at hand when they were to be deprived of his presence. On the 16th October 1875, the sun set; and for a period of 140 days, until the 4th of March, they were fated not to see his glowing orb. Preparations were made to pass this dreary time as well as they might; and so successful were the explorers in this respect, that Commander Markham was able to say on his return, at the meeting of the Royal Geographical Society, that the winter was the pleasantest part of the whole Expedition. From both vessels everything that could bear exposure was removed to the adjacent shore; large quantities of food, clothing, and other necessaries were carefully stored; as much as 10,000 rations, or sufficient for sixty men, of the first having been landed from the *Discovery*. As the conditions of each vessel were much the same, the one account of the preliminary preparations will do for both. All the 'between decks' was cleared out as much as possible, so as to afford plenty of space for living, sleeping, and ventilation. Every precaution was adopted to maintain the temperature as high as might be; and this had to be done with as small an expenditure of fuel as possible. For this purpose the vessels were banked with snow; and, singularly enough, in the case of the *Alert* this substance had to be brought from a distance in sledges, as a sufficient quantity could not be found in the neighbourhood of the ship. The decks, too, were covered with snow, and the external air excluded as much as practicable, consistent with ventilation.

The result of all this was, that, in those parts of the hull where there was no fire or other means of producing heat, the temperature remained constantly the same as the water around, namely, 27° or 28° Fahrenheit, while the external air was sometimes as low as 70° below zero. We shall have further on to direct attention to the equable temperature maintained by the water.

But more was required to enable the winter to pass pleasantly and profitably than simply to render the ship's company comfortable

in its interior. Confinement to quarters and idleness would inevitably produce sickness, both of mind and body; provision had to be made in order to procure healthful exercise for both. The ordinary duties of the ship were carried on, and the usual discipline observed; this, however, was not sufficient; out-door exercise was necessary. The officers were constantly engaged in scientific investigations; snow houses were constructed, and hourly magnetic observations were made, variations of temperature noted, and the rise and fall of the tide, the currents, &c., examined as far as possible. The weather and the atmosphere were not favourable for astronomical observations; but whatever was practicable in this way was done. Journals and logs were written; in short, whatever might be useful for scientific purposes hereafter received careful attention.

The men were compelled to spend a certain portion of each day in the open air, either for exercise, or the prosecution of some useful labour. In the *Discovery*, the crew constructed a skating ground, and a walk of about a mile in length. They also had to bring the water from a hole in the ice, the breaking of which was a daily employment. Sometimes the accumulation of ice for the night was so great that it had to be blasted with gunpowder; and the shock given to the surrounding ice was so great on these occasions, that it shook the ship embedded in it in every quarter. As the season advanced, it became impossible to have recourse to these measures every day, so the men had to bring ice from a convenient floe, which was melted to give the necessary supply. At the *Discovery*, too, a smithy was built of snow, which soon assumed a remarkable appearance, as the smith was accustomed to cool his heated irons by plunging them into the wall. Near the *Alert's* quarters, the men constructed a mound of about 70 feet high, and it was a favourite exercise to ascend to the top, and run down again.

But all work and no play will make Jack a dull boy; and means were adopted to provide recreation for the minds of our gallant blue-jackets as well as exercise for their bodies. There was 'school' held every evening, conducted by the chaplain and officers; and we daresay poor Jack profited in some measure by the infliction. Their ambition, however, soared higher than this. Readings, recitations, dances, songs—even theatricals—were attempted, and in their own opinion at least, not unsuccessfully. Captain Stephenson writes complacently, regarding the latter performances:—'Talent so versatile, I feel sure, cannot be found north of the Arctic Circle.'

Early in November, his company conceived the notion of having a regular and novel theatre; and Mr. Mills, the engineer, was

asked to be the architect. His designs were accepted, and a floe convenient to the vessel was chosen as the site. The foundation was laid upon the 13th November; and (incredible as it may seem to those whose misfortune it is to have dealings with architects and builders) it was completed and regularly inaugurated on the 1st December, the birth-day of the Princess of Wales. Need we say that the men worked double tides to have the task completed on that day, or that the building was called 'The Royal Alexandra Theatre?' It was 60 feet long, and 27 feet broad; the walls were made of ice and snow, and the roof of sailcloth and similar materials. There was a stage, a green-room, and a drawing-room, in addition to the auditorium—everything, in fact, complete. The first play was the farce of 'My Turn Next;' and performances afterwards took place regularly. Sometimes the officers were the actors, sometimes the men; it is unnecessary to say that there was a scarcity of actresses; and it was well the pieces selected were comedies, since Jack in petticoats would turn the most soul-harrowing tragedy into a screaming farce.

Little bits of home life and national customs made their appearance; and on the 5th November, Guy Fawkes was burned with much applause, both at the Discovery and Alert, and almost simultaneously.

Christmas comes but once a year, even in the Arctic regions; and it brought good cheer to our hardy navigators ice-bound in Robeson Channel, and on the borders of the Polar Sea. Some carcasses of sheep had been brought out by the officers from England; and suspension in the rigging was enough to keep them fresh. The American beef keeps sound in its passage across the broad Atlantic by being kept in a temperature reduced artificially. Nature was a sufficient refrigerator north of the Arctic circle. There was thus the means of giving the ship's companies fresh mutton for their Christmas dinner; and a jorum of beer (in that quarter more precious than grog, from its greater scarcity) washed down the welcome repast. There was no need to make our hardy sailors think of home on that day, so suggestive to all our countrymen; but the good folks there provided for us in advance. Some good friends had, with graceful kindness, thought of poor Jack when he would be endeavouring to promote the glory of his country in the midst of the darkness of a Polar winter near the 83rd parallel; and small as the gift of plum pudding and mince pies may seem, our readers may depend upon it that when, in the afternoon of the 25th December 1875, Captain Stephenson and his officers visited the forecastle, bearing with them a plentiful supply of these good things, the present was most gratefully received, not, indeed, from the ordinary festival feelings, but because it carried the

minds of the sailors back to home and country, and showed them that the latter was not unmindful of them in the midst of their hardships and privations.

Thus the winter passed away, not by any means so drearily as might be imagined. The duties of each day, and the equally regularly recurring amusements and exercise, would seem monotonous in the narration; but they were not felt so in the reality. Both mind and body were alike the objects of judicious care and forethought; and the medical officers attached to each ship discharged their duties with faithful attention. Thus when the spring came, there was not, perhaps, in any of Her Majesty's vessels sounder, healthier, or more cheerful crews than those of the *Alert* and *Discovery*.

One exception, however, must be made. Hans, the Esquimaux, who was taken on board at Proven Island, was not exactly like his English messmates. They were in the midst of their countrymen; he was a stranger in tastes, in habits, and his English being very imperfect, he could not be easily understood. Moreover, the life at winter quarters was monotonous to him; school, theatre, and other amusements were no relaxation; it was not remarkable, therefore, that he succumbed. For some time in January 1876, he appeared desponding, and his manners were strange; and on the 20th he was found absent from his quarters. Suspecting the cause, Captain Stephenson instituted a search, and his tracks were struck in the snow about two miles west of the ship, and a party was sent to follow them by the aid of lanterns. They found him in a snow hole in Bellot Island, and persuaded him to return. When the spring came, and he was employed in duties consonant to his habits of life, all these symptoms went away; and we shall see what excellent service he performed on a very trying occasion.

Speaking of the Esquimaux, we are naturally led to inquire how did his only compatriots in the neighbourhood get along? Nine of the dogs in the *Discovery* had died on the voyage up, from a disease endemic to these animals, but which was probably heightened, if not brought on, by their long confinement on board the ship. They were not very agreeable shipmates; and when the vessel was laid up in winter quarters, they were served with notice to quit. There were no fears of their deserting, as the daily ration of food was too tempting; and their hardy constitutions preserved them from the dangers of the climate. Snow houses were built for them by the sailors; but they showed a lordly contempt for comfort. They frequently coiled themselves in sleep on the top of their edifices, but they never condescended to enter them. That the climate is too severe even for

their breed was, however, proved, for of three litters of puppies which they bore during the winter, not one survived.

The dreariness of an Arctic winter is usually enlivened by meteoric appearances in the heavens; the Aurora Borealis and similar phenomena are constantly flashing through the sky, and thus a relief, most important to the sailors in such dreary solitudes, is given to the monotony of their daily life. In this respect, Captain Nares' Expedition was not fortunate; very few of these welcome visitants were seen, and then generally to the southward. As some of the men expressed it, 'You could see the Aurora Borealis much better in London.' The *Discovery* was more fortunate than her consort; the celestial phenomena were tolerably frequent and brilliant; and immediately before winter set in, the reflection of the departing sun upon the surrounding hills produced a gorgeous and artistic effect.

The temperature naturally varied very much, the lowest having been experienced in March. As some very exaggerated and absurd statements have been current on this point, we deem it right to mention that the lowest temperature registered at the Alert was  $73^{\circ}$  below zero, and near the *Discovery* at the same time (the beginning of March),  $70^{\circ} 5'$ . This means a degree of cold  $105^{\circ}$  below freezing point.





## CHAPTER IV.

THE SUN ONCE MORE—PREPARATIONS FOR THE SPRING CAMPAIGN—  
THE DELIGHTS OF SLEDGING—JOURNEY TO THE DISCOVERY—DEATH  
OF HANS PETERSEN—EXPLORING IN ADVANCE—LAYING THE DEPÔTS  
—VISIT TO POLARIS BAY—THE GRAVE OF CAPTAIN HALL.

THE advent of spring is heralded by welcome and well-known signs in every inhabited portion of the world ; and in the dreary regions of the north, its approach was both more sought for, and more marked than in our favoured regions. The 1st March brought back the sun, though its disc could not yet be seen for a few days, in consequence of the foggy state of the atmosphere. This was the signal for preparation in both the vessels. The outer covering of snow, which had for months rendered the ships little better in appearance than mounds or hummocks, was removed, and the light of day admitted below. Its searching examination revealed to the crews more of the condition of things in which they had been living than perhaps was welcome. But it was well the inmates saw the state of their winter quarters only when they were about to relinquish them, and so we gladly quit the subject, as did the crews.

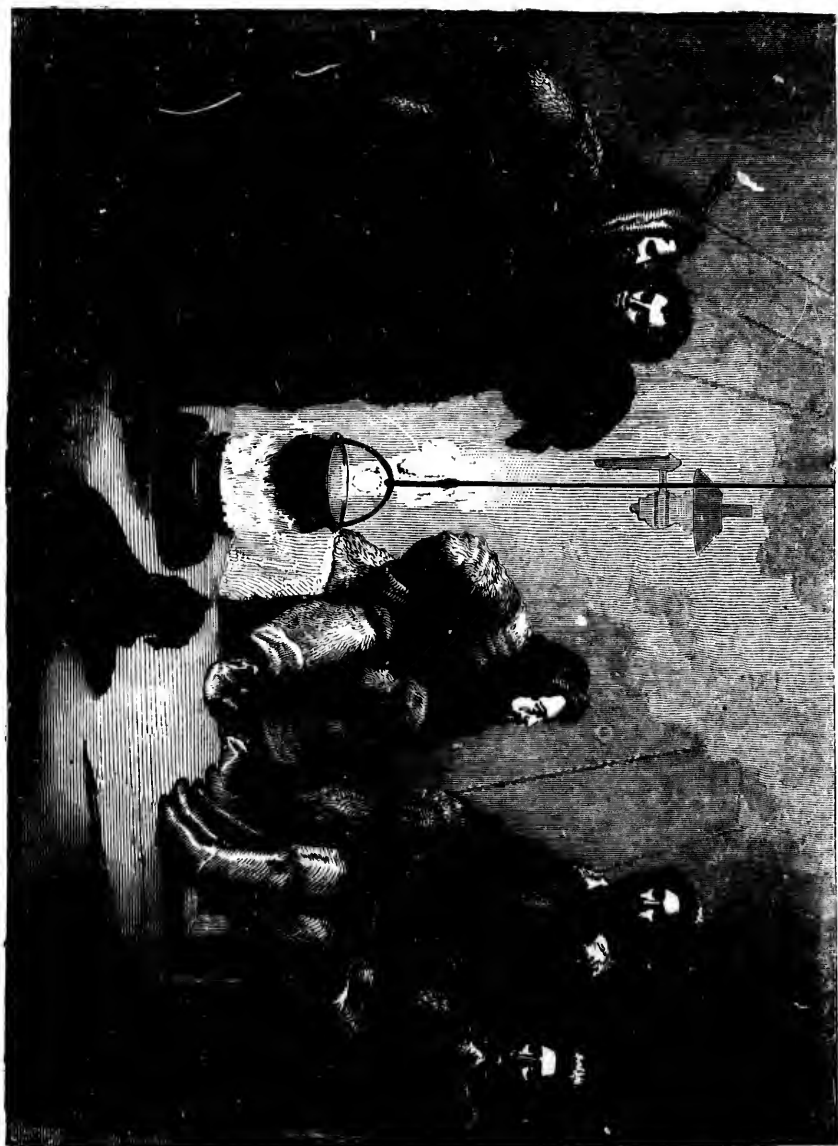
The plan of the Expedition, as arranged by Captain Nares, was as follows :—There were to be three principal sledging parties, two from the *Alert*, and one from the *Discovery*. One of the former, under the command of Commander Markham, was to proceed for a certain distance in company with the second, and on arriving in the neighbourhood of Cape Joseph Henry, was to start northwards into the Polar Sea, and endeavour to attain as high a latitude as possible, and then return. No hope of even approaching the North Pole was at this time indulged in by those who had charge of the Expedition. The second party, under the command of Lieutenant Aldrich, was to proceed northward along with Markham's command ; but when they reached the point of departure of this party, the second was to strike out to the west, along the shores of Grant Land, as the northern part of Grinnell Land is called, survey and explore its shores as far as possible, communicate with any of the *Discovery's* men they

—  
ATH  
ôrs

signs  
s of  
cked  
the  
con-  
gnal  
now,  
ance  
day  
rews  
than  
ate of  
hem,

was  
, two  
under  
ertain  
neigh-  
o the  
e, and  
was at  
The  
was to  
n they  
was to  
orthern  
res as  
n they

CAMPED IN THE ICE.



might meet, and then return to the ship. The third party from the Discovery was to cross Robeson Channel, and from its north-eastern coast advance along the northern shores of Greenland as far as their provisions would allow them. Both of the last named parties were to keep a sharp look out for anything in the shape of a Polar continent, though it is evident, from the journals of both commanders and men, the existence of such a *terra incognita* was not an article of faith with the explorers.

But before these parties could start, some preliminary operations had to be undertaken. Minor parties were sent, for the purpose of exploring and placing dépôts for the use of the main parties. Captain Stephenson had been instructed to send a party across Robeson Channel, as early as possible in the spring of 1876, to examine the condition of the dépôts left in Polaris Bay by the Expedition commanded by Captain Hall, and to see if they could be utilized by the present Expedition.

As, however, there had been no communication between the vessels since the 28th September 1875, it was deemed advisable to let each know the condition of the other before anything further was begun. The Discovery was in entire ignorance of the whereabouts of the Alert. As the latter knew where its consort was, it devolved upon Captain Nares to take the necessary steps. Accordingly, on the 12th March, Lieutenants Egerton and Rawson, accompanied by the Danish interpreter, Niel Christian Petersen, started on their journey south, through Robeson Channel, with a dog sledge. Their journey was equally brief and unfortunate. On the second day Petersen complained of illness, and on that night, after camping, got much worse. He had cramps in the stomach, was constantly shivering, and got frequently frost-bitten. His two companions did what they could for him, gave him medicine, and wrapped him up as comfortably as they were able; but he could not eat, or at least retain what he swallowed. He had a constant craving for cold water, which the officers did not wish to give him, thinking it injurious; but at night he left his sleeping-place for the purpose of swallowing snow. When asked by Lieutenant Egerton where his feet all right, he said they were; but on examination, they were found to be completely frozen, the sense of feeling having departed. They set to work with hands and flannels, and by constant rubbing for a couple of hours, succeeded in restoring the circulation.

Under these circumstances it was hopeless to attempt to proceed, and they decided to return to the ship. The 14th March was very stormy, so they had to remain in their quarters all day in no enviable

condition. On the 15th matters were little better, but it was necessary to push for the ship at all hazards. After a time, they strapped Petersen on the sledge, and reached the ship in the evening. They had to stop repeatedly to rub his face and hands, as he was continually frost-bitten. When got on board, all that was possible was done for him by Dr. Colan; but it was found necessary to amputate the front part of his feet. For a time he appeared to be doing well; but the shock to his system was too severe, and he died in the following May.

On the 20th of the month another and more successful attempt was made to communicate with the *Discovery*, the same officers and two men starting southwards with a dog-sledge. As the main work of the Expedition in 1876 was performed by the sledging parties, and as the conditions of travel in all were much the same, a description of the outfit, daily routine, and other circumstances, will be here appropriate, and will enable our readers to comprehend more fully the hardships and dangers in the face of which the task of exploration had to be attempted.

There were two descriptions of sledges, man and dog. In the former, the sailors themselves were the beasts of burden, having to draw everything they required. In the dog-sledges, the Esquimaux dogs were supposed to pull, though even here a great deal of the work fell on the men. These sledges could only be used for short distances and light loads; the former had to do all the heavy work of the Expedition.

With every sledge a tent had to be taken; also food, the quantity varying according to the length of time the excursion was to last, a change of clothing for the men, sleeping accommodation, a cooking apparatus, pickaxes and shovels, rifles and ammunition, with, of course, the scientific instruments required by the officers. The great object is to have as little weight as possible; and Admiral Richards tells us that one of his friends, an experienced Arctic traveller, was accustomed to pare the wood off his lead pencils to minimise his burden to the greatest extent. This may seem exaggerated; but when we remind our readers that the sledges have frequently to be dragged through snow, in which they are continually sinking, by men who go down below the knee at every step, and whose every movement of the foot is a laborious operation, such extraordinary care will not appear superfluous. Exposed as they were to such extreme and varying temperatures, the clothing of the men was an object of primary importance. The great desideratum was, to combine as far as possible lightness and warmth. The best idea of an Arctic wardrobe will be given by an enumeration

of the articles worn by Lieutenant Rawson in the journey whose sad termination we have narrated :—

1 jersey (thin).  
1 flannel shirt.  
1 waistcoat.  
1 jersey (thick).  
1 pair drawers.  
1 pair box-cloth trousers.  
1 pair canvas overalls.  
1 canvas jumper.  
2 comforters.  
1 cholera belt.  
1 fur cap.

1 pair mitts ; 1 pair forefinger do.  
1 pair flannel wrappers.  
1 pair blanket wrappers.  
Boot hose.  
Canvas boots.

## AT NIGHT.

The same, except duffle instead of canvas, mocassins instead of boots, socks instead of flannel wrappers ; 1 pair mitts only, and 1 pair of muffatees, and 1 comforter.

In external appearance officers and men differed slightly, so that the above list will give a general idea of a Polar costume. Baltic shirts were sometimes substituted for flannels, duffle for box-cloth trousers, and waterproof for canvas leggings ; but the general result was the same.

The diet is the next item to which we shall direct the attention of our readers. The same conditions which were sought for as regards the clothing were equally necessary in connexion with the food supply ; the maximum of nutrition with the minimum of weight was the principal object looked after when settling the *cuisine* of an Arctic sledge party. The following is a list of the articles taken by Lieutenant Aldrich for his west sledging party :—Biscuit, potatoes, chocolate, sugar, tea, salt, pepper, onion and currie powder, rum, pemmican, and bacon. Sometimes preserved meats and cocoa were added, but the staple of the dietary was biscuit, pemmican, bacon, tea and cocoa. The great reliance of travellers in these regions is pemmican, which consists of deer or buffalo flesh dried, surrounded by a layer of fat, and preserved in masses. It is considered very nutritious, but was not at all a favourite with the crews of the Alert and Discovery. As a rule, they seldom consumed the allowance, except under the pressure of hunger, and, no doubt, this was unfortunate for the purposes of the Expedition. We have before stated that fresh meat and vegetables are the best anti-scorbutics ; but the Esquimaux rarely or never partake of the latter, and they eat the former in the shape of blubber. So animal-like are they in disposing of the latter, that we read of some tribes where the men lie on their backs while the women stuff their mouths with their favourite dainty ; and those met with by the Discovery at Cape York first crammed their mouths until they could hold no more, and then cut off the pieces sticking out. This reads very disgusting ; but we

have to remember these people rarely suffer from scurvy. The lesson to be derived is plain—blubber, whale oil, and such substances are evidently the best for the Arctic regions. English sailors will not, except in the extreme of hunger, touch these substances ; but at least pemmican, the food most nearly resembling them, must be largely consumed, if health and vigour are to be retained.

In the above list there is one important article omitted, namely, lime-juice ; and this circumstance has led to a great deal of controversy. We intend reserving our remarks until we tell the story of the sledging parties, and the disasters that befell them ; only then will our readers be able to understand our remarks on the question.

The sleeping gear next demands consideration. On arriving at the camping ground for the night, the tent was pitched, a canvas or waterproof cloth spread on the snow or ice, above this a warm cloth of duffle or similar material. On these were laid the duffle sleeping bags, one for each man, as close together as possible. The feet covering was changed, as it was generally wet, and fresh articles substituted. As regards the rest of the clothing, the men turned in 'all standing,' as the sailors say. When settled, a coverlet was drawn over all, fastened down by the unlucky outside men, and the night, or rather time of rest (we are to remember that the sun was constantly above the horizon for a great part of the time) was passed as well as they could until the morning summons came.

The daily routine was generally as follows:—The cook was roused ; his first duty, after getting into his foot covering, was to prepare breakfast, a work of considerable time ; this was served to the men while lying in their bags. It consisted of a pannikin of tea or cocoa, biscuit, and pemmican. When these were disposed of, all got ready for action ; the foot-gear was changed, the tents struck, the sledge packed, and the work of pulling commenced. After journeying five or six hours, a halt was called, and the cook set to work to prepare tea and a ration of bacon, the men trying to warm themselves by stamping up and down, stopping every now and then to inquire anxiously was the tea ready. This was, with all the parties, the most enjoyable meal of the day ; and the men set out with renewed spirits and increased energy. Then a march of four or five hours more was made, when a camping ground was fixed upon, the tents pitched, supper prepared, and the men made ready for bed—if we may use the conventional term. When lying down, the ration of rum was served round, after which pipes were indulged in by the smokers. The rum was of extra strength, so that the daily ration might be small in bulk and light. That the sleeping apartment thus improvised would not suit a

person of fastidious tastes, or troubled with delicate lungs, may be gleaned from the following extract from the journal of one of the officers :—

‘By six o’clock we were all in our bags except the cook ; but as we brought all spirits of wine instead of stearine, we are able to cook inside the tent. This raises the temperature slightly, and is much more comfortable for the cook, the only objection to it, a very slight one, being that it makes the air in the tent rather thick. Between this and four smokers, the atmosphere becomes much like a London fog. Of course we tied up the ventilating holes, as we had no intention of letting any warmth inside escape into the cold air without.’

Our readers are doubtless aware that there is no over-supply of self-registering grates, stoves, kitchen ranges, or *batteries de cuisine* to be found at the parallels of 82° or 83° ; neither is the supply of fuel superabundant. The cooking apparatus of people who try to get rid of superfluous pencil shavings cannot evidently be too elaborate, and fires are out of the question. An implement economical of space and heat, specially adapted for these regions, is used ; and the heat is supplied by spirits of wine or stearine. Snow or ice is put in the proper place, but the time it took to dissolve and boil varied according to circumstances. Sometimes the cooking was more rough and ready than appetising. We quote again from the journal above referred to : ‘It was my turn for cook again, and I could not make out why we could not get the kettle to boil, until I discovered that it leaked considerably, and put out the spirit lamp. This was not pleasant. However, we had a stew-pan, which we could use for making the tea in, and which we found answered the purpose very well, but took much longer to boil, and the tea was more like soup, owing to the remnants of pemmican which would stick to the stew-pan.’

Something in the way of a medicine chest was carried by each party ; but as the officers had to be, *pro tem*, the medical advisers, the pharmacopœia was naturally simple, the staple being Gregory, Dover, and opium powders, chalk and rhubarb mixtures, and *vinum opii* for snow blindness. The surgeons attached to each vessel gave general directions before starting ; the rest was left to the discretion of the officer in charge. An idea of their mode of treatment may be gathered from the following observation in the journal of Lieutenant Aldrich :—

‘Have also given them half a Dover’s powder apiece, as they always seem to get better for taking “something.” Like all blue-jackets, the stronger the effects on the system, the higher the opinion they entertain regarding one’s medical knowledge and treatment. In this case,



however, I must chance what they think of my skill, as they are not strong enough to stand the effects of what they might otherwise take with impunity.'

Among the miscellaneous articles worn when travelling were 'Eugenies,' a covering for the head and ears supplied by the widow of Napoleon III. They were found very useful, and the name of this excellent and unfortunate lady was frequently mentioned most gratefully by the men. Goggles, or some substitutes for them, were worn to prevent snow blindness. This disease was annoying; the officers suffering the most probably from their being obliged so constantly to take observations.

Among the odds and ends brought with each party, it seems strange, when reading the items of gimlets, ice-chisels, needles, shovels, battens, lines, &c., &c., to come across the article of clothes brushes. We learn that too much time was not wasted over the toilets of our voyagers; in fact, for sixty or seventy days at a time, soap and water were voted unnecessary luxuries; and the accumulations of smoke, stearine, and similar articles upon their faces would do credit to the most professional sweeps, or blacksmiths. Why then, the reader will naturally ask, were clothes brushes required? Not, indeed, for ornamental purposes, but the condensation in the tents at night froze upon the clothes, and required to be removed; then the particles of snow and ice sticking to the garments in the course of a day's journey were disagreeable adjuncts, to be got rid of as speedily as possible. Thus, the necessity for clothes brushes is explained.

The tents and sledges were of the lightest construction possible consistent with warmth and strength; everything was packed for the day's march within the smallest compass possible; nevertheless, the weight to be dragged was sufficiently formidable. On an average the weight per dog to be pulled in the dog-sledge was about 70 lbs.; in the man-sledges, it was between 200 and 300 lbs. per man. This will give an idea of the labour undergone, when it is remembered that both sledges and men were often sunk twenty or thirty inches in the snow. In most of such cases, dragging such a weight was simply impossible; either part of the weight had to be removed, the rest dragged on for a certain distance, and then the men had to return for what was left behind; or when two sledges were together, first one was pulled forward by all, and then the other. We shall have to relate afterwards how even this most harassing labour was fearfully augmented by disease.

The following graphic passage from the journal of Lieutenant Egerton will form a fitting conclusion to our attempt at giving our

readers an outline of the daily labours and routine of a sledging party:—

‘I was cook, so got under way with the cocoa at 6 A.M. Turning out in the morning and rigging for the day is the worst part of the 24 hours. The first thing is to see that all foot gear is ready, and that a blanket wrapper is not under somebody else’s bag. Having prepared boot hose and wrappers, so as to slip on as quickly as possible, off comes the warm night gear, one foot at a time, and the first thing to put on is a flannel wrapper 16 inches square, which has been drying next the skin all night; then comes a boot hose, the sole of which is perfectly hard, and a good deal of frozen snow sticking to it, which sends the first chill through one’s foot; next comes a blanket wrapper, which is so hard that, when tapped, it sounds like a piece of wood; this has to be put on the same as it was taken off, for the shape of the foot is so clearly stamped on it, that the corners would not double over if put on any other way; as it is, the corners are tolerably hard, and one generally finds a hard place next the big toe. Lastly, put on the mocassin and kicking straps, by which time all the blood in one’s body has gone into the head, the fingers are cold, and the kettle has to be supplied afresh with snow. When that is all right, the same misery as before has to be gone through with the other foot, and by the time the cook’s bag is rolled up and got out of the way, the water is boiling, in goes the chocolate and sugar, and then comes the brushing down. The cook puts on his canvas jumper, walks on the bodies of the sleepers in the most promiscuous manner, and having covered up all the crevices with the coverlet, brushes down the condensation, removes the coverlet outside the tent on to the sledge, and then rouses out the others, who sit up in their bags, while the cook serves out the cocoa, he having provided a spoon for each, and placed the biscuits in the centre of the tent. When all are served, he puts on the stew pan of snow to get ready for the pemmican. As soon as the cocoa is finished, and the “blue” served out (“blue” is the name given to what is left when all have been served), all hands set to work to rig for the day, the cook keeping himself warm outside the tent the best way he can until the pemmican is ready, by which time all are rigged and the bags rolled up. When the pemmican has been discussed, if time admits, a few minutes are given for a smoke; then prayers are read, and all commence to pack the sledge, strike the tent, clear the dogs’ harness (this only applies to dog-sledges), except the cook, who cleans up pannikins, &c., ready for the next meal.’

It may readily be imagined that the office of cook was not much coveted: each took it in turn.

The party sent on the 20th March from the Alert southward to the Discovery reached their destination on the 25th, and gave to its crew the first news of their comrades. Lieutenant Egerton's party had encountered the usual hardships and difficulties on their way ; but, as the weather was somewhat milder, they experienced nothing like the disagreeable results of their previous journey. They sighted the Discovery when half a mile distant, and could see a couple of figures alongside the ship looking in their direction. They cheered, and presently the whole ship's company came running like rabbits from a burrow ; and soon there were hearty hand-shakings, and questions by the hundred. When the new-comers could put in a word, they were gratified to hear that their comrades had passed a pleasant winter, and, with one exception, were in good health. This unfortunately was a case of scurvy.

After resting themselves for five days, they started, accompanied by Lieutenant Rawson, on their return journey to the Alert, bearing letters from Captain Stephenson to the Commander of the Expedition.

Now all was bustle in the two ships ; provisions were prepared ; the sledges examined, and made ready for the journey ; the tents, &c., seen to be in a serviceable condition ; and the men were made to take good long walks every day, for the purpose of exercise, and getting their limbs into condition for the trying work before them. Short journeys were next taken to place dépôts, and examine the coasts as far as practicable. We shall take one of these minor journeys, out of its date, as some account of it is necessary in order to understand clearly the concluding events of the eastern sledging expedition.

We have mentioned in our introduction that the *Polaris* Expedition, commanded by Captain C. F. Hall, U.S. Navy, wintered on the eastern coast of Robeson Channel, where this gallant officer died and was buried. The account of his voyage states that a dépôt had been established in *Polaris Bay*, as his winter quarters were called ; and it became important to ascertain in what state were the provisions and necessaries there, and to see if they could be made available for the Greenland party on their return. Accordingly, on the 28th March, Lieutenant Archer and Dr. Coppinger were despatched by Captain Stephenson with a sledge party across Robeson Channel ; and on the 30th they reached their destination. They examined the dépôt, and found it to be nearly in the same condition in which it had been left more than three years before by the crew of the *Polaris*. An observatory, erected in 1871, had its roof partly blown in, but otherwise was in fair condition. The bread in the barrel was good, that in bags somewhat mouldy. They made a hearty meal that evening off the

preserved meats, a fact which is sufficient to show that length of time had not impaired their quality; and the ham and pemmican were in excellent condition. Some miscellaneous articles were scattered about, including a coil of insulated wire, an ice-saw, an iron boat-davit, two iron dredge frames, several feet of flat iron, a box of glass, and a small tent. There was, of course, the invariable record, and afterwards other records of this Expedition were found in other places along the coast.

It may seem strange to our readers to be informed that articles such as these should remain untouched for so long a period; and the wonder will not cease when they reflect that they would in all likelihood be undisturbed for years to come were it not for the visit of Messrs. Archer and Coppinger. It must be remembered, however, that in all probability no human being, not even an Esquimau, had set foot upon the shores of this dreary bay since the crew of the *Polaris* had departed, leaving the remains of their commander to keep watch, as it were, over the relics of his Expedition. Besides, in establishing dépôts, means are taken to secure them from the attacks of wild animals; and even the Esquimaux might pass and repass without being aware that what would be a treasure to them was within their reach. Yet now, strangers from a land hundreds of miles distant, who had never set foot upon these inhospitable regions, marched to the exact spot with unerring accuracy, guided by a few words written by men whom they never saw. Further still, it must be remembered that, had any misfortune overtaken the Expedition commanded by Captain Nares, at least a part of his men would, in all probability, find the means of safety in this dépôt established so many years before; and the dépôts placed by the late Expedition will very likely be of service to future explorers.

In order to understand how records are preserved, and the means by which they are recovered, it is necessary to state that on conspicuous points cairns or heaps of stones are erected, and the records placed in or near them. When an Arctic traveller sees such a cairn, he examines it; and the general instructions are, to make an exact copy of the documents found therein, to take the original, leaving the copy in its stead, with particulars of the change, the date on which the cairn was visited, the name of the disturber, the party to which he belongs, and its destination and objects.

The following extract from a letter of Dr. Coppinger will explain this more clearly than any words of ours:—

‘We start again at 3 A.M., and proceed along the floe to the westward, purposing to visit Captain Hall’s cairn, which is said to be about three miles from Cape Brevoort. In half an hour we see the cairn

standing conspicuously upon a projecting tongue of bare land, and at 4 A.M. reach the ice-foot just abreast of it. The cairn—a conical pile of stones—has at its south edge a squarish block of stone, on which is deeply cut “10 Feet E.” Besides this is an upright slab, on which is cut, “10 F. E.,” and on the ground, at the north side of the cairn, is a board (part of a box), on which is cut with a knife, “10 Feet E.” Acting upon this ambiguous information, I at first tried for the record at the stated distance and direction (both true and magnetic), measured from the centre of the cairn; and the ground being frozen so hard that each stroke of the pickaxe detached only a splinter of clay, a good deal of time and energy was thus expended to no purpose. However, I ultimately found the record buried four inches deep, and ten feet east of the stone at the south edge of the cairn. As the copper cylinder containing the record had its lid neatly cemented on with some waxy substance, the contained document was in an excellent state of preservation. I now removed the original document and cylinder (the cylinder having been accidentally perforated with a pickaxe blow), made an accurate copy of the record, appending thereto a brief account of the circumstances under which I took the original, with a notice of my past and projected movements; and, enclosing these in a fresh cylinder, buried it in the site of the old one.’

The scene of the events thus described was some miles north of Polaris Bay, and their date the 10th May; we are therefore wandering in every way from our narrative; we now return to the investigations of Lieutenant Archer and his companions.

One object met their view of which the interest, though more painful, was far deeper than that which animated them at the sight of the depôt and observatory; we allude to the grave of Captain Hall. A piece of a cabin door caught their eye, and on approaching they found upon it the following inscription:—

IN MEMORY  
OF  
CHARLES FRANCIS HALL,

Late Commander,  
U.S. steamer Polaris,  
North Pole Expedition.

*Died*

*November 8th, 1871. Aged 50 years.*

‘I am the resurrection, and the life: he that believeth in Me, though he were dead, yet shall he live.

On the opposite side was engraved—

*To the memory*  
OF  
C. F. HALL,  
Late Commander of U.S. North  
Polar Expedition.  
*Died Novr. 8th, 1871.*  
*Aged 50 years.*

The execution was rude, and the words simple ; yet they were well calculated to excite deep emotion, even in the breasts of the hardy and daring mariners who now stood round. Beneath them lay the remains of a predecessor in the work that now occupied them, a strong reminder of what their own fate might be. They, too, might possibly lay their bones amidst these wild and desolate wastes, far from home and kindred, perhaps with some feeble effort on the part of their companions to perpetuate their memory in the simple manner of which they had an example before them ; possibly, a prey to famine and disease, they might drop unnoted by any save the beasts that inhabit these dreary solitudes.

The letters were sunk in the wood, and everything appeared in a good state of preservation ; a large crowbar was stuck in the grave about a foot from the headstone, and a small flat piece of upright stone was at the foot. The account given by the survivors of Captain Hall's Expedition stated that a willow had been planted near the grave ; when Lieutenant Archer's party visited, it was alive and doing well.

On the 13th of May following, Captain Stephenson and a large party again crossed to the place where Captain Hall was buried, and hoisted the American flag over the grave. At its foot they erected a brass tablet brought from England for the purpose, with the following inscription :—

*Sacred to the memory of*  
CAPTAIN C. F. HALL,  
Of the U.S. ship 'POLARIS,'

*Who sacrificed his life in the advancement of Science on Nov. 8, 1871.*

This tablet has been erected by the British Polar Expedition of 1875, who,  
following in his footsteps, have profited by his experience.

Fortunate it is for mankind and for the lover of our race, to find such acts standing out in the midst of the sad record of the wickedness and miseries caused by the bad passions of men. Surely the death of Hall

was far nobler than if it had occurred in the shock of battle cheering on his followers to the destruction of his fellow-creatures; and surely the rude and simple memorial of his crew, and the more permanent record afterwards erected by his successors and rivals in the path of discovery, are far more sublime than the towering monuments raised to perpetuate the names of those who have waded through slaughter to a throne and shut the gates of mercy on mankind.

We have stated that three sledging parties were organized, one, under Commander Markham, to strike out boldly into the Palæocrystic Sea (or Sea of Ancient Ice), as Captain Nares dubbed the regions north of Grinnell Land and Greenland, and to endeavour to attain as high a latitude as possible; the second, under the command of Lieutenant Aldrich, to travel along and explore the north shore of Grant's Land (as the northern portion of Grinnell Land is called); and the third, under Beaumont, to explore the northern shores of Greenland.

Depôts had previously been established near Cape Joseph Henry, for the use of the two first expeditions, and the northern shore of Greenland, near Cape Staunton, for the use of Beaumont's party. The latter were instructed, after visiting Cape Staunton on their return, to travel south to Polaris Bay. It was of the greatest importance to each party to travel as light as possible; by establishing depôts in proper positions, the explorers could start off, travel as far from the base thus taken as their stock of provisions would allow, and then find a fresh supply just when it was required.

Besides this, an extra party was to start with each expedition, and to accompany them for a portion of the journey, aiding them as much as possible. Then, about the time each was expected to return, a supporting party was to start to meet it, to give whatever help might be necessary. The instructions were precise and comprehensive; each leader knew what he had to do, how far he might proceed, and where he would be certain to find help when returning exhausted. We shall see that scarcely a hitch occurred in the arrangements, so admirably were they carried out.

All the expeditions started from the Alert, the two first on the 3rd April 1876, the third on the 20th of the same month. Dr. Moss and Engineer Wootton were to accompany Markham's party, to travel with it until their first plunge into the Palæocrystic Sea, where they were to take leave, first ascertaining where the leader of the party would wish a depôt to be placed for use on his return. Lieutenant Giffard was to accompany Aldrich's party for a certain distance, and when parting, was, like Dr. Moss, to take the orders of its commander as to where a supporting depôt was to be placed. Lieutenant Rawson and Dr. Coppinger were to play a similar part with regard to Beaumont's party.

## CHAPTER V.

THE START—EN ROUTE FOR THE NORTH POLE—BY CAPE JOSEPH HENRY—  
FLOES AND HUMMOCKS—FIRST SYMPTOMS OF THE SCURVY—SUFFER-  
INGS OF THE PARTY—ROAD-MAKING UNDER DIFFICULTIES—THE  
FARTHEST POINT NORTH EVER REACHED—A PIC-NIC PARTY AT  
83° 20' 26"—THE RETURN—PROGRESS OF THE DISEASE—DEATH OF  
GEORGE PORTER—RELIEF AT LAST—HOME ONCE MORE.

THE 3rd April 1876, was an exciting day at the Alert's winter quarters. Early in the morning seven sledges and two boats, with 51 officers and men, forming the northern and western sledging parties, with their supports, arranged themselves in line of battle, all in high spirits and good health, weary of their winter's inactivity, and anxious for the novel work before them. They started shortly after 11 o'clock, and were accompanied for a quarter of a mile by Captain Nares and the few shipmates they were leaving behind. Then the latter took leave of their companions, final cheers were exchanged, and the explorers soon disappeared in the north, whither it becomes our duty to accompany them. The two parties were to travel together for a certain distance; but we have to tell separately the stories of their sufferings and troubles, and so must, at first, accompany only one in spirit. As the main object of the entire Expedition was either to reach the North Pole, or to approach it as nearly as possible, our narrative will for the present concern itself with the party led by Commander Markham.

His equipment consisted of five sledges, the Marco Polo, the Victoria, the Alexandra, the Bulldog, and the Bloodhound, with 37 officers and men. But as only three of these made the whole journey, we shall not notice the others in detail.

The Marco Polo was commanded by Mr. Markham, in charge of the party, with the following crew: Thomas Joliffe, Daniel Harley, Thomas Simpson, Wm. Ferbrache, Thos. Rawling, John Radmore, John Shirley, and Alfred Pearce. The weight of the sledge and its burden on leaving the ship was 2367 lbs., or a pull of 263 lbs. per man; but the greater part of the pemmican and bacon required for the journey had been previously advanced to the depôt at Cape Joseph Henry. When these were taken up there, the weight of the sledge was 2728 lbs.

The Victoria sledge, commanded by Lieutenant Parr, had the following crew: John Hawkins, Reuben Francombe, George Winstone, Edwin Lawrence, John Pearson, William Maskell, and George Porter.



Its weight on leaving the ship was 1644 lbs., and on leaving Cape Joseph Henry 1626 lbs. Besides this, there was a supporting sledge taken from the latter, which, with its burden, weighed 1725 lbs., and as only 15 men went to the bitter end, this was a pull of 405 lbs. each. When we remember that the route of this party was the most difficult of all, and that the weights to be dragged were the heaviest, we must confess the advance was made under rather ominous circumstances. The provisions were calculated for an absence of 70 days, and were packed in bags, each containing the allowance for a week, with the exception of the spirits, which were packed separately. The rest of the equipments, as we have stated in a previous chapter, consisted of clothing, cooking and eating apparatus, guns, instruments, pickaxes, shovels, &c.

The weight of each sledge was about 130 lbs., of each tent and poles about 70 lbs., and the knapsacks averaged 12 lbs. per man. The provisions were constantly diminishing in bulk from *dépôt* to *dépôt*; but we shall see that, owing to most unfortunate circumstances, this did not lessen the burden to be dragged, which, on the contrary, was sadly increased.

The night of the 3rd was a cheerless foretaste of what was before them, as they were cold, wretched, and sleepless. An early start was made on the 4th, and they crossed Mushroom Point, instead of rounding it, thus saving some exertion. We should here remark, that, in addition to their other *impedimenta*, Commander Markham's party had to take two ice boats with them, packed on the sledge. Captain Nares, not knowing fully the character of the sea this party had to travel over, and fearing lest the ice should break up when they were at a distance from the land, took the necessary precautions against such a casualty by ordering them to bring these boats, a great addition to their load. Markham writes of their sleeping accommodation: 'To use Admiral Richards' simile, our sleeping bags resemble sheet iron, whilst the currie paste, as our cook observed, was exactly like a piece of brass, and was equally hard.' Still they slept a little better, which enabled them to face the unremitting toil of the next day; as the weight to be dragged was so great, and the road (?) so rugged, the loads had to be divided, all the men of two sledges dragging one on for a distance, and then returning for the other. Sometimes, it was even worse, and a part only of the load of one could be dragged by the whole, thus necessitating three or four journeys before all was carried to the resting place for the night. The only symptom of animal life observable was the track of a wolf, which seemed to be hanging round the party, but was not visible. On the 6th the temperature was 35° below zero, which may give an idea of the cold of the morning. They

had to double-bank the sledges as on the preceding day, but were able to reach Dépôt Point, where they camped for the night. From the dépôt established here beforehand, 244 lbs. of pemmican were taken. The travelling this day was accounted good, the whole distance marched being ten miles, only five of which were actual progress to the north, on account of the double journeys which had to be made. On the 7th the supporting sledge, Bloodhound, returned to the ship, cheers being interchanged. The party got a foretaste on this day of what their future journeys were likely to be. They had to cross heavy floes, fringed with hummocks, over the latter of which the sledge had to be dragged, where they were low, and through which a road had to be cut, when high. On the 8th, though the weather was somewhat better, the travelling was worse; the number of miles actually travelled was ten, of which only three were made good; and  $10\frac{1}{2}$  hours were consumed in accomplishing this distance. On the 9th, the rate of progress was much the same, though they made good an additional mile. The commander and his second, Lieutenant Parr, had snow blindness; and Dr. Moss kept in advance to find out the best route for the sledges through the hummocks. On the 10th, the dépôt near View Hill was visited by the commander, Dr. Moss, and Lieutenants Aldrich and Giffard. The stores there were packed on the empty sledge brought for the purpose, and the party ascended View Hill, whence they had a good look-out. The prospect was not cheering; the sea, as far as the view extended, was composed of floes and hummocks, the former small, and the latter large, exactly the opposite of what could be wished. Markham judged, from the appearance of things, that two miles a day would be his utmost rate of actual progress, to secure which ten miles would have to be traversed; modest as was this estimate, it exceeded the performance. The animals showed themselves wiser, so to speak, than the explorers. There were numerous traces of hare and ptarmigan to be seen upon the land, but as we have stated before, none upon the sea, which their instinct taught them to avoid. They had evidence of the increasing power of the sun, in the melting of the snow, and the trickling of the water down the southern side of View Hill.

On the 11th, the party may be said to have bade farewell to the land, having taken their last stock of provisions from the dépôt. They had now provisions for 63 days, so that they could travel for 30 days to the northward, as they were to find a dépôt at their service near View Hill on their return. The course on that day was through hummocks, ranging in height from a few inches to twenty feet, and a party under Lieutenant Parr was continually in advance with pickaxes and shovels, making roads, through which their companions dragged

the sledges by repeated journeys. On this day, Lieutenant Aldrich and his command, who had been in company since leaving the Alert, determined to strike off across the south of Cape Joseph Henry, and to pursue his investigation of the northern shore of Grant's Land, according to his instructions. Accordingly, at 1 o'clock, both parties displayed their colours, and parted company with much cheering. This day, too, was fixed for the return of Dr. Moss and the supporting party, who received Commander Markham's final instructions regarding depôts, &c. Dr. Moss made an inspection of each of the crews of the northern expedition, whose names we have given, and found them all apparently well fitted for their work. Nothing worse than frost-bites had hitherto occurred, and, though their faces were, as Markham says, like raw beefsteaks, a little lard and glycerine enabled them to despise these small evils, as Dr. Moss called them. At lunch-time, accordingly, the supporting party having given them all the necessaries they could spare, bade farewell to their comrades, and returned to the ship.

The northern expedition was thus at last, if not afloat, at least left to their own resources upon the Palæocrystic Sea, with no prospect of meeting any of their kind for the next two months. When the supporting and the other parties were with them, they had not quite lost their hold of the land, so to speak; now, though still alongside Cape Joseph Henry promontory, they were fairly embarked upon their expedition. On the 12th, the sun was shining brilliantly, and the bed gear was triced up to the masts of the ice-boat to dry. 'The surface snow on the floes sparkled and glittered with the most beautiful iridescent colours, the ground on which we walked appearing as if sprinkled with bright and lustrous gems, diamonds, rubies, sapphires, and emeralds being the most prominent.' In spite of all this beauty, 'standing pulls' were the order of the day—a phrase we must explain, as we hope few of our readers will ever know by experience what they are. When ice or snow is level, hard, and smooth, the sledges are hauled along without stop, and the work is pleasant. When there are hummocks or snow drifts, all the men have to stand, grasping the ropes firmly, then the words of command, 'one, two, three, haul,' are given, at the last of which all pull, thus advancing the sledge a couple of yards, then another standing pull, and so on. This was what our party had to experience for many a weary day to come, and the history of one day is, with little variation, the history of all. On the 12th, though nine miles were travelled, the distance made good was only a mile and a half. The daily routine was similar to that described at page 52; first breakfast, then a march of five or six hours, a halt for lunch, the length of which depended on the time spent in persuading the water for tea to

boil, and another march of four or five hours brought them to a stop for the night, if we can name thus a time when the sun was shining.

The 13th of April was a sort of red-letter day, as the party came on a floe nearly a mile in breadth, across which the travelling was excellent. But at 2 o'clock they were brought up by enormous masses of ice piled, piece on piece, to the height of twenty feet. There was nothing for it but pickaxe and shovel; and Lieutenant Parr, who acted the part of engineer-in-chief and labourer combined, set his men a worthy example. Thus the distance actually achieved due north was only two miles.

If the 13th was a red letter-day, its successor was of a very opposite character. It began badly. Markham writes: 'In the night, on one occasion, in consequence of having had a high temperature in our tent, when much moisture was absorbed by the sleeping bags, &c., our robes and bags were frozen so stiff and so hard that caution had to be exercised to avoid their coming into contact with the face, otherwise, so rigid were they, that an abrasion of the skin would be the result. Our plan is to leave the coverlets for some considerable time lying on our bodies so that they may partially thaw before being spread. Our blanket wrappers also were so frozen in the morning, although we had been lying upon them all night, in our bags, that it was with great difficulty we could bend them over our feet.' Fancy the discomfort of arising from such a couch, to face the unremitting and harassing labours of the day. This was not the worst, however; one of the party, John Shirley, of the Marco Polo sledge, complained of pain in his ankle and knee, both of which exhibited slight symptoms of puffiness. This did not look alarming, yet it was the small cloud, no bigger than the hand (to use an overworked simile) which was destined to attain disastrous dimensions. These were the first faint symptoms of scurvy, though neither officers nor men were aware of it. Even had they been, not much could be done; for sending the man back would not prevent the attacks subsequently experienced by the others. All that could be done was, to rub the ankles and knees with turpentine liniment—a natural thought perhaps—but the remedy was of course perfectly useless.

On the 15th and 16th there was a nor-westerly gale, a considerable drift, and the temperature  $-35^{\circ}$ . This rendered travelling quite out of the question, and they had to remain in the tents, as one of the parties describes it, 'in a state of abject misery.' The 16th was Easter Sunday, and 'we all unanimously came to the conclusion that it was the most wretched and miserable Easter Sunday that any one of us had ever passed. Forty-eight hours in a bag, in a gale of wind off Cape Joseph Henry, with a temperature  $67^{\circ}$  below freezing point, is not a delightful

way of passing the time—sleep almost out of the question.’ In spite of their condition, on the 15th the usual Saturday-night nautical toast of ‘sweethearts and wives’ was given; and it being the anniversary of the ship’s commissioning, and of Captain Nares’ birth-day, ‘of course they could not be neglected; we gave the latter three cheers, which was taken up by the *Victoria*, and then we commenced to cheer each other, by way of keeping up our spirits.’

The wind subsiding towards the evening of Easter Sunday, they determined to proceed, but Shirley being unable to walk, had to be placed upon the sledge, thus increasing the weight, and diminishing the dragging strength. George Porter, of the *Victoria*, complained of stiff knees; in other words, he likewise was attacked by the scurvy.

On the 17th a good view from the seaward (the term is not altogether appropriate, though the sea was there at a depth of many feet below our travellers) was obtained of Cape Joseph Henry. ‘It presents a bold and rugged appearance, rising nearly perpendicularly from its base to its bluff, a height of about 800 feet, whence it recedes, gradually ascending until it culminates in a peak about 300 or 400 feet higher. It appears to be of limestone formation in regular stratifications, dipping to the southward at an angle between six and ten degrees from the horizontal. The cape itself terminates in a knife-like edge from summit to foot, very much resembling the ram-bow of an iron-clad. Conical Hill when seen on the same bearing, presents more the shape of a hog’s back than a cone, and has also a bold rugged aspect. It is about the same height as the peak above Joseph Henry, and is of the same formation; but unlike its neighbour, the striations dip to the southward at an angle between  $6^{\circ}$  and  $10^{\circ}$  from the vertical, and it has altogether a rather distorted appearance. There is a great deal of similarity in the surrounding hills, all being more or less coniform, and of nearly equal altitude, from one to two thousand feet.’

The invalids were no better: nothing but rest, fresh food, and lime-juice could be of service to them, and none of these were to be got, even had the nature of the disease been known. Porter had now to be carried on a sledge as well as Shirley. On the 18th, having got further from the land, a change was experienced in the nature of the ice. Hitherto the floes were comparatively flat, surrounded by hummocks; now they appeared to have got on the veritable Palæocrystic floes massed together, squeezed one against the other, but with no hummocks between. They were of gigantic thickness, of uneven surface, and covered with deep snow. This made the travelling so tedious that, though 10 miles were marched, only 1 mile was made good, in a journey of 10 hours.

On the 19th they found some of the floes as much as 9 or 10 feet above the level of the next; and as the sledges had to be raised or lowered from one to the other, it can be readily imagined that the travelling was both laborious and slow. In three and a-half hours, with a succession of standing pulls, only 300 yards of an advance were made; and the commander determined to abandon the large ice-boat. He calculated that, if the ice did break up, the small boat would be sufficient to carry the men and sledges from one floe to the next; and 800 lbs. of dead weight would be got rid of. Indeed it may be taken for granted that, although Captain Nares did wisely in ordering this addition to the burden, any future expedition over this sea will dispense with it. Another of the party, Alfred Pearce, was invalidated this day; he complained of stiff and swollen ankles, the inevitable sign.

On the 20th a dense fog confined them to their quarters until 2 o'clock; and when they got a view, it was the reverse of cheering. Nothing but hummocks was to be seen, and no way of advance except by shovels and pickaxe as usual.

Next day the invalids appeared somewhat better; all were able to walk a little. There were several frost-bites, but no serious injury done.

On the 22nd there was an improvement in the travelling; the floes were more level, larger, and came into contact in a more amicable manner than the one previously passed. The following extract from Markham's journal gives an idea of the appearance of the men:— 'It is painful to witness the efforts of the poor fellows, whilst they are dragging, endeavouring to shield their faces from the cold, cutting wind. They are an uncanny lot to look at—very dirty faces, and especially noses, all scarified and scabby, lips sore, and tips of the fingers senseless from frost-bite; yet they are all cheerful and happy enough.'

The 23rd was a bad day; hummocks, which as usual had to be cut through, and hills of snow accumulated on the floes, rendered the travelling so slow, that only  $1\frac{1}{4}$  mile of real progress were made.

The following shows the auspices under which the 24th was ushered in:—'On walking to the northern extremity of the floe on which we were encamped, a dismal prospect met our view. Enormous hummocks from 20 to 30 feet high, all squeezed up together, with apparently no floes beyond. . . . The hummocks appeared interminable. From the summit of the loftiest no floe of any size could be seen—nothing but an uneven range of shapeless masses of ice.' In view of this state of affairs, Com-

mander Markham ordered the road-makers forward, keeping the rest in their tents, where they shivered until a passage was made through which the sledges could be dragged. A keen wind, disagreeable in other respects, helped their progress by means of a sail which they hoisted. The  $83^{\circ}$  parallel was crossed on this day.

On the 25th, another was added to the list of invalids, John Hawkins. Though his ankles were weak and swollen, he held on to the drag-ropes. A mock sun, faint in colours, was seen this day. The travelling was tolerable,  $2\frac{1}{4}$  miles having been made good in  $10\frac{1}{2}$  hours. 'Our time for treating the sick, administering potions, bandaging legs, &c., is, as a rule, after supper, when the exertions of the day are over, and the men are comfortably settled in their bags. It is impossible to conceive anything more disagreeable than sick men, either in the tent or on the march, especially when they are helpless, persisting in groaning all night, and in being querulous and fretful. But sailors are proverbially good and kind nurses, and ours are no exception to the rule.'

The history of the remaining days of April is the same for all; hummocks, uneven floes, and the pickaxes and shovels in constant requisition. On the 26th, our tents were pitched on the northern extreme of one of these ponderous floes, with an apparently impassable sea of hummocks, extending north, east, and west, as far as the eye could range. It looked like the end of all things.' Some of these hummocks were 30 feet high.

On the 28th, when 17 miles from the nearest land, the tracks of a hare were seen, and from their appearance the little creature was evidently exhausted. It was travelling south; this was the last trace of animal life our explorers met in their northward journey.

The 1st of May presented something of the appearance of summer, being a fine bright day. A large floe of  $1\frac{1}{2}$  mile in width was a god-send in the way of travelling, so that the entire distance marched was 9 miles,  $2\frac{3}{4}$  being made good. But the invalids, Porter especially, exhibited unmistakable symptoms of scurvy; legs discoloured, gums and teeth loose and sore. On the 2nd, Reuben Francombe was attacked, raising the list of the sick to five.

On the 3rd, 4th, and 5th the invalids were steadily growing worse, while the travelling remained the same. On the 4th, a line of discoloured hummocks was met, apparently forming the edge of a floe; and on examination, the discolouration seemed to proceed from mud. Commander Markham thinks the floe must have been in contact with the land at some time or other—which, if true, shows that these immense masses of ice, apparently inextricably jammed against each

other, must occasionally experience considerable disruptions and convulsions. On the 5th, 'the weather being as thick as pea soup, we were compelled to remain in our bags after lunch. A dreary scene surrounded us. A cold, desolate, and inhospitable looking scene. Everything of the same uniform colour, nothing to relieve the eye, nothing but one sombrous, uneven, and irregular sea of snow and ice.'

A gleam of comfort, however, was experienced, to which we advert, in order to show by what small trifles men are influenced. The temperature having risen to zero, the bacon was rendered eatable. Hitherto it had been so hard that the teeth could not penetrate it, and the men had to steep it in their tea. The effect upon them may be easily imagined.

The proceedings of the 6th, 7th, and 8th have nothing to relieve the dreary, monotonous record of sickness, piercing through hummocks, and standing pulls. On the 6th, Markham writes:—'We appear to have arrived at a perfect barrier of hummocks and portions of floes, all broken and squeezed up, and covered with deep snow. It is possible we may be able to penetrate these obstacles, eventually reaching larger and more level floes, on which we may be able to make more rapid progress. We ascended one large hummock, from the summit of which the prospect was anything but encouraging—nothing but one vast illimitable sea of hummocks. The height of this hummock was ascertained by means of a lead line, and was found to be from the summit to the surface of the snow at its base, 43 feet 3 inches. It did not appear to be a floe-berg, but a mass of hummocks squeezed up, and cemented together by several layers of snow, making it resemble one large solid piece.'

Up to this, a couple of the sick men, though not able to pull, could limp along after the sledges; but on the 7th all the sick had to be placed upon them. Thus, only 10 men and officers remained to pull the sledges, which, in addition to their regular load, had five invalids. The changes and rest prevented more than  $2\frac{1}{2}$  hours' marching, during which only  $\frac{1}{4}$  mile was made good. On the 8th, four of the dragging party suffered from snow blindness; and to give an idea of the nature of the travelling, and the difficulties experienced, we quote the following:—'The hummocks around us are of different heights and bulk, varying from small fragments of ice to huge piles, over 40 feet high. Some of these larger ones are simply masses of squeezed up ice, whilst others of great magnitude, but perhaps not quite so high, are the regular floe-bergs. Between these hummocks, and consequently along the only road that is practicable for our sledges, the snow has accumu-



lated in drifts to a great depth, and these forming into ridges render the travelling all the more difficult. Some of the tops of these ridges are frozen hard, and it is no uncommon occurrence to step from deep snow in which we are floundering up to our waists, on to a hard frozen piece, and *vice versa*. Occasionally these ridges are only partially frozen, sufficiently only to deceive one, which makes it exceedingly disagreeable and laborious to get through.'

On the 9th, Commander Markham was forced to come to the conclusion that the disease under which the sick men were labouring was scurvy. Indeed there was now no room for doubt; discoloured and swollen limbs, with livid and purple patches, sore gums, loose teeth, fetid breath, with great depression of spirits and loss of appetite, told a tale not to be mistaken. He did not wish to make the men acquainted with the fact, and he had scarcely anything in the shape of remedies. The grog of the invalids was stopped, and a small quantity of lime-juice given to each in its stead. There were only two bottles of this anti-scorbutic in the sledges; but we intend to return to this again.

Next day four more were added to the sick list—Thomas Rawlings, William Simpson, William Ferbrache, and George Winstone; they had the usual symptoms—stiff joints, swollen legs, and discolourations.

On the 10th May, Commander Markham came to the conclusion that the limits of his journey were reached. The average rate of progress for some days past had not been a mile per day; the state of the ice showed no signs of improvement; five of his men were suffering so much from scurvy, that not only were they unable to aid, but were a drag upon their companions; four more showed decided symptoms of the same complaint; and only 31 days' provisions remained. There was no other course open to him except to return; but he determined to remain where he was for a couple of days, to make whatever observations he could.

Accordingly, on the 11th, the necessary preparations were made. Breakfast was got early, and immediately after the men were set to work to cut a hole through some young ice, which was fortunately near. This ice, though the growth of one season only, was 64 inches thick, and it took three hours to make an opening. Soundings were taken, and the depth was found to be 72 fathoms, with a bottom of clay. The usual appliances were affixed to the sounding lead, and specimens of the bottom were brought up, which were placed in a bottle, and carried to the ship. The temperature was ascertained to be a little more than 28°, and was tolerably equal all through, increasing very slightly towards the bottom. This shows very strikingly the equable tempera-

ture of sea water, it being the same as that surrounding the Alert at her winter quarters.

Though the scenery above was appallingly desolate, with not a trace of animal or vegetable existence, below the very reverse was the case. A dredge was improvised, and baited with the scrapings of the pannikins, then lowered through the opening in the ice. It was drawn up after some hours, and found to be literally swarming with crustaceans, apparently of two kinds. All through the voyage, whenever the experiment was made, the same result was obtained; the waters were found to be swarming with animal life, an impressive proof of the power, wisdom, and goodness of the Creator.

Experiments were made regarding tidal movements, and it was found that they existed; the set appeared to be N.W. and S.E., but no accurate results were obtained. A series of magnetic observations and others to ascertain the latitude and longitude, brought the 11th to a close.

The 12th May 1876 was the last day spent by Commander Markham's party in this station, the highest latitude yet attained by man. It was not a spot adapted for lengthened residence, nor would a pic-nic party approve of its surroundings; yet it has a grim interest of its own, not merely to the survivors of the Expedition, but to every one in the civilized world interested in the progress of geography. That bleak floe, surrounded by an interminable sea of hummocks, is an object of interest to the imagination of all anxious for the promotion of discovery and the advancement of science. We do not think we can bring this last scene more vividly before the minds of our readers than by transcribing in full the graphic details of the proceedings given by Commander Markham, in his journal of that day :—

'Breakfasted at 8.30, immediately after which, leaving the cooks behind at the camp to attend upon the invalids, the remainder of the party carrying the sextant and artificial horizon, and also the sledge, banners and colours, started northwards. We had some very severe walking, struggling through snow up to our waists, over or through which the labour of dragging a sledge would be interminable, and, occasionally, almost disappearing through cracks and fissures, until twenty minutes to noon, when a halt was called. The artificial horizon was then set up, and the flags and banners displayed. These fluttered out bravely before a fresh S.W. wind, which latter was, however, decidedly cold and unpleasant. At noon we obtained a good altitude, and proclaimed our latitude to be  $83^{\circ} 20' 26''$  N., exactly  $399\frac{1}{2}$  miles from the North Pole. On this being duly announced, three cheers

were given, with one more for Captain Nares ; then the whole party, in the exuberance of their spirits at having reached their turning point, sang the "Union Jack of Old England," the "Grand Palæocrystic Sledging Chorus," winding up, like loyal subjects, with "God save the Queen." These little demonstrations had the effect of cheering the men who, nevertheless, enjoy good spirits (*sic.*). The instruments were then packed, the colours furled, and our steps retraced to the camp. On our arrival, the flags were hoisted on our tents and sledges, and kept flying for the remainder of the day. A magnum of whiskey that had been sent by the Dean of Dundee for the express purpose of being consumed in the highest northern latitude, was produced, and a glass of grog served out to all. It is needless to add his kindness was thoroughly appreciated, nor was he forgotten in the toast of "absent friends." We were extremely fortunate in being able to get an altitude at noon, as shortly after the clouds gathered dark and thick, turning out a cold, unpleasant afternoon. In spite of this, however, we all enjoyed our supper, as we had the hare shot by Moss at Dépôt Point equally divided between our two tents, cooked in our evening allowance of pemmican, making it uncommonly good and savoury. After supper a cigar, presented to us by May before leaving the ship, was issued to each man, and the day was brought to a close with songs, even the invalids joining in. All seemed happy, cheerful and contented.'

If some of the good spirits of our party were caused by the thought that their dreadful and arduous labours were likely soon to come to a close, few can blame them. On the 13th May final preparations were made for a move south ; the tents were packed, and two record tins were placed, giving the details of the Expedition thus far. Whether these tins are still to be found is a question ; there is none, that only to the birds and beasts, if any, who may have passed over the parallel of  $83^{\circ} 20' 26''$ , can they have afforded information. Towards the evening the first move was made, and their faces turned from the North Pole. The journey south resembled in most respects the journey north ; there was not so much road cutting, since they adhered to their old tracks as much as possible. Sometimes it was very difficult to distinguish the old path. When the days were dull and cloudy—and they frequently were—sky and sea appeared all one, and objects could not be seen further than a few yards. The invalids were getting worse. They had nothing in the shape of a remedy, except some lime-juice, served out every second day, and this was now just exhausted. The appetites of all were daily diminishing ; sometimes a whole pannikin of pemmican, or the allowance of one man, would not be consumed at the evening meal. Nothing remained but to hasten to the dépôt as fast as they

could, which was slow indeed; as Commander Markham expresses it, out of thirty-four legs in the party only five were sound. Two men, John Radmore and William Maskell, held out the longest, only complaining on the 28th. On that day, only the two officers remained untouched by the scourge of the party.

In one respect the travelling south was more difficult than on the advance journey; the power of the sun began to manifest itself; and the snow-drifts of the northern journey became something like slush on the return. On some occasions the temperature at night inside the tents rose to between  $60^{\circ}$  and  $70^{\circ}$ , so that the men put off their coverlets and got outside their duffle bags. But this was not an unmixed good; the odour of the tobacco smoke, combined with the fetid breaths of the invalids, rendered the atmosphere very unpleasant. The rate of progress was much the same as that of the advance journey; if the road-making was less severe, the other obstacles, combined with the increase of sickness, counterbalanced this advantage.

Still some little incidents enlivened the tedium of the route. On the 24th, being the Queen's birthday, 'the colours were displayed at lunch time, the main-brace spliced, and Her Majesty's health drank by her most northern, though not the less loyal subjects.' On the 29th, the anniversary of their leaving England, the same ceremonies were observed. 'Shortly before the tents were pitched, on the 28th, much excitement was caused by the appearance of a little snow-bunting (a kind of bird), which fluttered around us for a short time, uttering its to us rather sweet chirp, and then flew away to the northward and westward, in the direction of Cape Joseph Henry. This was an incident of no small interest to our party, as it was the first bird seen by the majority for a period of nine months; even the sick men on the sledges requested they might have their heads uncovered and lifted, so as to obtain a glimpse of the little warbler.' It was the last token of summer one of them was destined ever to witness.

On the 27th, the second boat was abandoned, nearly all the party being on the sick list, and the weight entirely too much for the strength of the rest. With it was left some empty vessels, some records, and 170 lbs. of pemmican—a sad sign of the want of appetite and depression of the system obtaining among all.

So passed the month of May, and June was ushered in, to find them a perfect band of cripples. Still they held up; every one pulled as long as he was able, trying to be cheerful, and uttering no complaints. The sight of this little band toiling heroically through ice and snow, dragging their disabled companions by day, and attending

upon them patiently and cheerfully by night, in ways which cannot be described here, would amply prove, if proof were wanting, that pluck and manly qualities cannot be said to have departed from our age.

Five men were on the sledges, and four battled manfully behind, the remainder of the party dragging. Even after abandoning the boat, and with their diminished stock of provisions, the pull was over 200 lbs. per man; and, as some of the hummocks had shifted their position, roads had again to be cut in many places. They struggled on, however, and on the 4th June reached the first depôt, near which they observed the traces of human footsteps. On examining the depôt they found letters telling them that Captains Nares and Feilden had been there the day before! This was indeed a great disappointment, to be so near and yet so far from help. However, some consolation was afforded—a good supply of groceries was obtained, and the Captain had killed three hares, which he left for them, not knowing that at the time he hid them, those for whom they were intended were within a couple of miles. The supper of fresh meat was most welcome; and on the next day they encamped on the land for the first time during two months. On the 6th, having taken some articles from the depôt, and leaving all superfluous weight, they started on; but the appearance alone of the party showed that in their present condition they had but little prospect of reaching the ship. A few were pulling, a couple of them evidently in the last stage of exhaustion, and expected to drop out every moment; others struggling on behind, and obliged to lie down and rest every thirty or forty yards; the remainder helpless and powerless on the sledge—such was the aspect of the party which had started in high hope, health, and spirits on the 3rd April. Under these circumstances Lieutenant Parr volunteered to go on by himself to the Alert, a distance of forty miles, and bring back speedy relief to his suffering comrades. Markham had to accept his offer, and early in the morning of the 7th he started off as lightly equipped as possible. It is not easy to say whether officers or men showed the greater heroism.

Porter was extremely bad all that day, and the journal of the 8th contains the following melancholy passage:—‘Poor Porter is no more! After halting last night he was placed as usual in his tent, where I visited him before supper. He said, in answer to my inquiry, that he was easy and comfortable, and appeared to be more cheerful and talkative. Before I had quite finished my supper, I was called in haste to his tent, where I found him suffering from a spasmodic attack of some nature, and quite unconscious; this was about 8 A.M. He was revived by having his nostrils bathed with spirits of ammonia, and then a little rum, slightly diluted with water, was given him, when

he regained consciousness. His breathing was short and stertorous ; he complained very much of a difficulty in breathing, and appeared to be sinking fast. Two hours after he had a similar attack, and was again brought round by the same means ; but he seemed to be much exhausted, although between the two attacks he had enjoyed a short doze. After this he sank rapidly, and expired, with my fingers on his pulse, at 10 minutes past 12 (noon). He was sensible to within a few minutes of his death, and his end was calm and quiet. This is a sad calamity, although we were not totally unprepared for it, and I fear the depressing moral effect that this lamentable event will have on those who are very sick, and who consider themselves to be in nearly as precarious a condition. The body was removed from the tent, and placed in an empty sledge. Called the cook at 4.30 P.M., and having read prayers in both tents, selected a spot for the grave in a deep snow-drift, not many yards from the camp. Here the grave was prepared by digging down through six feet of hard frozen snow, until the surface of the floe was reached, and then two feet further down into the solid ice. The corpse, which had swelled up considerably, and was terribly disfigured after dissolution took place, was sewn up in a sleeping-bag, and laid in a sledge. With the ensign half-mast, and the Union Jack as a pall, the funeral procession, attended by all but the four very bad cases, started at 9, and the burial service being read, the remains were consigned to their last icy resting place in this world. Improvising a rude cross, formed with a boat's oar and a spare sledge-batten, it was placed at the head of the grave, with the following inscription :—" Beneath this cross lie buried the remains of George Porter, R.M.A., who died on June 8th, 1876. Thy will be done." Of all the melancholy and mournful duties I have ever been called upon to perform, this has been the saddest. A death in a small party like ours, and under the present circumstances, is a most distressing event, and is keenly felt by all. During the service, all were more or less affected, and many to tears. I hope I may be acquitted of the charge of having performed the last rites with indecent haste, but I considered my duties to the living should outweigh any sentiments for the dead ; and that it was of paramount importance, in order to guard against a repetition of the sad scene of to-day, that we should use our utmost endeavours to reach the ship as speedily as possible.'

We think our readers will agree with us, that any explanation or apology on this head was quite unnecessary. Whatever other charge may be brought against the conduct of the Expedition, there is not the slightest pretence to impugn the care the officers took of their men ;

their solicitude for their health and comfort, compatible with the objects of the explorers, was, if anything, carried to excess.

It is hard to say what would have been the result, had the party to endure even a few days more of this travelling. It is certain that at least two or three would have shared the fate of Porter, and left their bones in the Arctic wastes. The melancholy procession was resumed on the 9th, all determined to struggle to the last. All eyes were kept directed towards the south, when about 11 P.M. an object was descried moving rapidly among the hummocks. It was the dog-sledge with May and Moss. Though the colours were hoisted, the men could scarcely raise a cheer, so carried away were they by their feelings. Well and faithfully had Parr redeemed his promise. Though starting at 7 A.M. on the 7th, with nearly 40 miles of a heavy road before him, such was the expedition he used, that he was alongside the Alert at 6 P.M. on the 8th. When his tale was told, immediate steps were taken to send relief to the sufferers. Dr. Moss and Lieutenant May started at once with the dog-sledge, bringing some medical comforts and fresh food; the captain was to follow as soon as possible with two more sledges.

The invalids revelled in lime-juice, ox-cheek, and fresh mutton, with port wine in lieu of grog; but the sight of the new comers, and the prospect of soon meeting the rest of their companions, and reaching the ship, had perhaps a more potent effect. They marched on like new men, and on the next day, 10th June, they met Captain Nares with the main party. The greeting, though warm, was short; the doctor considered the best thing to be done was to get the men on to the ship as speedily as possible, so the new-comers quickly took charge of the sledges and invalids, and started south. But some of the original northern party still stuck to their guns; Markham, with his party (whom he called his lame ducks), Lawrence, Joliffe, Radmore, and Maskell still pulled their sledge, nor did they desist until the Alert was reached. The rest of the journey was mere child's play, comparatively; there were no return journeys for the sledges, and instead of the constant entries: 'Miles actually travelled, 10; miles made good, 1½, &c.,' the log of the 11th shows: 'Course and distance made good, 6 miles,' and of the 12th, 11 miles. At half-past one, on the morning of Wednesday, 14th June, the party got alongside the Alert, having been absent 72 days. In that time they had only attained a distance of 73 miles from the ship, and about 30 miles from the nearest point of Grant's Land. This result seems small, and is certainly entirely disproportionate to the toil, labour, and danger incurred by the Expedition. It must be remembered,

however, that almost every mile of an advance involved 5 miles of laborious travelling; each portion made good had to be crossed again and again, bringing up the sledges singly with the full strength of the party. The work from the beginning was more than sufficient to tax the best energies of the entire number; the last part had to be got through by one-third, themselves stricken with disease, yet having to drag their disabled comrades. The number of English miles actually travelled by the party in going and returning, was 601; 318 going, and 283 returning. The difference between the last two was caused by the fact that, after meeting the captain's party, there were no double or treble journeys over the same ground each day.

Dr. Moss made a medical examination of the men whom he met on the 9th June. He found all attacked by scurvy, four of them most dangerously, and Markham, Radmore, and Joliffe slightly. Hawkins and Pearce, perhaps one or two more, could scarcely have survived much longer; lime-juice, fresh food, with port, champagne, &c., when necessary, brought them round.

This brings us to a subject about which there has been a great deal of controversy, namely, the directions of Captain Nares to the sledge parties not to carry lime-juice, or at least not sufficient for a daily ration. These directions were in opposition to the wishes of the medical officers of the Expedition; but Captain Nares defended his action in the following manner:—He said first, that no sledging party, previous to his Expedition, carried lime-juice; it was left in the depôts established for their use, but not taken when actually travelling; yet such parties performed their work, as a rule, without suffering from scurvy. In this statement Captain Nares was undoubtedly mistaken; some of the sledging parties he enumerates did not, certainly, carry lime-juice, but others as certainly did; and in those of them which were most fortunate in escaping scurvy, the officers made the men take it, not being content unless they saw them daily swallow their ration. In the second place, he says, that the weight of the lime-juice would be a serious impediment to the progress of the party, and that time to thaw it when frozen could not be spared. Half an ounce daily for each man of Commander Markham's party would be about 35 lbs. weight for the whole journey, not a great addition surely, seeing that each man, after leaving Cape Joseph Henry, had over 400 lbs. to pull. As to the waste of time, the daily halt to melt snow or ice, and boil it for the midday lunch, was not considered time wasted; it put the men into good heart, and made them get through their work much better; so that, even if the melting of the lime-juice took time, it should not be an obstacle, if it acted as a



preservative against scurvy. We do not find, however, that any difficulty was experienced on this occasion in giving out the ration of lime-juice to his invalids; and surely, after the evening or morning meal was cooked, the heat was sufficient to thaw the lime-juice. Lastly, Captain Nares says, that the outbreak of scurvy was caused by the long detention in darkness during the winter of 1875-6, the severe physical exertions undergone by the men, and the absence of fresh food. He instances the cases of the officers being attacked last, assigning as a reason that they did not take part in hauling the sledges from the beginning, which, he says, proves it was the labour, not the absence of lime-juice, which caused the outbreak. No doubt the circumstances Captain Nares mentions were powerful predisposing causes of the disease; but in our opinion this was exactly a reason why he should not have adopted the course he did. As there were so many exciting causes of the disease before the spring sledging parties started, the only anti-scorbutic at his disposal should have been freely supplied to his men. Most probably the outbreak would still have occurred; but at least it would have been postponed, leaving the men able to get through more work; the attack would not have been so violent, and possibly the men who died would have been able to hold out until relief came. It was evidently a question of days with them; for instance, had Porter been attacked a few days later, the last stage of his malady would not have come so soon, and he might have been alive when Dr. Moss met the party on the 9th June, in which case there is a strong likelihood his life would have been saved. We shall see that, in the other cases of death, the circumstances were the same; one succumbed before the others; the latter, in an acute stage of the disease, met relief just in time.

In making these observations, we are not to be understood as wishing to detract from the great merits of Captain Nares; he committed an error of judgment, while acting for the best, according to his own conscientious convictions; and few placed in such a position would escape without some error of the kind. Except in the case of Lieutenant Aldrich's expedition, whose history we are about to give, the outbreak did not much affect the success of the exploration; the parties could have done little more under any circumstances than they actually achieved.

## CHAPTER VI.

DEPARTURE OF THE WESTERN SLEDGING PARTY—ACROSS CAPE HENRY—  
MOST NORTHERN POINT OF GRANT LAND—DESCRIPTION OF CAPE CO-  
LUMBIA—MOUNTS DISRAELI AND GLADSTONE—SCURVY—ALDRICH'S  
FARTHEST—VELVERTON BAY—THE RETURN—SUFFERINGS OF THE  
PARTY—NEWS FROM THE SHIP—RELIEF—HOME AGAIN.

WE have described the fortunes of the northern sledging party; we have narrated its advance, the difficulties it had to overcome, the disasters it encountered, and its calamitous retreat; it is our duty now to accompany Lieutenant Aldrich and his companions in their journey along the north shore of Grinnell Land. Though its career was a chequered one, and though it, too, suffered from the scourge which had made such havoc with Commander Markham's party, it was the most successful which left the ships, having travelled over a much larger extent of country, and without any loss of life. A part of the route traversed had been explored by Sir E. Parry in 1827, and by the sledging parties already despatched by the present Expedition for the purposes of pioneering, and placing dépôts; it remained for Aldrich's men to examine and map out accurately the work of their predecessors, and then to push on to fresh fields and pastures new, if we may venture to apply so well-worn a quotation to the regions of eternal snow.

There were two sledges placed under Lieutenant Aldrich's command, the Challenger and the Poppie, but only the former was to accompany him the whole route. Lieutenant Giffard, his second in command, was to take charge of the second sledge, and to accompany Aldrich for a certain distance beyond Cape Parry, and to learn from his superior for the time being the point where a dépôt should be placed for use on the return journey. Another dépôt was to be made at a point to the east of the same cape; and thus two supports were assured for the party.

The crew of the Challenger were Joseph Good, boatswain's mate, who acted as sledge captain; William Wood, sergeant in the Royal Marines; Adam Ayles, petty officer; David Mitchell, A.B.; James Dodge, captain of the foretop; Henry Mann, shipwright; and Thomas Stubbs, blacksmith. The motto was, 'Fortitudo Vincet,' and bravely was it exemplified in the course of the journey. The weight of the

sledge when packed, and the provisions, was nearly 1700 lbs., or an average pull per man of 241 lbs. This was severe enough, but comparatively light when contrasted with the heavy weight dragged by Commander Markham's party. The cause of the difference was, that depôts could be placed on the coast of Grinnell Land, thus lightening the load the Challenger had to carry. In addition, the latter had no ice-boat to drag; their journey was to be by land, and easier travelling was anticipated.

The instructions given to Aldrich by Captain Nares were, to travel as far along the coast of Grinnell Land as his provisions would allow, to examine and note its configuration, and to watch carefully for any indications of land towards the north. The provisions taken by the party, along with those to be afterwards placed in depôt, were sufficient to permit of an absence of seventy-six days. Should anyone from the Discovery be met with, or should the fates and the ice lead to a meeting with Markham's command (it must be remembered that the direction of Grinnell Land beyond Cape Columbia was unknown, and that, for aught they knew, it might trend northwards), the information acquired by each was to be communicated to the other, but the plans laid down and the orders given were not to be departed from. Cairns were to be erected, and records deposited in them, specifying the movements of the party, their destination and prospects, and all other information likely to be of use to future explorers. These records, too, were intended, if necessary, to serve a more melancholy purpose. In case they were destined never to return, such papers would at least tell their fate to those who might follow in their footsteps. Thus a paper written by Captain Crozier, and found by M'Clintock in Boothia Felix, was the first authentic information of the fate of Franklin's Expedition. It is to be remembered, to the credit of Captain Nares and those who sketched out the plan of operations, that no such sad mementoes were necessary in the case of the late exploration.

We have before stated, that Aldrich's party started with Markham's on April 3rd, and that they remained in company until they reached the neighbourhood of Cape Joseph Henry. The narrative we have given of the advance of that party will, therefore, apply to this, and need not be repeated. On the second day, Good and Hill complained, a serious omen so early in the advance, and on the 5th, Sergeant Wood was added to the list. This did not look promising, but on the next day Good and the sergeant pronounced themselves 'all right.'

On the 11th the two parties separated, Aldrich coming to the determination of crossing landwards across Cape Joseph Henry, instead

os., or an  
but com-  
ragg<sup>ed</sup> by  
e was, that  
lightening  
er had no  
r travelling

e, to travel  
ld allow, to  
or any indi-  
y the party,  
ufficient to  
e from the  
lead to a  
ed that the  
known, and  
information  
ut the plans  
om. Cairns  
ecifying the  
nd all other  
records, too,  
urpose. In  
ould at least  
steps. Thus  
M'Clintock  
the fate of  
it of Captain  
that no such  
ration.

a Markham's  
they reached  
ive we have  
pply to this,  
od and Hill  
on the 5th,  
rk promising,  
l themselves

ming to the  
enry, instead



WORK IN THE ARCTIC REGIONS.



of rounding it on the ice ; and accordingly at 1.15 colours were hoisted, hearty cheers and good wishes exchanged, and a farewell taken. Lieutenant Aldrich formed an accurate notion of the difficulties likely to be encountered by Markham, as the following extract from his journey will show :—' I am glad at having experienced a few of the very many difficulties, which I fear will hamper the northern division. I am afraid they will meet with very small floes, and very heavy and wide fringes of hummocks. Double banking and road-making will be constant.'

Before parting, Hill was exchanged for David Mitchell, able seaman, the former returning to the Alert with Dr. Moss. The western party being now left to their own resources, it will be a convenient place to give details of their costumes, as the latter differed somewhat from those we have described before.

#### BODY GEAR.

- 1 under flannel, double-breasted.
- 1 cholera belt.
- 1 ship's guernsey.
- 1 blue guernsey.
- 1 check shirt.
- 1 overall jumper.

#### LEG GEAR.

- 1 pair of flannel drawers.

- 1 pair of duffle trousers.
- 1 pair of overalls.

#### FOOT GEAR.

- 1 pair of ship's flannel wrappers.
- 1 pair of blanket wrappers.
- 1 pair of grey boot hose.
- 1 pair of moccasins.

In addition, the men wore mits, sealskin caps, Eugenies, skull caps, &c. ; and their knapsacks contained extra supplies of the above articles, comforters, and the unfailing pipe. Goggles were worn by all, as a protection against snow-blindness.

On the 12th April they struck inland, Aldrich going on ahead to explore the route, and examine the country. He found a deep *crevasse*, but the snow was harder, and in better condition for travelling than when he visited this quarter in the preceding autumn. He made an attempt to ascend Conical Hill, but the ice was too thickly packed round the base. A description of its appearance may be interesting :

'The ice has been forced up and broken against the exceedingly steep shore, till in some places it forms a curve, and resembles the back wash of water from a rock ; where this occurs, there are generally lanes of young ice below and outside it, but an end soon came to these, and the ice is piled close up against the shore, without ice-foot or leads of any description.'

The 12th, 13th, and 14th were spent in crossing the promontory (Feilden Peninsula, called after the naturalist attached to the Alert), and on the 15th James Ross Bay was reached ; this lies between

Feilden and Parry Peninsulas, and is about nine miles deep. On the 13th some hare and ptarmigan tracks were seen, and Giffard managed to bag four of the former. These made a splendid dinner for the party, already heartily tired of the pemmican. When James Ross Bay was reached, it was not easy to distinguish it; no foaming surge beating on the pebbles, or any of the other adjuncts which present themselves to our imaginations when the word 'bay' is mentioned, were visible; nothing but the eternal ice.

On reaching it their course was shaped to the north-west, in the direction of Cape Hecla, and at the entrance to the bay a small island, named after the ill-fated Crozier, was examined. It is about 250 feet in height, and appears to be formed either of shingle forced up by the ice, or of the debris washed down the surrounding hills by the occasional summer torrents. The ice hummocks appeared closely packed and jammed against Cape Joseph Henry, but recede from the shore around Cape Hecla and the neighbouring coasts, a circumstance which seems to show that the tidal movements, and the forcing of the pack from the Palæocrystic Sea into Robeson Channel, are in full force at the former promontory.

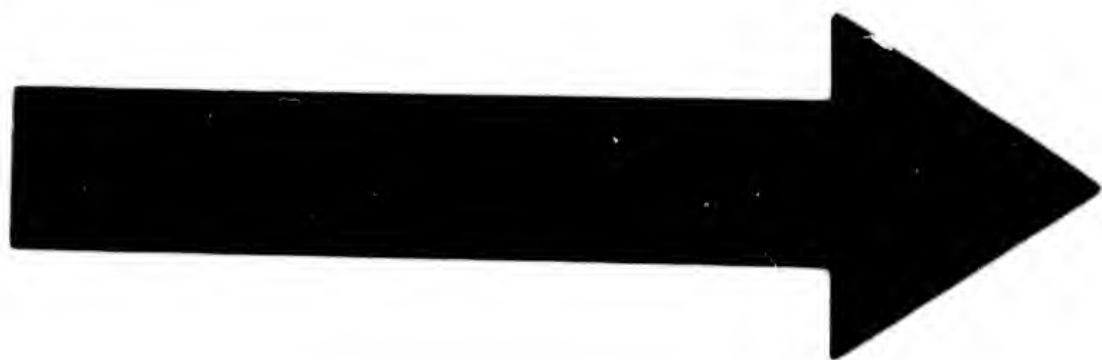
The travelling up to the present had been tolerable, sometimes the sledges being double manned, sometimes single; most frequently the former, the rate made good being on an average three or four miles a day. On the 18th Lieutenant Giffard and ten of the men built a cairn in Crozier Island, in which the usual records were deposited, and the party then crossed Parry Peninsula, reaching the inlet beyond Parker Bay on the 20th. A good view from the neighbourhood of Cape Hecla showed that the hummocks, as far as could be seen, kept at some distance from the land, leaving a comparatively level space between them and the shore. This promised well for the future travelling, and was a welcome sight to our voyagers. To the north was a wide inlet, which was named after Clements Markham, the secretary to the Royal Geographical Society, and nearly opposite, but to the north-west, was seen a cape, called after Dr. Colan, of the Alert. Explorers of new regions have in a limited way the power of conferring immortality, since it mainly rests with them to give names to the localities they visit. Aldrich's party, and indeed the other parties in like manner (except Markham's, which had no land to name), availed themselves of this privilege for the advantage of their shipmates, and even the rank and file, the common sailors and marines, had their names liberally bestowed upon the various prominent localities in the northern shores of Grant Land. Thus we have in the chart drawn up after the return of the Expedition, Doidge Bay, Ayles Bay, Gros Point,

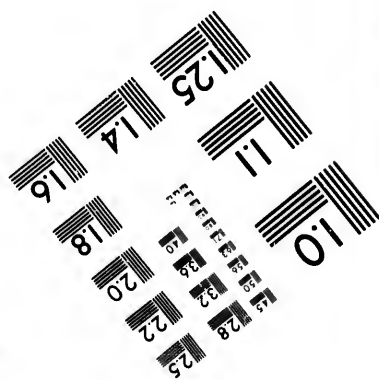
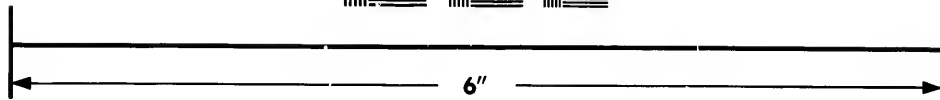
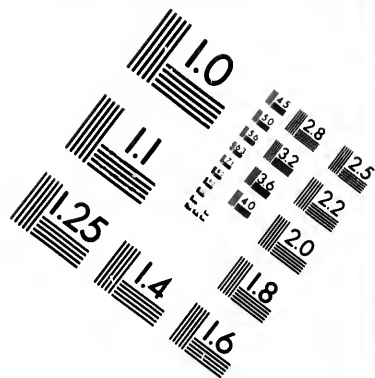
Stubbs Point, &c., &c. The authorities for the time being, especially the naval ones, are also remembered in such cases, and Ward Hunt Island, Yelverton Bay, Milne Bay, and Cape Albert Edward, will show to posterity who were first lords, admirals, and princes of the blood, when the Arctic Expedition of 1875-6 pursued its wanderings. Evidently the present Premier did not communicate to Captain Nares or his men, when leaving England, the probability of his translation from the commons to the peers, and his consequent change of designation; and so we have Disraeli Bay, Mount Disraeli, &c., without any suspicion that the man they delighted to honour was at that moment the Earl of Beaconsfield. Nor were the Opposition altogether forgotten. On the western side of Clement Markham Inlet are two lofty peaks, dominating all around, and facing each other, across a valley lying between. Each is of the same altitude, 2500 feet, and one is appropriately named Mount Disraeli, and the other Mount Gladstone. On looking at their positions and titles in the chart, one is involuntarily reminded of the table running along the centre of St. Stephens, with the prominent and well-known figures which formerly faced each other from the Treasury and front Opposition benches.

But this is a digression for which neither we nor our explorers have sufficient time. Two days brought them to Cape Colan, where on the 22nd a depôt was placed. The travelling was not so good as was at first anticipated; for though the shore looked level, the snow was very deep, necessitating frequent double manning. To get an idea of the nature of the ground, or whatever it may be called, over which he was advancing, Aldrich dug down near Cape Stuckberry, west of Cape Colan. He found the snow from 1 to  $4\frac{1}{2}$  feet deep, and then came to what he thought was land, but which he found to be a thin layer of mud lying on the top of the hard ice. On this, as on other occasions, it was impossible to say at first whether the party was crossing low land near the shore-cliffs, or the actual frozen sea.

On Sunday, the 23rd, Point Moss was reached, and a long line of coast lay before them, stretching north-west. The shore was bordered with cliffs, and inland were seen several mountain peaks, above which Mounts Disraeli and Gladstone towered conspicuously. The line of travelling, which looked so promising from Cape Hecla, was, like many other distant prospects, less pleasing in the reality. It was level, certainly; but the smooth surface was of snow, in some places nearly 5 feet deep. The work of dragging the sledges through this soft mass was very harassing, and necessitated double manning. The most prominent point in the distance was named Giffard Point, and thither the steps of the party were directed, as Aldrich intended leaving a depôt there.







**23 WEST MAIN STREET  
WEBSTER, N.Y. 14580  
(716) 872-4503**

14 28  
16 32  
18 22  
20 26  
24 18

11  
10  
01

The next day, the 25th, was that fixed for the return of the supporting party, consisting of Lieutenant Giffard and the crew of the sledge Poppie. All the spare provisions were transferred from the Poppie to the Challenger, and all hands joined in pulling the latter as far forward as possible, the return party leaving their own sledge for the present, intending to hook it again on their way back. Even with the help thus afforded the progress was slow. Aldrich writes:—'No improvement in the travelling, and the sledge came to a dead stop over and over again in the deep soft snow, and this notwithstanding the desire of all to get as far as possible before parting company. Had anyone been in the neighbourhood, and unacquainted with the method of progression in this detestable travelling, they would very probably have been astonished at the constant shouts of "One, two, three, haul," varied by "Maintopsail, haul," to relieve the monotony of the same "old yarn." However, we had the whole country to ourselves, and were at perfect liberty to expend as much of our breath in shouting as we could spare, without fear of awakening or frightening anybody.' Theirs were the first human voices which ever broke the stillness of the perennial winter on this dreary coast.

At 5 o'clock on that evening, Giffard and his men started on their homeward journey (the Alert held their Lares and their Penates, at least for the time being). The usual cheers and good wishes were exchanged, and Aldrich accompanied his fellow-lieutenant for a short distance, giving him his final instructions regarding the positions of the dépôts. Giffard reached his vessel on May 3rd. On his way back, he was to examine Clement Markham Inlet, if time and other circumstances permitted. He found, however, that its investigation was impracticable. He had first to reach the ship, and then to start with dépôts for the use of the party he had left. But he examined the inlet as well as he could. He found it to run into the land, with a direction somewhat westerly, and its coast was formed mainly of steep cliffs. In the distance were seen mountains nearly 3000 feet high; and from their position he inferred that it was merely an arm of the sea, and not a channel. Whether this is the case or not, is reserved for future explorers to determine; they alone can say does it soon terminate, or is it a strait communicating with the ocean near the scene of Franklin's and M'Clintock's labours, thus making an island of that part of Grant Land whose northern shores Aldrich was now travelling.

The latter camped for the night, shortly after parting with Giffard. We use the term 'night' rather conventionally. Where our voyagers now were, the sun never disappeared below the horizon. All the parties got into the habit of 'night' travelling; their object mainly

was, to have the sun behind them, or, at least, in such a position as not to cast too great a glare into their eyes. This, as a rule, could best be done while he was low down in the heavens. All the men were apparently in good health and spirits, the principal obstacle to success being the nature of the snow, and the consequent heavy travelling. The sledge had to make double journeys, taking half the load at first, and then returning for the remainder. Only  $2\frac{1}{2}$  miles were made good, but the men were, nevertheless, much fatigued; 'the fact being that, light loads or heavy loads, this thick snow takes it out of one tremendously, and the constant standing pulls shake one to pieces.' On the 27th we find, 'The double journeys are most discouraging to the men, and their looks of disappointment when, after nine hours' labour, they find themselves only  $2\frac{1}{2}$  to 3 miles from where they started, show how much more they would do if they could.' By actual measurement on this day, Aldrich found that the rate of advance was about 1400 yards per hour, the amount made good, on account of the returning, packing, &c., being only  $\frac{1}{4}$  of a mile.

Giffard Peak, nearly 2000 feet high, was reached on this day, and beyond it was a small curve, about  $1\frac{1}{2}$  mile deep, which was called Doidge Bay, after one of the sledge party. The north-west face of the peak is a precipice, and from the form of it and some adjoining hills, the name of the Arm Chair was given to all.

On the 29th the main-brace was spliced, in honour of crossing the 83rd parallel, and the toast was, 'Success to the Northern Division. The kettle on this day was found to leak; on examining it, a hole was discovered, caused by the cook using the point of a knife to overcome the scruples of a lump of cocoa reluctant to dissolve. Trifling as the incident may appear, it occasioned a great deal of trouble before the mishap was rectified. The next day the successor to this impatient genius eclipsed himself, time and quality being both improved. 'I am informed,' says Aldrich, 'that turning the spout of the condenser to windward exercises a very beneficial effect in the quantity of water made therein!' Altogether this was a day of promise; in the morning the travelling was found to be improved, being at the rate of 1650 yards per hour. 'This was a short march, partly on account of shifting our travelling hours still farther into the night, and partly on account of its being Sunday. I have always intended making some distinction in the day's work, but hitherto our journeys have been so short I have not felt justified in doing so. My men are all in capital spirits; the improved travelling, the warm weather, and prospects of getting in, all tending to a rapid rise in the "Social Barometer," which in our small community is as desirable as welcome.'

Had their prescience been greater, their spirits would not have been so light that evening; the first ominous presage of future disaster made its appearance. Sergeant-Major Wood had a very ugly-looking red patch or blotch on his leg just above his ankle, and his limb was swollen. This was, of course, scurvy; but all, both officers and men, were in blissful ignorance of its symptoms, and thought the sergeant's complaint was due to his lacing his foot-gear too taut; they therefore went to rest in happy unconsciousness.

On the 1st May, Aldrich Cape was reached, Stubbs Point (called after the blacksmith, one of the sledge crew), and Wood Point, named after the sergeant, having been passed. At Cape Aldrich, the Lieutenant determined to place a *dépôt* for his return journey, but he had a difficulty in finding a suitable spot. It may not be amiss here to describe the mode of formation of these indispensable adjuncts to lengthened Arctic travelling. A hole, eight or ten inches deep (in the actual soil, if at all practicable), is first dug. On account of the hardness of the soil at Cape Aldrich, it took four men  $2\frac{1}{2}$  hours to accomplish this. In the hole thus scooped out, a gutta-percha case is placed, containing the groceries; over this the pemmican tins, and then the bacon, rum, and other articles. Then plenty of stones are placed round, to a suitable height, so as to secure the provisions from the prying scent of wild beasts; over all is heaped snow. Where there is not much likelihood of any visitors except exploring parties, as was the case here, a pole, or something of that nature, is fixed above, and a record placed on or near it.

When the *dépôt* was made secure, the load was lightened to the extent of 300 lbs., no slight gain. The appearance of the party, and the aspect of the surrounding regions, partook altogether of nature's sternest moods. The men were together, pulling the sledge fastened by ropes to their drag-belts, and sinking in the snow at every step. Nothing but snow was visible in any direction; to the right, a level expanse, with a distant border of hummocks; to the left, a line of cliffs, with projecting points here and there, and, at a distance of 5 miles, a lofty peak, shaped like a sugar-loaf, rising to the height of 1800 feet, draped in the eternal white, and terminating to the right on the sea coast in a promontory about 800 feet in altitude. The land in the direction of this last-mentioned elevation trended slightly to the north-west. The true direction was W. by N.  $\frac{1}{2}$  N. On nearing this cape, a conical hill appeared in the distance, and immediately afterwards a succession of capes or bluffs. Their general direction was west by south, and, on reaching the promontory, it was seen to be farther north than any. An observation was made by Aldrich, and he found it to be

in latitude  $83^{\circ} 7'$  north, and longitude  $70^{\circ} 10'$  west; and it thus proved to be the most northerly portion of land which has been as yet visited by man. Thus the first day of summer was a memorable day for the western sledging party; on it they reached this remarkable point, which Captain Nares afterwards appropriately called Cape Columbia. It rises almost perpendicular from the sea. Its general appearance is worthy of its position; and around its base, where the party camped, was a hard snow-drift, about 12 feet deep.

The heavens themselves lent their aid to render this day memorable in the annals of the Expedition; in the afternoon a perihelion was visible, consisting of four mock suns, and right above the true sun was a most brilliant arc of prismatic colours, with the red especially vivid. On the same day, and at no great distance, Markham's party, disabled by scurvy, was struggling northwards, but with no hopeful aspirations. The heavens put on no gorgeous aspect for them. Neither their onward prospects nor their inward hopes were so brilliant as those of their comrades at Cape Columbia.

The weather being remarkably fine, Aldrich determined to halt, and to ascend on the next day the high mountain behind Cape Columbia, named North Cooper Key Peak. He anticipated a splendid view over the Palæocrystic Sea, and almost the entire north of Grant Land, and the whole crew were anxious to be of the party. They might have remained to rest, but who would spend the day in inglorious ease, with a mountain 1800 feet to be ascended, and a magnificent prospect to be admired? All could not go; and their leader desired them to draw lots for one to remain with the tent. The unenviable distinction fell upon Doidge, who was anything but cheerful under the circumstances.

However, his comrades were not fated to have any advantage over him; during breakfast a fog-bank appeared, the wind increased, and a mist overspread the sky. If they made the toilsome ascent of the North Cooper Key Peak, no splendid view would compensate. Nothing remained but to start on their forward journey. Aldrich hoped on returning to have the pleasure now denied him. It will be seen what untoward events interposed when he again passed Cape Columbia.

After rounding the cape, the coast appeared moderately steep, from 400 to 800 feet high, and broken up into indentations or bays. The first of the latter, next the cape, was of moderate depth, and was called Markham Bay. On its opposite side was a small promontory, which they called after the captain. The travelling for the past few days was especially good, being almost at the rate of a mile an hour.

The next couple of days were cloudy and misty, and the rate of

progress rather slower, though still the travelling might be accounted good. After passing Cape Nares, the coast continued nearly due west, along which they travelled until, on the 4th, they reached a cape which they named Albert Edward. On the west of this was a bay about 25 miles across, its greatest depth being 10 miles. This was called Disraeli Bay, and the extreme cape, opposite Albert Edward Point, was named after the amiable consort of the Prince of Wales. The present First Lord of the Admiralty is placed in the same distinguished company as the Premier, an island at the entrance of Disraeli Bay being called Ward Hunt Island.

A little to the east of Cape Alexander is a very peculiar hill, resembling the ram-bow of an ironclad, and about 800 feet high; its summit is composed of very hard, dark-looking stone. Some fox and lemming tracks were here visible, the only sign of animal life seen for a long time. Near Ram Bow Hill a depôt was placed, the lieutenant and Ayles in the meantime ascending the cliff to obtain a view. The ground round the depôt is 'beautiful-looking soil;' we presume Portia's apophthegm applies here.\* The contrast between the blinding glare of the snow and 'the small shingle, last year's saxifrage and poppy, and this year's moss, which latter was of such a brilliant green, we all thoroughly enjoyed looking at it. It did our eyes good.

After passing Cape Alexandra the coast still continued to run west until, on the 8th, Cape Stephenson was reached, beyond which was an inlet named M'Clintock Bay. The land nearing Cape Stephenson is very undulating, and numerous ridges of ice occur. The travelling was good, and when the camp was reached and the tent pitched, on the 9th, the temperature was so high that the men were able to enjoy a comfortable pipe in the open air. Unfortunately, though the rate of progress was good so far, and though the sergeant's symptoms did not appear to get worse, about this time there were general complaints of stiff and swollen legs. The former were naturally expected, and the first symptoms of the sort did not occasion much remark. But when, instead of wearing away, they increased, and the flesh became soft, and liable to injury from a slight pressure, matters began to look serious.

M'Clintock Bay is surrounded by a bold, cliffy coast, two promontories, Bethell and Bromley Points, projecting into it, and attaining an altitude of 1000 feet each. On the opposite side of the bay is Cape Richards, beyond which is high and undulating land, about 1500 feet high, terminating in Cape Fanshawe Martin. On the western side of this cape is a ravine, with precipitous sides of ice; and, immediately beyond, a deep bay, called after Ayles. The direction of the land

\* 'Nothing is good, I see, without respect.'



from Cape Columbia had been hitherto nearly due west. From Cape Fanshawe Martin it began to trend to the south-west. The men were getting very much done up; the scurvy was telling upon them, though it had not, up to the present, made such ravages as it had among the other parties. But the crew of the *Challenger* did not know the condition of their comrades at this period, and the following extract from the journal of May 14th will show the feelings which animated them:—‘A Sunday morning, with a desultory conversation going on while waiting for pemmican, now of England, now of fresh food and vegetables (a pretty constant topic), and an occasional lamentation as to the wretched state of the legs, with an expectation that they may be the only cases, and the fear that in consequence their work will not bear comparison with that done by the other sledges, and those who have gone before us.’ Is not this a touch of the same spirit which made Collingwood say, on the memorable October day off Cape Trafalgar: ‘What would Nelson give to be here?’ while his commander, at the same moment, was exclaiming: ‘See how that noble fellow, Collingwood, brings his ship into action?’

At this time most of the men were in a precarious condition; the lieutenants, Ayles, and Mitchell, were the strongest, swollen legs, in many cases discoloured, affecting the rest. They were now crossing Milne Bay, and the direction of their journey was south-west. They were getting along at, for the region, a rapid rate, their average speed being about a mile an hour. On account of the heat of the weather, there were frequent complaints of thirst. Great inconvenience was experienced from the waterproof sheet supplied for use in the tent; it did not at all merit its name. In the morning it required delicate handling, as it was easily cracked; some novel experiments were consequently made on the stuff called ‘sheet insertion,’ composed of vulcanized india-rubber and canvas. After soaking it in water, it was exposed for 24 hours to a temperature of from  $-55^{\circ}$  to  $-60^{\circ}$ —that is, over 90 degrees below freezing point, and it remained pliable as ever. The great defect of articles of covering in Arctic travelling is, that they absorb moisture, and then freeze, becoming sometimes like cast-iron.

The most western point of Milne Bay is named Cape Evans; the sledge-crew took the liberty of calling it ‘Game Leg Point.’ The suffering members were called in derision, ‘game legs,’ and were in other respects the objects of jest. One of the party saying that he felt himself increasing in weight; ‘I wouldn’t wonder,’ responded his comrade, ‘look at the size of your legs.’ The worst feature was the loss of appetite—at least, for such food as they had; the pemmican was especially distasteful, though perhaps the nourishment best suited to their circumstances.

They asked Aldrich to allow them to make a plentiful use of the turpentine-liniment ; he philosophically remarks, 'As it is the only means I have of leading them to believe they are doing themselves good, it is again in full swing, and likely to scent the tent every night until it is finished. Luckily, we all like the smell.' Their taste in this respect was peculiar ; but if the turpentine did them no harm, it did them no good.

When at Cape Evans on the 15th May, it was found that the pickaxe had been left behind at the last encampment. This was unfortunate, and Aldrich determined to start back the next day to recover what was a treasure in such a region. Accordingly, directing the rest of the party to start, he took Ayles with him, and retraced his steps to their encampment of yesterday. Just as they secured the pickaxe, a puff of wind came from the north-east, and brought a fog-bank with it. There was no time, even had there been inclination, to admire the scenery, so they marched quickly in the track of their companions. The wind had now increased to a moderate gale, and the consequent drift threatened to obliterate the path made by the passage of the sledge. After a time they were frequently astray, and a novel pair of compasses had to be constructed. Ayles stood still, while the lieutenant described a circle around him, in the effort to pick up the trail. This was repeated several times ; they got exhausted, and were contemplating a night's camping out in the snow, when the tent hove in sight about 51 yards from them. Just as they got the welcome view, they heard a gun fired, and afterwards a most unearthly yelling from their comrades, with the pipe of the boatswain's mate whistling shrill and clear above the din. This musical party had been carried on for some time ; they feared Aldrich and Ayles might have lost their way in the drift, and they adopted this method of giving them notice of their whereabouts.

The tent looked cheerless enough ; though camped for three hours, the men had not cooked anything, nor had they changed their foot-clothing, but were disconsolate in the extreme. When their comrades appeared, all was joy and bustle ; the cook set to work, and soon pemmican and tea made even the Arctic wastes enjoyable for the time. The gale and drift continued during the night, and they had to dig themselves out in the morning. The wind was still playing its gambols, and the snow was raised in every direction to the height of 15 or 20 feet above the ordinary level, rendering everything indistinct. Above, there was a blue sky, with the sun shining, but only occasional glimpses could be got ; at last the gale subsided, and the party got under weigh. There is one advantage in a breeze, however ; when it blows, a sail can be rigged on the sledge, which expedites the travelling.

The party, after passing Cape Evans, found themselves in a bay, which they called Yelverton Bay; its coast was high in places, detached hills were seen inland, and steep promontories stretched from the mainland. In the distance, towards the south-west, a cape was seen, which they called Cape Alert, but which was afterwards named Cape Alfred Ernest, by Captain Nares, in honour of the Duke of Edinburgh. Yelverton Bay is about 22 miles across, and is nearly 6 miles in depth; it was further split into inlets by the projecting promontories before mentioned; and Aldrich was not sure the smaller bays thus formed united inland, thus making two islands.

The 18th May was their 46th day out, and Aldrich thought it was now time to bring his onward career to a close. They had thus reached the limit of their forward journey, and were now to retrace their steps. We extract the whole entry of the day from the lieutenant's journal.

'Thursday, May 18th.—Nine days' provision in sledge. Called cook at 6 A.M. Taking into consideration the state of the crew, and the quantity of provisions remaining, I think it advisable to turn back for the ship to-day. The biscuit remaining is 5 days' full allowance, which with a healthy crew, would be ample, but looking as I must to marches not much better than we have been lately doing, it will have to last 10 days. Have reduced biscuit to half allowance.

'With this in view, I left the tent pitched, and Mann (who is not fit to march, but better than last night) to look after the gear, while with the sledge, cooking-gear, luncheons, pickaxe, &c., the rest of us went on for a half journey to try and reach a place for building a cairn, and get a little more extended view of the coast-line. Under weigh at 9 A.M. A very clear and beautiful day. After seeing Mann comfortable, and leaving him means of cooking his tea, I followed at 9.25, and soon overtook Doidge and the sergeant limping along several hundred yards in the rear of the sledge. I told them they had better go back, but this they begged off, and continued their painful journey. Overtaking the sledge, I walked ahead up the steady incline, which began about 2 miles from the camp. After walking about 4 miles, I found the cape proved Alert in reality, for I came to the conclusion there was no cape at all, but that the coast-line trended round more to the southward, after clearing Yelverton Bay. The land was covered deeply in snow, and there was no place at all suitable for building a cairn anywhere within reach of the party. I was now about 200 feet above the sea or ice level, and had a very good and careful look all round. No land was visible, except the coast along which we were travelling, my view of which extended about 7 miles farther than where I had come to, the trend being gradually southward and westward.

'The line of hummocks was about 4 miles off, and appeared to incline slightly to the southward in the distance. The land itself is not high, and there being no cliffs, not a speck bare of snow was visible. The hills sloped gradually from the ice, and the ridge on which we were at the extreme of our journey was a portion of undulating low land attached to the coast, and continuing S.W. with it.

'I turned back and met the sledge. Halted for grog and biscuit. Hoisted Captain Nares' Union Jack, and drank Her Majesty's health. After lunch we sounded, and came to solid ice under  $4\frac{1}{2}$  feet of snow, but from the height and extent of the ridges, I should imagine land lay underneath.

'Looking back on to the bay, I observed a series of ice rollers, two of which we crossed over yesterday.'

The latitude of the last place reached was  $82^{\circ} 16' N.$ , and the longitude  $85^{\circ} 33' W.$  There was no appearance of land in the north, and the direction of the coast on which they were was to the south. As far as they could judge, nothing was to the north and west, except a sea of hummocks. All was lifeless and drearily solitary; no stir of animal life, and nothing to relieve the dead monotony of white. In such a position, standing where in all probability no human foot had ever stood before, we can imagine solemn and poetical feelings stirring the hearts even of the rudest, thus brought face to face with the majesty

of God. That our party were destitute of such emotions, we are sure we can deny; but the exigencies of their situation left them no time to indulge in them. They were now nearly 270 miles from the ship, and a toilsome journey was before them, sufficient to tax the energies of the strongest, and likely to be doubly harassing in their present the enfeebled condition. Then there was the business of the hour; leader had to make his observations; and the men employed the few hours at their disposal in the prosaic work of mending their foot-gear.

On May 19th the journey homeward began. They endeavoured, of course, to follow the line they had traversed on their route from the ship; this was necessary, but not conducive to novelty. The depôts had to be visited, and hence the chance was lost of varying the line of travelling through these dreary regions, where the grisly monarch of winter reigns supreme. The provisions were short, and they were now on half allowance of biscuit—a bad prospect for the sick men, as nothing but a generous diet of fresh food could restore them. The bread they had was in a black bag, which gave it a flavour borne readily by the men, seeing that there was no loss from dust, as was the case with the bags in which they had it before. There was no use in repining, however;

the difficulties had to be faced, and our men started for home in better spirits than could well be expected.

The 20th May might seem a fine English summer day, were it not for the tale told by the shady side of the face and nose. Another most unwelcome proof of the difference was afforded by the groaning of the men, pulling heavily through the snow; this was forced from them by the state of their limbs, stiff and swollen. It was always worst in the morning; the rest at lunch invigorated them, and the evening journey was got through in comparatively buoyant spirits. To show what some of these poor men had to suffer, we quote from the journal:—'Good's knee is very painful. Working like a horse, as he does all day, he creeps into his bag at night, groaning, and after a sleepless night, rouses out in an agony of pain in the morning.'

Ayles and Mitchell only remained in good health; had they succumbed, in all probability half the party would have perished.

In spite of their torments, they remembered, on the 22nd May, the kind treatment they had experienced on that day twelvemonth, and they drank at night the health of the 'Mayor and Corporation of Portsmouth,' not without an after grimace when they contrasted their present condition with the satisfactory way in which they had spent their anniversary.

On the 23rd, after starting his party across Ayles Bay, Aldrich struck inward, to examine the coast a little more closely. He found it steep as usual, with masses of ice here and there, and the snow exceedingly deep. At the foot of Cape Bicknor is a debris of huge masses of stones, extending 100 yards from its base. As the cape is perpendicular, these stones seem to have fallen from it at some former date; its appearance was in some respects like that of Fair Head in Antrim. The lieutenant endeavoured to cross south of Cape Fanshawe Martin, and so find a short cut into M'Clintock Bay, where he could join his party. He was, however, 'brought up' by a chasm, with a perpendicular drop of 70 or 80 feet, the sides consisting of snow and ice. He walked along the side of the ravine thus formed, its direction being inland, and increasing in altitude, until he found himself about 1000 feet above the level of the sea. Here he had a fine view to the northward; there was no change in its aspect; nothing except the never-ending hummocks was to be seen. Finding no prospect of doubling the head of the ravine, he retraced his steps to the foot of the cape, and overtook his party as they were encamping near it on the east.

On the 24th, part of M'Clintock Bay was crossed, and the camp fixed about two miles from Cape Richards. But some important work had to be done besides the travelling. We have mentioned that no suitable place for a cairn could be found near the extreme point

attained by the party; and up to the present they were equally unfortunate; but now the eastern face of Cape Fanshawe Martin seemed adapted for the purpose. Aldrich, Ayles, and Stubbs pushed on in advance, leaving the rest to follow; but Stubbs was so blown after a quarter of a mile, he was desired to wait for the rest. The remainder of the party came struggling up, halting for breath every few minutes, and utterly unable to do anything for some time after they reached the appointed place.

While they were at work, constructing the cairn, the lieutenant returned to the tent to write out the record, of which the following is a copy:—

‘This cairn was built by the Challenger sledge crew, detached on an exploring expedition to the westward, from H.M.S. Alert, G. S. Nares, Esq., Captain. No cairn has been erected westward of this, and this does not mark the farthest position attained by the party. The extreme reached is shown in the accompanying chart, as across three more bays, and about 43 miles beyond this cairn. In addition to this sledge expedition, a northern division, under Commander Markham, is endeavouring to force a way northward over the ice, and H.M.S. Discovery has parties away exploring the north coast of Greenland. Challenger is 52 days from the ship, and on the homeward journey. (Here follow the names of the party, the date, and the winter quarters of both ships.)

‘P. ALDRICH, Lieut.,

‘In command of the Party.’

‘Although a sledging party is not often able to fall into the temptation of “keeping spirits up by pouring spirits down,” we gave her Majesty the Queen our best wishes, and “spliced the main-brace,” which led to a conversation on the Queen’s birth-day of last year, thence to the day on which it was kept, our departure from England, and a general summary of subsequent events, amid which and tobacco smoke we rolled ourselves up in our bags and fell asleep.’

On the 25th the lieutenant again left the party, for the purpose of examining the shores of M’Clintock Bay, which he was doing successfully until a fog came on. Next day was their best journey, 12 miles having been made good; but they were indebted for this in a great measure to a gale, to take advantage of which they hoisted sail. A greater distance could have been travelled, were it not for the halts they had to make, to allow the sick men to come up.

On the 27th the depôt at Cape Alexandra was reached. If the crew had preserved their ordinary appetites, either they would have suffered great privations, or their stock would have been exhausted before this. But sickness had so told on them, that some of the pemmican was left;

the tea and biscuit lasted only to this date. The fresh supply from the depôt was calculated only for 4 days; it was divided so as to last for 7, little more than half the ordinary allowance being issued.

The remainder of May was spent in plodding on as usual from Cape Alexandra along the coast and across Disraeli Bay to Cape Albert Edward. On the 30th, Aldrich visited Ward Hunt Island, which he found was composed of small stones—at least if he might judge from the appearance of a ridge about 600 feet in height, which he mounted and found bare of snow at the top. It so nearly resembles Crozier Island in James Ross' Bay, that they seem to have been formed in the same way. On Ward Hunt Island, poppy, saxifrage, and small tufts of grass were growing, so that vegetation was not unknown in this high latitude. Trails of hares were seen, but not recent; probably their visits are later in the season.

June opened badly; the provisions were nearly out, the cocoa entirely so, yet they were 25 miles from the next depôt. The tent was 'fearfully hot' inside, melting the snow, and producing constant dripping. There was bad travelling—for them; it would have been more than excellent for Markham's party—4 miles being made good.

On the 2nd, the bacon, preserved potatoes, and sugar were exhausted; only one-third allowance of biscuit was issued; there was enough of pemmican and rum. The snow was more like sleet, and only 3 miles made good, with constant standing hauls.

The state of the party on June 3rd was as follows:—1. The Sergeant Major, bad legs, pain inside, short of breath, and very weak. 2. Stubbs, do. 3. Mann, fairly well; but bad legs. 4. Good, bad legs, constant exhaustion, and attacks of diarrhoea. 5. Doidge, very bad legs. 6. Mitchell, bad legs, which caused him so much agony, that he had frequently to leave the tent at night and rub them outside, that he might not disturb his sledge-mates by his groaning. This was entirely his own wish. 7. Ayles, perfectly sound.

We need not enter very fully into the details of the rest of the homeward journey; the preceding will give our readers a sufficient idea. On the 5th June, Cape Columbia was again passed; Aldrich had hoped to be able on his return to ascend Cooper Key, to have the view denied him when he passed it previously; but, though the day was fine, the state of his men precluded the possibility of delay. Some were really unable to walk, but he was afraid to place anyone on the sledge; the rest would not be able to pull, and once the example was given, he dreaded the results.

We forgot to mention "at on June 12th they got some news of their comrades, from whom they had been so long separated. Giffard had,

since he parted company, returned to Colan Point, and there placed a dépôt, and left letters. On the 15th James Ross Bay was reached, and they struck straight across to Cape Joseph Henry, thus deviating from the route taken on their outward journey. The travelling was naturally slow, about 4 or 5 miles on the average; all struggled manfully on, and the state of the snow and the weather were in general favourable.

At last, on the 19th, Aldrich was a little in advance, near View Point, when he heard a shout and the discharge of a gun. It turned out to be Lieutenant May and a supporting party; they were most heartily welcome. Some of the poor fellows, though rejoiced at the prospect of relief, and at the ox-cheek and apple-jelly (most acceptable to their sore gums), brought by the new-comers, were so weakened by their sufferings that they gave way to tears. Aldrich learned from this party of the deaths of Porter and Petersen; it was fortunate he was separated from his own men when the news was told him by May. He dreaded the effect it would have upon his crew, and so warned the relief party to say nothing about it. As they would have to pass Porter's grave on their way to the Alert, he sent one of May's men forward, who removed the cross and inscription.

With the help of the supporting party, and of Captain Feilden and Lieutenant Parr, whom they met nearer the ship, they were not long in completing their journey. They arrived alongside on the 25th June, having been absent 82 days, during which time they travelled 708 miles, examined about 230 miles of coast, most of which had never been visited before. Had they not been disabled by sickness, and had supporting dépôts been sufficiently advanced, they could have gone much farther, and possibly connected the upper portion of Robeson Channel with the places visited by former explorers.

The nature of the coast line of Grant Land will be understood from the preceding narrative. It consists of a steep shore, with many promontories and peninsulas, and considerable indentations. The cliffs vary in height from 300 to 800 or 1000 feet, and the interior contains many elevated summits. These do not seem to form continuous chains; those farthest to the west were called the Challenger Mountains, after the sledge. Few animals were seen, though from the tracks examined, the coast is evidently visited by hares, oxen, &c. Birds were seen, some flying northwards; and possibly later in the summer, more evidences of animal life are visible.



## CHAPTER VII.

THE START—REPULSE HARBOUR—SNOW SLOPES—SCURVY—PREMATURE RETURN OF LIEUTENANT RAWSON—MOUNT FARRAGUT, AND A FULL STOP—THE RETURN—A DISTANT PROSPECT OF THE FAR NORTH—SUFFERINGS OF THE PARTY—MEETING OF RELIEF PARTY—DEATHS OF HAND AND PAUL—THE HOSPITAL AT POLARIS BAY—IN THE DRIFT ACROSS ROBESON CHANNEL—THOUGHTS OF HOME—DEPARTURE FROM FLOEBERG BEACH—STRUGGLING THROUGH THE PACK—MEETING OF THE ALERT AND DISCOVERY—CAPTAIN ALLEN YOUNG AND THE PANDORA—HOME AT LAST—RECEPTION OF THE EXPEDITION—FETES, HONOURS, AND REWARDS—SUMMARY.

WE must now accompany the eastern sledging party, on whom the duty of exploring the north shore of Greenland devolved. The leader was Lieutenant Beaumont of the Discovery. He left Discovery Harbour on the 6th April, with two sledges, the Sir Edward Parry and the Stephenson, accompanied by Dr. Coppinger and 14 men. His instructions were, to proceed to the Alert, and there place himself under the directions of Captain Nares, from whom he was to receive his final orders. He reached that vessel on the 16th April, and on the 20th started for his sphere of duty. In addition to the sledges he brought with him from his own ship, two others, the Discovery and the Alert, proceeded with him in the first instance. His final instructions were, to cross Robeson Channel to the north-east coast of Greenland, to point out the positions where depôts should be placed, to proceed along the north coast as far as he could, examining its nature, whether it tended in the direction of the Pole, and exploring as far as was possible the inlets which might be found on the Greenland shore. Having advanced as far as his provisions would allow (he had sufficient for 56 days), he was to retrace his steps along the Greenland coast, but was to fall back upon the American depôt at Polaris Bay, instead of crossing to the Alert. He was to be accompanied by Lieutenant Rawson as second in command, and by Dr. Coppinger as leader of the supporting party, who, with two sledges, was to turn back after accompanying the main party a certain distance.

The following were the crews of the sledges who were to accompany Lieutenants Beaumont and Rawson for the entire of the journey:—The

Sir E. Parry Sledge had Alexander Gray, William Jenkins, Wilson Dobing, Peter Craig, James Hand, Charles W. Paul, Frank Jones. The 'Stephenson' Sledge had Jeremiah Rourke, David Laws, George Leggett, James Cooper, John Hodges, Thomas Darke, and Benjamin Wyatt.

Some hitches occurred in the journey across Robeson Channel, on account of an accident happening to the sledges ; they found the ice of a hummocky nature, which added to the difficulty of travelling ; it was not, therefore, till the 27th that the Repulse Harbour was reached, and the Union Jack planted on the shores of Greenland by James Hand. On the 28th the Alert sledge was ordered back, and the principal party proceeded. The peculiar difficulties of their route were soon experienced. The proper track would have been along the shore, had it been practicable ; but the nature of the ice and the cliffs rendered this impossible. The sea close to the coast had then to be selected ; but this road was not much better than that which had to be abandoned. The snow was heaped up against the shore in sloping masses, and through these a path had to be cut or forced. This was very distressing and very slow.

On the 4th May, Stanton Cape was reached ; and here Beaumont thought it well to establish a depôt, and to send Dr. Coppinger back. This was accordingly done ; and, on the 5th, Beaumont and Rawson advanced with their two sledges. Beyond Cape Stanton was a fine bay surrounded by cliffs ; and the interior of the country was of the usual mountainous character. On the 6th, Hand, after whom the bay was named, complained of stiff legs, and the liniment was used. This was the first symptom of scurvy ; but the nature of the sickness and inefficacy of the remedy were alike unknown. On the 8th, however, Beaumont suspected the truth ; Paul, Bryant, and Jenkins complained on the 9th ; nothing could be done, except to proceed.

On the 11th Cape Bryant was reached, with a fine inlet beyond. There Beaumont came to the determination of sending Rawson back with Hand ; he asked any of the other men to say if they believed they had scurvy, in order to send them back likewise ; but all agreed that they were perfectly well. The two officers ascended Mount Wyatt, had a good view of the country, and then the two parties separated, to the great regret of each. The 11th and 12th were spent in crossing St. George's Fiord to Dragon Point, where a deep inlet, with some islands at its entrance, was seen. Looking down this bay, a remarkable cape, which he named Cape Buttress, was seen in the distance ; beyond, cliffs and mountains were visible, which promised a good field for research. But they were fated not to convert the promise into a reality. The snow was very deep, and the travelling exceedingly laborious. The effort to raise the legs

from one foot-track to the next was most exhausting; the men were nearly all complaining, and the nature of their disease could not be mistaken. Accordingly, after making a final and vain attempt to reach Mount Farragut or Mount Hooker, on the 21st May the party had to turn back. Their steps across the bay were painfully retraced, and on the 25th Dragon Point was reached, when Lieutenant Beaumont rounded Mount Windham Hornby, 3700 feet high, from whose summit they had a splendid prospect. In the distance, to the north-east, Mount Hooker partly shut out the view; but beyond it were seen some bays, islands, and promontories. It is in this direction that a prospect of success for a future Expedition is to be found. A closer examination of the region beheld by Beaumont from Mount Hornby may reveal an extensive and promising field for research.

The condition of the party was now very critical; nearly all were suffering from the scurvy, Paul being much the worst. Fortunately the Lieutenant and Gray kept up pretty well; the route out was followed as closely as they could in returning; and on the 12th June, Repulse Harbour was reached, Jenkins and Paul requiring to be carried for the previous week.

Here Beaumont determined to make an effort to reach the Alert, by crossing Robeson Channel; but shortly after leaving the shore, open water was met; he had, therefore, no alternative but to start for Polaris Bay and the dépôt there. Gap Valley, near Cape Brevoort, was traversed, and on the 19th the party reached Newman Bay. This was first crossed, and Polaris Peninsula attempted, when on the 29th they were delighted to meet Coppinger, Rawson, and Hans, the Esquimaux, with a dog-party.

Rawson had not very agreeable news to give; after parting from Beaumont on the 13th May, he followed the course just travelled by his companions; but Hand was getting worse. After a weary struggle, Polaris Bay was reached; the rest and provisions were of no avail for poor Hand, and he died on the 29th June. Dr. Coppinger, Hans, and a party from the Discovery crossed over on the 7th, and were much surprised to find who were there, and to learn the sad news. On the 8th, Rawson writes: 'Buried Hand. Dr. Coppinger read the service, as Hand was a Roman Catholic. We have placed stones all round the grave, and Dr. Coppinger has planted some dwarf willow and saxifrage over it; he is also going to cut an inscription on a mahogany table, which is the best thing we can find here for a head-stone.' He was buried near to the grave of Captain Hall. Hans here did excellent service. He caught seals, whose flesh was most beneficial to the sick men; and with this help and the services of Dr. Coppinger, they began to improve.

Poor Hand had a great desire for lime-juice before his death. Rawson had none for him, so all he could do was, to wish he 'had a ton of it for him.'

Such were the tidings Rawson and Coppinger told Beaumont when they met him on the 25th June with his party, all wending their weary way across Polaris Promontory to Thank God Harbour. Every one of the remnant of the North Greenland sledging party was prostrated by scurvy; Paul, the worst, in the last stage of the disease; the Lieutenant less affected than the rest, though still bad. Coppinger at once attended to them, having brought some lime-juice and preserved meat with him, and, on the 28th, he started in advance, with the dog-sledge carrying Paul and Jenkins, to reach the depôt at Polaris Bay as soon as possible. For one of them, however, rest and relief came too late. Paul died on the 29th, and his remains were interred, with those of his shipmate, Hand, near Captain Hall's grave. The sledge flags were half-mast high, and three volleys were fired over their last earthly resting-place.

The remainder of the party arrived on the 1st July, Coppinger having sent the dog-sledge to meet them. They were now in comparative comfort. Hans was most indefatigable in his efforts to procure them seal meat; and the doctor states that were it not for his exertions more lives would, in all probability, have been lost. Several ducks and geese were shot by the officers, which added to their stock of fresh food. Lieutenant Fulford, who had accompanied Rawson and Coppinger in their journey to meet Beaumont's party, was sent to the Discovery on the 12th, with two men and the dog-sledge, to acquaint Captain Stephenson of the adventures and condition of the party, he having heard no news of them since the 11th May, when Rawson parted from them at Mount Wyatt. On the 19th, the Captain and a party of six men crossed, bringing them all the medical comforts in his power. With these, and a supply of fresh meat, sorrel, lime-juice, &c., the invalids made a speedy recovery, considering their previous condition; but the doctor and the captain agreed that it would be better to leave them in their present quarters a little longer, so on the 29th Stephenson returned to the Discovery.

On the 8th August the rest bade a final adieu to Thank God Harbour, having previously erected a tombstone over the graves of their companions.

The ice was at this time beginning to break up, so that their passage across was very tedious and dangerous. They crossed the floes when able with their sledge; when the water intervened they took to the ice-boat. They experienced gales, fogs, and drifts, so that their course

was most uncertain and devious—sometimes making for the Discovery, at others going down the channel without power to help themselves. But on the 11th, after a drift south, they were enabled to reach Cape Baird, where they remained a couple of days, when they again started northward, reaching Bellot Island on the 14th; and after crossing to Discovery Harbour, to their surprise they saw the Alert as well as their own ship. They were most gladly welcomed by all, having been absent 132 days, during which they travelled 453 miles. Though the range of their exploration in new ground was limited, their sufferings, toils, and dangers were at least on a par with those of the other.

We have now to explain how the Alert came to be in Discovery Harbour on the 15th August. When the spring sledging parties from that vessel had returned, it was necessary for Captain Nares to decide upon his future proceedings. Should he remain another winter in his present quarters, resuming operations in the following season, or should he start for home, or at least for the nearest attainable station to the entrance to Smith Sound? Considering the state of health of his crew, it was likely that next year would find them weaker than they were in 1876, and, consequently, there would be no probability of continuing the work of discovery around the coasts of Greenland or Grinnell Land. As to any fresh attempt through the ice to reach the Pole, it was out of the question. After full deliberation, he deemed it his duty to start on his homeward journey.

During July 1876, the ice in Robeson Channel began to break up; lanes of water were seen in the ice; a thaw set in, which sent currents running down the ravines to the channel, and the pack began to move. On the 31st they succeeded in getting away from their station at Floeberg Beach, where they had been frozen up since the 15th September 1875. They proceeded down the channel towards the winter quarters of the Discovery. But such were the obstacles experienced from the pack, that they only reached their comrades on the 11th August, having taken 12 days to travel 60 miles. Here, as we narrated before, they were joined by Beaumont's party, thus rendering unnecessary Captain Nares' determination of crossing for them to Polaris Bay.

All were again united, except those four brave men who had left their bones in the Polar wastes, and both vessels started down Kennedy Channel. They experienced the usual difficulties and dangers, continually battling with the pack, making forward whenever there was anything like clear water, and frequently charging the floes, either singly or in company, as occasion required. Their route was nearly the same as on their journey north, and on the 10th September

they reached Cape Victoria. Their path was now tolerably clear to the entrance of Smith Sound, and they did not experience much difficulty in reaching Cape Isabella, where they called for letters.

During the absence of the Expedition, Captain Allen Young, who had accompanied M'Clintock in his search after the remains of Sir John Franklin, was deputed by the Admiralty to visit Baffin Bay and Smith Sound, to carry away any letters he might find anywhere in the neighbourhood, and to give whatever help he could to the explorers, should he be in a position to do so. He had carried home the last despatches of Captain Nares left at Carey Islands; and in May 1876 he left for his voluntary mission in his yacht Pandora. He cruised about in the north of Baffin Bay, searching every likely place for letters or records, and placing supplies and papers in positions such as would attract attention from any party coming south through Smith Sound. But he saw no signs of the Expedition; he was afraid of being shut up by the ice for the winter, which would render him useless for the work he undertook to discharge; so he determined to return to England. When forming this resolution, the Alert and Discovery were not far distant. Captain Nares visited Cape Isabella, and there found some of the letters brought by Young, but the bulk of them had been left at Littleton Island.

The Expedition, after crossing Smith Sound, again recrossed Baffin Bay, arriving at Disco on the 25th September. Here they were received by the Danish authorities with their usual kindness. They took in a fresh supply of coal, and started again to cross the Atlantic. As on their journey out, they experienced severe weather, and the vessels had to part company. On their way they sighted and exchanged signals with the Pandora, and on the 27th October the Alert arrived off Valentia Island. No communication was possible with Greenland from the time they left it, consequently their arrival was quite unexpected, and, we may say, sent a thrill of surprise and expectation throughout the kingdom. The general results attained by the Expedition were speedily known throughout Europe. It has been an agreeable duty to fill in the outline thus previously sketched.

The Discovery went to Queenstown, where it was shortly afterwards joined by the Alert, and both vessels were objects of attraction for the south of Ireland. Captain Nares started almost immediately for London, bringing his own despatches; he was everywhere received with the greatest enthusiasm. The two vessels soon left Queenstown for Portsmouth; during their stay in Cork Harbour they had been constantly crowded with visitors, and the officers and crews were most attentive and desirous to explain the nature of the curiosities

they had brought home. When leaving, they received quite an ovation from the vessels in the harbour as well as from the inhabitants; and their reception at Portsmouth was of an equally enthusiastic character.

Both officers and men were fêted in every direction; banquets were given to the former by the Lord Mayor of London, by the Naval College at Greenwich, by the Yacht Clubs at Portsmouth, and by sundry other bodies too numerous to mention. Captain Nares, Captain Stephenson, and Commander Markham read papers before a meeting of the Royal Geographical Society, the Prince of Wales being present; and at the conclusion of the proceedings, a most cordial vote of thanks to the officers and men composing the Expedition was moved by His Royal Highness, and seconded by the President, Sir Rutherford Alcock. It is unnecessary to say that it was most enthusiastically passed.

But while they were thus received by the general public, they were not forgotten by their own immediate superiors. On the 3rd November the Secretary to the Admiralty, Mr. Robert Hall, in a letter to Admiral Elliott, commanding at Portsmouth, expressed at length the Lords Commissioners' entire approval of the conduct of all concerned in the Expedition, the ability displayed by Captain Nares in directing its operations, and the great devotion and bravery evinced by both officers and men in carrying out its object. The following officers were promoted:—Commander Markham to the rank of Captain, and Lieutenants Aldrich, Beaumont, and Parr, to the rank of Commander; while Sub-Lieutenant Conybeare was made a Lieutenant. Staff-Surgeon Ninnis was made Fleet-Surgeon, and Surgeons Moss and Coppinger were promoted to the rank of Staff-Surgeon. Engineers Cartmel and Wootton were made Chief Engineers, and the services of the other officers and men were favourably noted. Captains Nares and Young received the honour of knighthood—a graceful tribute to the merits of the latter in voluntarily undertaking the task of keeping the path open, so as to facilitate the return of the Expedition, or its relief, if necessary.

Lastly, the following letter was addressed to the First Lord of the Admiralty, by directions of Her Majesty:—

‘DEAR MR. HUNT,—I am commanded by the Queen to request that you will communicate to Captain Nares and the officers and men under his command, Her Majesty’s hearty congratulations on their safe return.

‘The Queen highly appreciates the valuable services which have been rendered by them in the late Arctic Expedition, and she fully sympathizes in the hardships and sufferings they have endured, and laments the loss of life which has occurred. The Queen would be glad if her thanks could be duly conveyed to these gallant men for what they have accomplished.

‘Yours, very truly,  
(Signed) ‘HENRY F. PONSONBY.’

Our summary of the results of the Arctic Expedition of 1875-6 must necessarily be very brief. The increase in geographical knowledge has been solid, and especially useful to future explorers. The possibility of utilizing Smith Sound as a passage to the North Pole has been tested and the result is of a negative character. It has been shown that no open polar sea exists, and that an advance straight across the ice from the shores of Grinnell Land is impracticable. There is a possibility that a further investigation of the land, whether islands, or a part of Greenland, seen by Lieutenant Beaumont to the north-east, from Mount Hornby, might lead to interesting discoveries; whether the obstacle which prevented his advance are quite insurmountable, remains to be seen. The north shore of Grinnell Land has been carefully explored for a considerable distance, and its general character ascertained. Few traces of either animal or vegetable existence have been found in these high latitudes. A few of the hardiest plants have been found at Ward Hunt Island, and a few of the birds adapted for polar regions were seen in the summer flying north, or north-east, probably to the lands seen by Beaumont. We should confine our statement to land animals. We have seen that the sea, even in those eternally ice-bound regions, swarms with life.

But the moral results of the Expedition are far beyond the scientific. The heroic constancy displayed by all, both officers and men, in the midst of the privations and hardships they endured, can only be faintly indicated in any narrative. It is impossible to say which merit the highest meed of praise—the officers for the never-ceasing care they took of the men entrusted to their command, the sailors and marines for their never-failing obedience, their patience under privations, and the unwearied cheerfulness they displayed in tending their sick comrades. The journal of every officer, without exception, is filled with genuine testimony to the ardour and good qualities of their men, whose only fault was a disposition to overwork themselves in their efforts to advance the objects of the Expedition. The instructions of the commanders to their officers are models in their way—clear, providing for every difficulty in advance, full of consideration for the dangers to be undergone, and encouraging in a high degree. Altogether, the relations between all, and the faithful devotion they evinced to each other, show plainly that they were picked companies; that such an expedition was despatched, and was conducted in such an admirable manner, is alike honourable to the Government which originated it, and to the nation which was capable of producing such a band of heroes.



# DUBLIN STEAM PRINTING Co.,

*Book, Law & Commercial Printers.*

**STATIONERS AND ACCOUNT-BOOK MANUFACTURERS,**

**I**NVITE the attention of Publishers, Authors, Merchants, and the public generally, to the facilities they can offer for the cheap and expeditious production of every description of Printing and Stationery work, which for general excellence cannot be surpassed.

**BOOKBINDING OF EVERY DESCRIPTION,**

*Plain, Elegant, and Ornamental.*

**LIBRARIES AND LARGE ORDERS AT GREATLY REDUCED PRICES.**

~~~~~  
**ESTIMATES AND SPECIMENS ON APPLICATION.**  
~~~~~

**OFFICES: 94, 95, and 96 MIDDLE ABBEY STREET, } DUBLIN.**  
**Factory: 16, 17, & 18 NORTH PRINCE'S STREET. }**

**LONDON: 10 WARWICK LANE, PATERNOSTER ROW, E.C.**

# THE COMMERCIAL UNION ASSURANCE COMPANY.

## FIRE—LIFE—MARINE.

Capital fully Subscribed . . . . .	£2,500,000.
Capital Paid-up . . . . .	£250,000.
Life Funds in Special Trust for Life Policy Holders exceed	450,000.
Other Funds exceed . . . . .	700,000.

CHIEF OFFICES—19 & 20 CORNHILL, LONDON.

### DIRECTORS:—

W. Reiersen Arbutnot, Esq.  
Robert Barclay, Esq. (Barclay, Bevan & Co.)  
John Beustead, Esq. (Price & Beustead).  
W. Middleton Campbell, Esq. (Finlay, Campbell & Co.)  
Jeremiah Colman, Esq. (J. & J. Colman).  
Alfred Giles, Esq., 27 Great George Street, S.W.  
Nehemiah Griffiths, Esq.  
Samuel Hanson, Esq.  
Frederick W. Harris, Esq. (Dixon & Harris).  
Sir Francis Hicks (Thomas & Francis Hicks.)

F. Larkworthy, Esq., Bank of New Zealand.  
Charles J. Leaf, Esq. (Leaf, Sons & Co.)  
William Leask, Esq., 14 Eastcheap.  
A. J. Mundella, Esq., M.P.  
William Nicol, Esq. (Smith, Fleming & Co.)  
Sir Henry W. Peek, Bart., M.P. (Peck Brothers & Co.)  
Alexander Robertson, Esq.  
Alexander Sim, Esq. (Churchill & Sim).  
John P. Tate, Esq.  
Henry Trower, Esq. (Trower & Lawson).

Secretary—S. STANLEY BROWN, Esq.

### FIRE DEPARTMENT.

Manager—DAVID CHRISTIE, Esq.

MODERATE RATES of Premium, based on an equitable system of Assessment.  
CLAIMS liberally and promptly settled.  
ALL POLICIES are Issued FREE OF DUTY, and no Fees or Stamps are charged.

### LIFE DEPARTMENT.

Actuary—W. P. PATTISON, Esq.; Manager—T. E. YOUNG, Esq.

THE LIFE FUNDS, exceeding £450,000 are set apart by Deed of Settlement and Act of Parliament for the exclusive Security of Life Policy Holders, who possess in addition the Security of the General Assets of the Company, exceeding £950,000, and of the uncalled, but fully subscribed capital of £2,250,000.

THE EXPENSES OF MANAGEMENT are limited by Deed of Settlement to a small percentage on the Premium Income.

THE SECOND VALUATION was made on the 31st December 1872, and while no provision was omitted to make the Reserve as strong as possible, the resulting Bonus was very satisfactory. The Actuary's Report can be obtained on application.

DUBLIN BRANCH—37 COLLEGE GREEN.

DISTRICT MANAGER—MICHAEL MURPHY, Jun., Esq.

ADVERTISEMENTS.

**GLOBE FOREIGN EXPRESS.—GEO. W. WHEATLEY & CO.**  
despatch to the Continent, India, Canada, Mediterranean, Ceylon, China, Japan, Singapore, Java, Australia, Tasmania, New Zealand, West Indies, Central America, Pacific, Cape, Brazils, Mauritius, Zanzibar, Gold Coast, Madeira, St. Helena, River Plate, United States, Vancouver, Nova Scotia, Bermuda. General Shipping, Passage, Baggage, Insurance Agents. LONDON: 156 LEADENHALL STREET, and 23 REGENT STREET. LIVERPOOL: 10 NORTH JOHN STREET.

**STEAM.—LONDON TO GOTHENBURG.—SWEDISH FLAG**  
REGULAR LINE.—The First-class Steamers, 'PRINS OSCAR,' 'CARL XV.' or 'ALBERT EDWARD,' leave Millwall Docks every Thursday. Excellent accommodation for Passengers. FARES:—Saloon, £3, 3s.; Second Cabin, £2, 2s.; Deck, £1. W. E. BOTT & Co., Agents, 10 Mark Lane, London, E.C.

**RUSSO-TURKISH WAR.**

The Handbook in the Present Crisis is

**ENGLAND'S POLICY IN THE EAST.** By BARON HENRY DE WORMS. A Fifth Edition of which is now ready, containing a Map of the Seat of War, Two Statistical Tables, showing the population, army, navy, and reserves of all the Powers immediately interested in the Eastern Question, and of the various nationalities and religions of the Turkish Empire. Demy 8vo, 5s.

'Baron Henry de Worms has annexed to the fifth edition of his work, "England's Policy in the East," which is just published, two interesting tables.'—*Times*, March 31.

CHAPMAN & HALL, 193 Piccadilly, London.

**THE COMPANION LIBRARY.**

MARIA M. GRANT'S  
POPULAR NOVELS, 2s. each.

THE SUN-MAID . . . Maria M. Grant.  
BRIGHT MORNING . . . Maria M. Grant.  
VICTOR LESCAR . . . Maria M. Grant.  
ARTISTE . . . Maria M. Grant.

*The Companion Library*

Includes most of the Popular Novels of

MRS. J. H. RIDDELL.  
FLORENCE MARRYAT.  
ANNIE THOMAS.  
BRET HARTE.  
HENRY COCKTON.  
CAPTAIN CHAMIER.  
SAM SLICK.  
COLONEL WALMSLEY.

List of the Series gratis on application.

London: FREDERICK WARNE & CO.

**THE COMPANION LIBRARY.**

In Crown 8vo, Picture Boards,  
*Two Shillings each.*

**JOSEPH HATTON'S NOVELS.**

CLYTIE.

CHRISTOPHER KENRICK.

VALLEY OF POPPIES.

TALLANTS OF BARTON.

BITTER SWEETS.

NOT IN SOCIETY.

IN THE LAP OF FORTUNE

*Uniform with the above,*

**A HORRID GIRL,**

By the Author of 'Margaret's Engagement.'

London: FREDERICK WARNE & CO.

# ACADEMY,

29 Gardiner's Place, Dublin,  
**JOHN BATES, Principal,**  
ASSISTED BY A MOST EFFICIENT STAFF.

---

Candidates are prepared for the following:—

*Royal Irish Constabulary, Bank of Ireland, Clerkships in the Civil Service (Lower Division), Excise, Customs, Solicitors' Apprentices, College of Surgeons, &c., &c.*

---

## RECENT SUCCESSES.

### Clerkships in Civil Service.

At the last Examination, on 13th March, *one-third* of the successful Candidates from Ireland were from this Academy. Messrs. Chidley, Kidd, Tinsley, Douglas, Drea, Gartlan, Lynch, Hill, Beatty, Crowley, &c.

### Bank of Ireland Competitions.

At the last Examination, Mr. Rogers took the *First Place*, Mr. Carew, third place; and Messrs. Robertson, Ward, Wrightson, Little, and Leeds, were also successful.

### Royal Irish Constabulary.

During the last ten years more than eighty per cent. of the successful Candidates were pupils of this Academy.

### Attorneys' Apprentices.

At the last Examinations, Messrs. Higgins, Archdall, Monsarratt, Maxwell, Cahill, Kenny, were successful on first trial.

### Excise, Customs, &c.

Several hundred pupils have already succeeded at these Examinations, including last Excise Examination, January. Messrs. Veale, Flynn, Watt, Drennan, Tierney, Clancy, &c.

blin,

l,

TAFF.

*the Civil  
ntices,*

successful  
ey, Kidd,

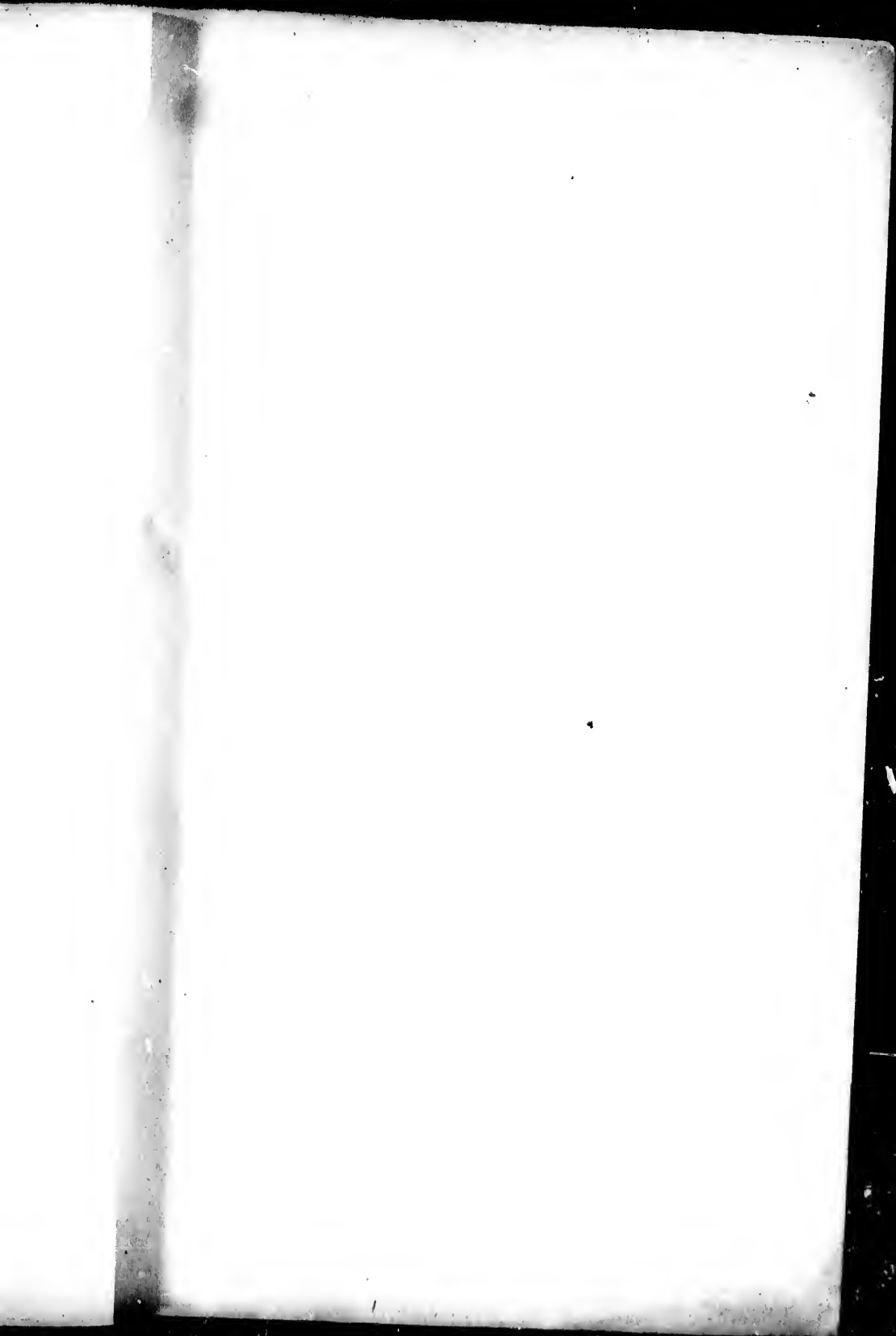
rew, third  
were also

andidates

Maxwell,

ncluding  
Drennan,





# JOHNSTON'S CIVIL SERVICE SERIES.

*Third Edition, in one thick volume, 532 pp., 6s.*

- I. The Competitive Geography**; being an exhaustive treatise on the Geography of the whole world, compiled for advanced classes, and candidates for the Army, Civil Service, &c.

"It contains an ample store of useful information in accordance with the present state of things, account being taken of the latest territorial and political changes."—*Athenæum*.

*Lately issued, 280 pp., cloth, 5s.*

- II. Army and Civil Service Guide.** Containing questions given at the Open Competitions, Classes I. and II. Civil Service, First Appointments, Woolwich, Foreign Office, Control, &c.

*Thirteenth Edition, 310 pp., 2s. 6d., Key, 4s.*

- III. The Civil Service Arithmetic**, suited for advanced classes, Civil Service Candidates, &c.; with Examination Papers.

"Any one who masters this book will have no fears of an arithmetic paper."—*Educational Reporter*.  
"Very useful for candidates for the Civil Service."—*English Independent*.

*Sixth Edition, corrected to date, 3s. 6d.*

- IV. Civil Service Guide.** Containing full particulars of every Government Office, Examination Papers, Regulations as to Men and Boy Clerkships, Writerships, Salaries, and other useful information for intending competitors.

"A complete and compendious Dictionary to the Civil Service. The title is amply developed in the work, and every particular required by intending candidates is furnished in the most explicit form."—*Educational Reporter*.

"The design of the book is so good, that the author will confer an essential service on the rising youth of the country if he can perfect and carry it out."—*Athenæum*.

*Fifth Edition, enlarged, 3s. 6d.*

- V. The Civil Service Précis**, with exercises on Indexing, Summarizing, and Digesting Returns into Summaries.

"We commend this little book as a valuable aid to the staff officer in acquiring a habit of terse condensation of the voluminous reports and pen-work which are no mean part of the weapons of an army. One word for ourselves: when, by this recommendation, any officer shall have brought himself to condense valuable military information, tersely and succinctly, let him send specimens of his work as a thank-offering to the BROAD ARROW."—*Broad Arrow*.

*Fourth Edition, greatly enlarged, 1s. 6d.*

- VI. Excise Candidates' Guide**, with several sets of Examination Papers proposed to candidates, course of promotion, and other valuable information.

*Third Edition, crown 2mo., 3s. 6d.*

- VII. English Composition and Essay-Writing**, with full directions for forming essays, and containing several themes by successful candidates.

*Third Edition, 1s. 6d.*

- VIII. The Competitive British Geography**, with detailed descriptions of the Counties of the United Kingdom, &c., &c.

*Recently issued, 1s.*

- IX. Guide for Customs' Candidates**, with Hints on making up the subjects, Examination Papers, Salaries, &c., &c.

"Candidates will find all requisite information and many useful Hints and Suggestions, the observance of which will greatly contribute to secure success."—*Glasgow Herald*.

"Capital of its kind."—*Educational Times*.

*Ninth Edition, 112 pp., 1s. 3d.*

- X. The Civil Service Spelling-Book.** Containing 30 words likely to be misspelled, with Dictation and Orthographical Exercises.

"Extremely serviceable."—*Birmingham Evening News*.

*Fourth Edition, 1s.*

- XI. Civil Service Notes, or Separate Addition**, used by almost all candidates for Government appointments.

*Ready in July, 1887, 240 pp., 1s.*

- XII. Elementary Competitive Geography.** Intended for ordinary schools, and those requiring a brief Geographical course.

*Lately Published, price 2s. 6d.*

- XIII. Copying Manuscript Specimens of**; being a collection of Letters as given by the Examiners for the candidates to decipher.



