THE BRITISH IN THE ARCTIC, 1818-1829

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ABSTRACT

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This thesis will concern itself with British involvement in the Arctic during the period 1818 to 1829. This study seeks to determine and to explain why the British decided to go into the Arctic after the Napoleonic Wars, what happened in the various expeditions that were sent out, and what results were achieved from such an investigation.

Various forces, motives and prominent figures are examined to establish the kind of rationale that induced government to sponsor not only one expedition but to embark upon a sustained and continuing series of exploration in the Arctic regions.

A recurrent theme that presents itself throughout this quest - and a notion that had held the minds of men for centuries - was the road to Cathay. In order to achieve this dream, British policy was directed towards the discovery of a north-west passage or, failing that, a quicker route to the east via the North Pole.

By 1829 the British had become disheartened in the quest. Again and again expeditions had returned without having achieved their goals. The most immediate and obvious success was, of course, the opening up of the North American continent bordering the Arctic Ocean. The other major achievements were the discoveries and additions given to science.

PREFACE

Sociologists and anthropologists of many countries, especially from Russia, are presently examining the peoples and cultures found in the Arctic regions. These scholars are fully aware of the new importance that is attached to that region today. However, serious historical discussion of these regions is almost non-existent. Historians tend to leave the field open to popularized accounts of the many nineteenth century expeditions that were sent out.

Perhaps the reason for this neglect lies in a popular misconception shared by historians that this region of the earth is a desolate no-mans land, inhabited by small bands of nomadic Eskimos, and investigated by groups of scientists, interspersed with radar outposts. In addition there is a belief that weather conditions are such as to discourage the advance of civilization, and that the Arctic has nothing to offer. However, the fact is that the Arctic is a place teeming with life, with vast untapped resources, and with a colorful and exciting history.

Yet, for four centuries individuals and nations have felt the impelling attraction of the north and have attempted to explore it, and the record of their successes and their failures in that region can provide the scholar with a fascinating and continuous glimpse of man's determination to discover that which is beyond his immediate grasp.

In the twentieth century various attempts have been made, particularly in relation to the north-west passage to write about these explorers. However,

the authors of such works, have been for the most part concerned with giving a descriptive account of the expeditions that were sent out, and little attention has been paid to the efforts made by the British from 1818 to 1829. Two works To the Arctic! by Jeannette Mirsky and Search for the Northwest Passage by Nellis M. Crouse, are indicative of the type of work that has been done recently in this area.

Mirsky's work was first published in 1934 and has since gone through two further editions in 1948 and 1970. In this work, the author has attempted to give us the history of Arctic exploration from the earliest times to the present. As such, Mirsky can only spare a cursory review of the many expeditions that were sent out. Necessarily Mirsky has had to omit much and retain the essential. In so doing she has chosen judiciously and well in describing briefly the struggles and ambitions of individuals and nations to conquer the far north, and as far as the writer knows this is the only available general account of Arctic exploration in English.

However, the work does suffer from some serious deficiencies. Mirsky does not quote the page numbers of the works she refers to quite liberally and the reader who requires additional information on a given point is forced to read the entire work cited. In addition, Mirsky has failed in her most recent editions to take into account new work being done in the area, such as that done by Crouse.

Miss Mirsky's bibliography is, sad to say, inadequate. The author claims that she has read her way "through volumes that, if stood side by side, must be measured in city blocks." (page XXIII) Her bibliography does not show it, and fails to take into account such key works as those written by John Barrow, John Leslie and William Scoresby. If Mirsky has chosen to write a comprehensive history, her work ought to contain a comprehensive bibliography.

In the section of her work that we are primarily interested in, she devotes eleven pages and fails to state why the British got involved in the Arctic in the first place. Surely more would have been justified. Mirsky's work is much too general in its scope to serve as an adequate scholarly evaluation of an historical period. While at least she has made the attempt, it is to be hoped that another scholar will take up the task and add to what Mirsky has started.

A much more professional attempt at writing Arctic history is Nellis M. Crouse's The Search for the Northwest Passage. Of the many accounts written on this subject, Crouse has presented in this work, the best able study. Written in 1934, Crouse has provided the reader with scholarly erudition and perspective. A little dull in the writing, the book nevertheless traces British involvement in the Arctic regions in the search for a passageway to the east.

Crouse takes us through the tortured and laborious thinking concerning the nature of the Arctic regions by various Englishmen and unlike Mirsky, devotes a whole chapter in attempting to find out why the British became involved there.

However, Crouse tends to commit himself to offering the reader a summary of the various expeditions that took place drawn principally from the journals published by the various explorers. Had he used more secondary source material he might have gained a better conception of what took place and what was thought of Arctic exploration not only by the voyagers themselves but also by others.

Crouse, too, has laid his emphasis too strongly in seeking to give the reader the results of the various expeditions solely in terms of geographical discoveries. He does not mention the scientific achievements

made and the types of scientific investigation that each exploration conducted - yet that was precisely one of the key factors in British involvement in the Arctic in the first place.

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THE ARCTIC REGIONS AND BRITISH EXPEDITIONS PRIOR TO 1815

From the dawn of human existence man has attempted to explore the world that confined him. Adventurers of various types, driven by a variety of forces, have battled and struggled their way to every corner of the earth. Facing almost insurmountable physical and natural obstacles, and despite countless hardships and failures, man's contest with his world and his knowledge of it has been a hard-won and costly venture.

One corner of the earth that has attracted adventurers has been the Arctic. Through over two thousand years of recorded history, man gradually explored, bit by bit, the vast frozen tracts of the north. From Pytheas to Admundsen and Peary, the story of these men and their individual discoveries and contributions has been one of courage and endurance, and there is, perhaps, "... no phase of exploration in the entire history of discovery that gives a more superb picture of human endurance in the face of privation than the exploits of Arctic pioneers."[1]

While Arctic exploration and discovery was not confined solely to any one country, but rather was the result of the efforts of many, one nation stood out among the others in unraveling the secrets of the north. That nation was England. The English genius for navigation and its seafaring tradition opened up great areas of the north. Because of its insularity, England was forced to know and conquer the sea, and Englishmen

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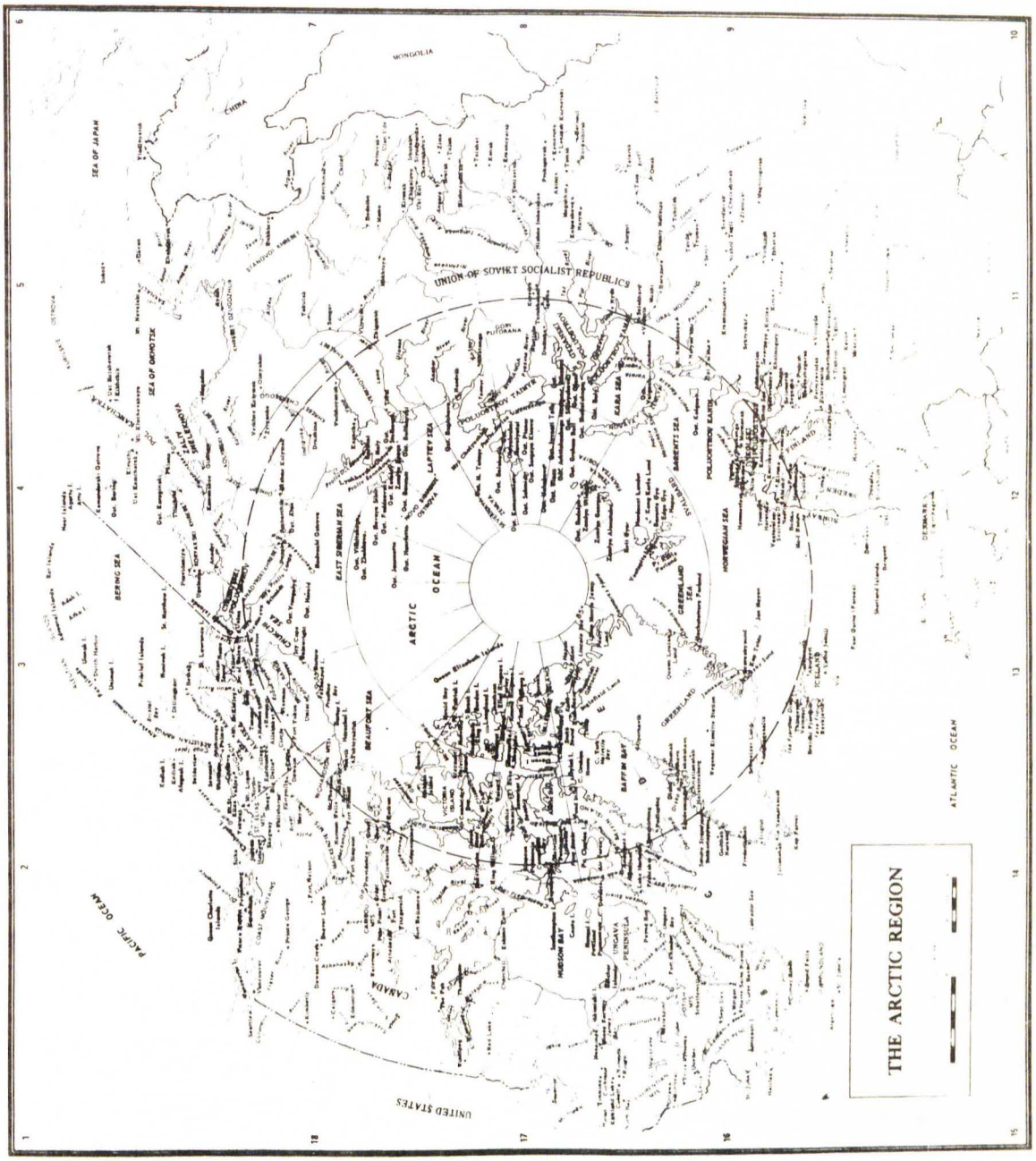
[1]Nellis M. Crouse, The Search for the Northwest Passage, Columbia University Press, New York, 1936, page 3.

made their presence felt particularly in the North American continent. This continent, containing the largest geographical division in the Arctic, bears testimony to English efforts in that region by the numerous names of Englishmen dotting its physiognomy today.

Although the English had been involved in Arctic exploration since the late fifteenth century, their main thrust into that region and the one in which they revealed a concerted, sustained effort took place from 1818 to 1829. It is with this period that we are concerned. This thesis will be an attempt to discover what were the motives and who were the men behind such an intensive drive and what forces compelled the British to expend men, money and materiel on the exploration of the northern portion of the American continent during this particular period.

No investigation of a period or event in the history of Arctic exploration and discovery would be complete without a brief discussion of the physiography of the region itself and the special characteristics that constitute what is singular to this portion of the earth's surface.

The Arctic Circle runs parallel with the equator at 66 degrees, 32 minutes, North, and is the lowest latitude in the Northern Hemisphere in which the sun can be seen above the horizon for the entire summer solstice (the twenty-four hours of June 21). There is no precise delineation of the Arctic Circle and the lines of latitude are purely arbitrary in that they have been defined as containing that part of the earth's surface wherein the midnight sun is supposedly present. The reason for this inconsistency is that the sun itself has an appreciable character and because of this its light rays are refracted in a rather unpredictable manner. It is this particular inconsistency which destroys the mathematical exactitude of the latitudinal line drawn and which accounts for the


THE ARCTIC REGION
ARCTIC OCEAN
ATLANTIC OCEAN
PACIFIC OCEAN
UNION OF SOVIET SOCIALIST REPUBLICS
UNITED STATES
CANADA
MONGOLIA
CHINA
SEA OF JAPAN
SEA OF OKHOTSK
BERING SEA
BEAUFORT SEA
EAST SIBERIAN SEA
LAPTEV SEA
KARA SEA
BARENTS SEA
NORWEGIAN SEA
GREENLAND SEA
GREENLAND
BAFFIN BAY
HUDSON BAY
ICELAND

variance in what is truly Arctic and what is not.[1]

The Arctic is a semi-frozen sea surrounded by tundra-type lands covering an area of approximately six million square miles. The Arctic Ocean, sometimes called the Polar Sea or the Arctic Mediterranean forms one of the great oceanic divisions of the globe and may be regarded either as an ocean in its own right or as an extension or subsidiary sea of the Atlantic Ocean.

The Arctic Ocean is more or less oval in shape and roughly centered on the geographical North Pole. It is almost completely enclosed by the northern coasts of Europe, Asia and North America and is linked with the Atlantic by the Greenland and Norwegian Seas to the east of Greenland and by Baffin Bay and Davis Strait to the west of Greenland. The Bering Strait provides a narrow connection between the Pacific and the Arctic Oceans. A broad continental shelf beneath relatively shallow water rims the Arctic Ocean and contains great numbers of islands. Chief among these are: Jan Mayen Island; the Spitsbergen group (Svalbard); Franz Josef Land; Novaya Zemlya; Severnaya Zemlya; the New Siberian Islands; Wrangel Island; and the islands in Canada's Northwest Territories.

The physiographic regions of the polar area are grouped around a basin which averages 12,000 feet in depth. It forms an oval extending from the area of the geographic North Pole toward Point Barrow, Alaska, and measures about 2,200 miles long and 1,100 miles wide. However, in the Arctic seas there is one overwhelming obvious physical factor and

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[1]Patrick D. Baird, The Polar World, John Wiley & Sons, Inc., New York, 1964, page 1.

that is the presence of ice. Nearly two-thirds of the Arctic Ocean is covered with pack-ice and, since there is no continent for the ice to hold on to, it floats and is broken up into large floes, and it is in terms of the movement of ice and water, currents and tides, that the course of all Arctic exploration can be best understood.[1]

The three great controls on Arctic landforms are glaciation, past and present, permafrost and the presence of ice and snow on land and water, these last producing surfaces that must be considered landforms even though they may be temporary ones.[2]

We can divide in general terms what is meant by Arctic or Polar and classify them according to the following set of criteria. First, and already mentioned, is the high latitude in the Northern Hemisphere. Second, the fact of a long, cold winter with a reliable continuous frost, passing into a short, cool summer. In addition to this, winds and various types of drifting snow conditions because of these winds, lead to a frequency of blizzards or snow storms. Consequently, wind adds to and reinforces the coldness of the area. Another characteristic of the Arctic regions is the low level of precipitation. Evaporation is slight and the hard-frozen soil preserves and prohibits the escape of surface moisture. With the exception of a brief spell in the summer season, the level of humidity is low. Fourthly, permanently frozen ground is common to the Arctic regions. The ground is so hard with successive layers of snow-falls packed one on

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[1]Jeannette Mirsky, To the Arctic!, The University of Chicago Press, Chicago and London, 1970, page 7.

[2]Patrick D. Baird, op. cit., page 66.

top of the other that in many instances it would take dynamite to break open the surface to a considerable degree, with the result that this very ground-hardness has precluded the possibility of man attempting to reach into the surface for any depth until modern times. Fifthly, all lakes and smaller rivers freeze over in winter, and one would hesitate to call polar any region in which those bodies of water and also sheltered parts of the sea fail to freeze in that season. The most important criterion used for establishing that which is polar from that which is not, is the presence or absence of trees. There are no trees of any height excluding dwarfed or horizontal birches and willows in the Arctic regions.[1]

The tundra lands beyond the tree limit may well be vegetated, but this vegetation is of a distinctive type. The woodless, nearly level tundra is a low-lying land composed, in some places, of alternate bands of earth and solid ice reaching a depth of several hundred feet. From October to May, it is covered by snow, and when that melts, a haggard looking land emerges, lined with streams and lakes, bogs and swamps.

The dominion of ice, however, is not complete in the tundra areas. In the summer, these lands become rich grazing plains, the annual goal for such migratory animals as the caribou, and the area can sustain an impressive array of flora. Neither the long period of cold winter nor the absence of sun can discourage a vigorous plant life and vegetation exists wherever plant roots take hold.[2]

The total scope of the Arctic area can be divided into five distinct geographical areas or regions: the Canadian Arctic, Alaska, the Soviet

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[1] Ibid., pages 1-10.

[2] Jeannette Mirsky, op. cit., pages 3-8.

Arctic, the Spitsbergen group (Svalbard), and Greenland. Each region has somewhat of its own special nature and while they all fit into the criteria already established for what is polar, it will be seen that taken individually, they vary considerably as to their geographic and geological identities.

The largest bloc of territory in the Arctic Circle is under Canadian sovereignty. It is formed of two mainland areas to the west and east of Hudson's Bay, and the northern group of islands which together form the second largest archipelago in the world. These islands fall into three separate sections: the northernmost group of islands, the Queen Elizabeth group north of the North-West Passage (Lancaster Sound, Melville Sound), and the two more southerly groups of islands which can be labelled 'eastern' and 'western' depending on their accessibility from the Pacific or from the Atlantic Oceans.[1]

Alaska is located on the northwesternmost end of the North American continent. Three-fourths of this area is in the North Temperate Zone and the truly Arctic section of this region is confined to a quarter of the area. The Alaskan portion of the Arctic can be divided into four main regions: the northern region, that is the largest area north of the Brooks Range; the Seward Peninsula; the low lands comprising the deltas of the Yukon and Kuskokwim Rivers; and finally the Bering Sea off-shore islands.[2]

The Soviet Arctic territory, while in area approximating the extent of the Canadian Arctic, consists of a tundra strip extending along the

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[1]Patrick D. Baird, op. cit., page 182.

[2]Ibid., page 201.

whole northern coastline of the U.S.S.R. together with some off-shore islands, many of which are considerably glacierized. The chief geographical feature of this territory is the sea front, the former North-East Passage. Because of its coastline, this portion of the Arctic Circle is represented by various regions running from west to east.

First, there is the European Russian mainland section which extends westwards to the Pechora River. Second, the Ural Novaya Zemlya Ridge takes in the long sweeps of the Ural Mountains towards the sea. Third, and to the east of the Urals, lies the West Siberian Plain. Beyond the Khatanga River mouth a different physiographical province is encountered and this large delta of the Lena River is called the East Siberian section. Fifthly, the New Siberian Islands lie to the north of Cape Svatoi Nos and they are separated from it by the Laptev Strait. East of the Kolyma River, Siberia becomes a mountain complex and it is difficult and impractical to separate the mountain from the low-lying tundra. The final part of the Siberian Arctic is the Archipelago of Franz Josef, isolated far from the remainder of Soviet territory and the northernmost land on the Asiatic side of the Pole. This archipelago consists of a dozen large and many smaller islands.[1]

Norway's arctic islands go by the general name of Svalbard or the Spitsbergen chain. The Svalbard realm consists of two separate and distinct islands, Jan Mayen and Bjornoya and the Spitsbergen group, the latter made up of the main island, Vest Spitsbergen, Nordaustland, and a series of smaller islands including Edgeoya, Berentsoya, Prins Karls Forland, and Hopen. Svalbard is separated from Greenland on the west by the Greenland

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[1] Ibid., pages 211-220.

Sea and Novaya Zemlya on the east by the Barents Sea, about 400 miles north of the Norwegian Arctic coast.[1]

Greenland is the world's largest island next to the continents of Australia and Antarctica. Its size is some 840,000 square miles, about two-thirds that of India and its shape is not dissimilar - broad in the north and narrowing to a wedge in the south. The northern part is the land nearest to the geographical North Pole, reaching at Kap Morris Jessup a latitude of 83 degrees, 40 minutes. Among the Arctic lands, Greenland is similar to Svalbard and to some of the large Canadian islands in that it is cut off from the treeline by the sea. There is no gradation from forest to tundra as there is in Siberia or on the Canadian mainland. The principal outstanding geological feature of Greenland is that 80/85 per cent of the land area of this enormous island is an ice cap.[2]

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Now that we have established the main features and characteristics of the Arctic regions, let us now review previous English accomplishments in that area up to the end of the eighteenth century.

In 1462, the publication of Ptolemy's map showing the world was a sphere caused a flurry of excitement throughout Europe. The conception of the world being round, raised, in some minds, interesting and highly profitable propositions. The road to Cathay and the fabulous riches to be found there, so well propagandized by Marco Polo, now became a distinct possibility. The success of Columbus spurred others into action to determine who should be the first to open up a new water route to the east,

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[1] Ibid., page 229.

[2] Ibid., page 239.

the discovery of which would realize stupendous possibilities in terms of unlimited trade, especially in spices, for the first nation to discover the new route, 'This initial phase had two results; the wealth of the north was noted and exploited, and the romantic strangeness of its regions was broadcast. Monetary gain and adventure sent ships northward in increasing numbers."[1]

Five years after Columbus' discovery of the existence of the New World, John Cabot in 1497 sailed to Newfoundland. There he found no passageway, no fabulous riches, no potential for trade, only fish off the banks of that region. Yet his voyage was important in that as more and more adventurers explored the New World, they came to the realization that the initial discovery of America was not what it was thought to be. Here was a vast continent, not a small group of islands, and further attempts would be made to find a break in this continent, a passageway which would lead to the east.[2]

Attempts to find such a passageway would be made by the nations of western Europe for the next three hundred years and these attempts were motivated chiefly by the potential promise of commercial interest. England too, joined in the quest for a break in the continent of America from which to venture into and gain control over Oriental markets. In order to finance expeditions sent out for this purpose, trading companies were formed, sanctioned by various monarchs, consisting of groups of businessmen and merchants banding together and investing large sums in the hope of

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[1]Jeannette Mirsky, op. cit., pages 31-34.

[2]John Barrow, A Chronological History of Voyages into the Arctic Regions, John Murray, London, 1818, page 32.

highly profitable returns. Frequently these trading companies lost their initial investments, yet were it not for their willingness to take a chance and finance exploratory expeditions, the history of exploration and discovery might have proceeded more slowly. In England, trading companies flourished and for the next two hundred and fifty years, up to the latter part of the eighteenth century, these companies sent out expedition after expedition all over the globe.

In 1576, Martin Frobisher sailed around the southern tip of Greenland in an attempt to find a northwest passage to the east. His first attempt failed. Undaunted, he set out again in 1584 after the NorthWest Company was chartered, discovered and named Gilbert Sound, Cumberland Sound, and Cape Farewell from which he was forced to retreat because of the presence of heavy ice-floes. Although Frobisher was unsuccessful in his objective he had gone as far north as 72 degrees and had crossed Baffin Bay. In so doing he established a precedent and opened up the beginnings of a route which many of his later fellow-adventurers were to follow.[1]

The three voyages of John Davis from 1585 to 1587 constitute a new departure from the contributions and motives that had dominated preceding expeditions. His achievement was monumental, for it was he who opened the way for Hudson and Baffin. In addition to his search for a passageway, Davis made careful observations on the flora and fauna that he encountered and found. Science and the pursuit of knowledge would now become an integral part of all future Arctic expeditions. Davis had

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[1] Ibid., pages 91-96.

sailed up the west coast of Greenland until he could go no further. Turning west, he entered Hudson's Bay and the straits to that Bay are named after him.[1]

Henry Hudson made three journeys north during the years 1607-1610. Employed first by the Dutch, he sailed in 1607 to Newfoundland, found the mouth of the Hudson River, sailed up that waterway to Albany and returned home convinced that he was unable to locate the northwest passage. Yet, as John Barrow has pointed out, Hudson did make a lasting contribution on this his first voyage, "It deserves to be remarked that he is the first of modern navigators, and probably the first Englishman, who made observations on the inclination or dip of the magnetic needle."[2]

Two more expeditions under Dutch patronage also failed and in 1610 a group called the English Merchant Adventurers agreed to sponsor Hudson on another trip to the north. This time, Hudson followed the western shore of Greenland, founded Digges Island at the mouth of Hudson Bay but was forced to winter there because he was trapped by the ice. The following season, when the ice broke and his ship was set free, a mutiny broke out because Hudson had replaced the boatswain and mate for disciplinary reasons. Hudson and a few others, including his young son, were placed in a boat by the dissidents and left to fend for themselves, while the insurgents sailed back to England. No more was heard of Henry Hudson. Yet Hudson's voyage opened up the passageway to the second largest archipelago in the world - the Canadian north.[3]

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[1]Jeannette Mirsky, op. cit., pages 31-34.

[2]John Barrow, op. cit., page 179.

[3]Ibid., pages 60-65.

Bylot, an excellent navigator, and one of the members of Hudson's ill-starred expedition in 1610, set out again with William Baffin in 1615. This expedition was backed by a new group of merchants who called themselves, albeit somewhat euphuistically, the 'Governor and Company of the Merchants of London, Discoverers of the Northwest Passage'. And this before the expedition had left English shores!

Baffin was instructed to go as far north as 80 degrees and sail westward, using the trail that Davis and Hudson had already outlined for him. Like their predecessors, Bylot and Baffin sailed up the western side of Greenland until they reached the Carey Islands at 78 degrees latitude. From this point, at which Smith, Jones and Lancaster Sounds were named, the two navigators were forced to retreat. The ice was too thick and would not give way to their frail and small craft. Baffin concluded from this that the area he had reached was a bay and enclosed on all three sides, hence the name, Baffin's Bay. Unknowingly, he had found the entrance to the passageway which led to the Polar Sea.

Yet Baffin's expedition resulted in two important contributions to the exploration of the north. First, he had sailed three hundred miles further north than Davis, and, "In his last voyage into Arctic waters he reached a latitude that in those seas was unequaled for two-hundred and thirty-six years."[1] Secondly, Baffin discovered a method for determining longitude while at sea by observing the heavenly bodies, "In the neighbourhood of Resolution Island, Baffin saw the sun and the moon at the same time, and availed himself of the circumstance to make observation for ascertaining the longitude."[2]

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[1]Jeannette Mirsky, op. cit., page 65.

[2]Robert Juish, The Last Voyage of Capt. Sir John Ross, John Saunders, London, 1836, page 55.

The Hudson's Bay Company, founded in 1670, was instructed by its original charter to survey the North American continent and specifically to search for the Northwest Passage. This it consistently failed to do. The Company's actual operations and policies were, in its initial phase, conservative in nature. What the Company sought was profit and the freedom to enjoy its virtual monopoly of the fur and seal trade. These it got, through the efforts of its Indian hunters, without having to venture out into the unknown, and without having to sacrifice men and money in expeditions to open the north or to engage in the highly speculative search for a northwest passage, "Defence rather than attack, security rather than penetration to the lakes and plains, were the Company's watchwords still."[1]

In 1741, Arthur Dobbs, an Ulsterman and an engineer, petitioned the Admiralty to put pressure on the Hudson's Bay Company to send out an expedition into the Bay in the hope of discovering the Northwest Passage. Dobbs was convinced of the certainty of such a project and the Admiralty, impressed by the force of his arguments, was persuaded to have a Captain Middleton, a former Company officer, go out in two ships in 1742. Middleton sailed from the mouth of the Churchill River, and reached 66 degrees, 30 minutes north at a place he named the Wager River, after Sir Charles Wager, First Lord of the Admiralty. Middleton sailed up the River and was forced back at a point called Repulse Bay. Dobbs, however, believed that Middleton was lying, accused him of being a scoundrel and a drunkard, and petitioned the Admiralty again to send out another expedition.

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[1]Edwin E. Rich, Hudson's Bay Company, McClelland and Stewart, Toronto, 1960, page 586, volume 1.

Accordingly, another expedition was sent out in 1746, under Captains Moore and Smith, who also were forced to turn back at Repulse Bay, and confirmed Middleton's reports. Notwithstanding the honor given to Sir Charles Wager, the Admiralty and the British government temporarily gave up on any further attempt to explore the north. In 1745, Parliament passed an Act offering a reward of 20,000 pounds to any British ship, with the exception of British naval vessels, that discovered a passage-way from the Atlantic to the Pacific Ocean. As enthusiasm had dampened both for Dobbs and future explorations of this type, this particular reward was offered as an incentive both to merchant and individual explorers.[1]

Yet English Arctic exploration was not confined to the sea. In 1772, the Hudson's Bay Company set out Samuel Hearne to trace out the Coppermine River. The Indians had brought stories to the Company about pieces of a bronze metal strewn over the ground at the mouth of this great river. While the lure was copper, this expedition was important in that Hearne followed the Coppermine until he reached the Arctic Ocean. In addition to this, it marked a change in policy for the Hudson's Bay Company and it taught the Company and the English a valuable lesson - that in order to survive in the far north one had to live as the aborigines of that region lived. Previous expeditions had regarded these peoples as savages and had not thought it necessary to learn much from them. Now it became plain that these self-same savages were better adjusted and adapted to living in the north.[2]

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[1]John Leslie, Discovery and Adventure in the Polar Seas and Regions, T. Nelson & Sons, London, 1855, pages 210-211.

[2]Edwin E. Rich, op. cit., pages 44-65.

In 1773, just prior to the outbreak of the American Revolution, Captain Phipps (later Lord Mulgrave), set out in the Racehorse and the Carcass in an attempt to reach India and the East Indies via the North Pole. The author of this scheme was a lawyer, Daines Barrington, who entertained an interest in the Arctic regions. Barrington believed that the reason why previous expeditions had failed as that they had gone westward and had been confronted with land barriers. Barrington argued that the Pole had a milder climate than was thought to be the case and he attempted to substantiate andcorroborate this with reports he had received from various navigators who had sailed directly north. Barrington further argued that there was open sea around the Pole. He submitted his thesis to the Royal Society, who, taken up with it, wrote the Earl of Sandwich, First Lord of the Admiralty, with the following recommendation:

> I am directed by the President and Council of the Royal Society, to represent to your Lordship that they have lately had under their consideration the probability of navigation being practicable nearer to the North Pole, than has generally been imagined; and that there is room to hope, that a passage by or near the North Pole to the East Indies may be therefore found out. And as a voyage made towards the North Pole might be of service to the promotion of natural knowledge, the proper object of their institution, they cannot but be much interested in the prosecution of the same. They, therefore, beg to leave to recommend it to your Lordship, who has always shown such readiness in promoting science and geographical knowledge, whether it might not be proper to take some steps towards the making such discovery.[1]

Phipps' expedition was instructed to go as far north as possible, taking scientific data along the way, and to return before the season ended. This was to be an exploratory trip. Perhaps the Admiralty had not wanted to commit itself fully to Barrington's proposals - Arthur

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[1]Charles R. Weld, History of the Royal Society, J. W. Parker, London, 1848, page 70, volume 11.

Dobbs, no doubt, was not forgotten. In any event, Phipps reached the northwestern extremity of Spitsbergen and was only able to attain a latitude of 81 degrees, 36 minutes. Although the commander searched to the east and to the west for a break in the ice, he was unsuccessful. One of the members of this expedition was a young man of fifteen years, out on his first sea trip, Horatio Nelson.

After Phipps returned to England, Barrington made further protestations to the Admiralty in the hope that another expedition might be sent out, but these solicitations went unheeded, and, thirty years later, O'Reilly would write, 'This utopian paper-built plan of sailing to the North Pole has long since been defeated by the experience of navigators who penetrated to the 82nd degree, on the Spitsbergen side of Greenland."[1]

In 1778, Captain Cook tried to find a passage from the Pacific side of the American continent. His instructions ordered him to advance into the Pacific by way of the Cape of Good Hope and cross the ocean to New Albion. He was to search for the passage only after he had passed the 65th parallel and to look for any inlet which, in his judgement, might lead to Hudson's Bay or Baffin Bay. Failing in this objective, he was instructed to winter at Kamchatka and in the following spring to set out again and sail through Bering Strait and look for either a northwest or northeast passage once he had passed that point.

Captain Cook came to a tragic end on this his last voyage. Failing to fulfill his initial assignment, Cook set out the following year and,

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[1] Bernard O'Reilly, Greenland and the Adjacent Seas and the Northwest Passage, Baldwin, Cradock and Joy, London, 1818, page 243.

unlike the original discoverer of these Straits, he was able to see the continents of Asia and America at the same time, with the connecting islands of St. Diomede between them, but was turned back by the presence of heavy ice.

The British government meanwhile, amended the original Act of 1745, and extended the reward to naval vessels. In addition to this, any region north of 52 degrees was substituted for Hudson's Bay, and a further incentive was offered in the sum of 5,000 pounds to be given any British ship coming within one degree of the North Pole.[1]

Before the end of the century, one more attempt would be made to explore the Arctic regions. This attempt would be by land. The formation in Montreal in 1787 of a rival trading group called the North West Trading Company and headed by Alexander Mackenzie led to intense competition between this new company and the well-established Hudson's Bay Company. This rivalry would have disastrous results for a later English Arctic expedition. An immediate important contribution was made however by the new company. In 1789, Mackenzie set out with Indian guides and followed the river that bears his name to the Arctic Ocean.[2]

By the end of the eighteenth century, Englishmen could look upon their sometime flirtation with the polar regions with somewhat of a mixed reaction. True, vast areas of the North American continent had been mapped out and important discoveries had been made. Yet the attempts had been sporadic and half-hearted. The two twin objectives had not

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[1]Statutes at Large, XXXI, page 155.

[2]Edwin E. Rich, op. cit., pages 135-155, volume 11.

yet been attained. The North Pole was still shrouded in mystery and the northwest passage was still a vain illusion.

English exploration into the north had been a series of failures and the wars with Britain's arch-rival France would engage that nation fully until after 1815. While the dream that had caught men's minds for centuries, the discovery of a northwest passage, was no nearer to attainment, the dream still remained, perhaps, because 'No prize in the annals of exploration has held its singular fascination." [1] Much as in our own time, in our fascination with space, Englishmen would not forget that dream.

Yet, in retrospect, there was a subtle change, particularly in the latter half of the eighteenth century in the way in which Britain sought to conquer the north. Beginning with the explorations of Captains Phipps and Cook, science began to make its impact felt in exploratory work. In addition to this, individuals and merchants had given up the search, a search that was motivated primarily for commercial gain. The incentive for Arctic exploration had fallen to government, prodded on by such interest groups as the Royal Society and individuals interested in the possibility of reaching the North Pole and discovering the Northwest Passage. The Admiralty too, was not insensitive to what such discoveries would mean for the future of British sea-power, and it would provide one more pressure on Government to push its own advantage,

> The Admiralty was alert to the strategic possibilities of a northern route to the Pacific, and its participation in the search for the passage was at once an indication of the

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[1] William D. Smith, Northwest Passage, American Heritage Press, New York, 1970, page 1.

government's new awareness of the importance of maritime exploration to Britain's position as a great trading and sea power, and a sign of the increasing disinclination of individual merchants to hazard capital in expeditions which held little prospect of immediate financial returns or monopolistic privileges.[1]

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[1]Glyndwr Williams, The British Search for the Northwest Passage in the Eighteenth Century, Longmans, London, 1962, page 269.

CHAPTER II

THE DECISION TO GO INTO THE ARCTIC (1815 - 1818)

The reawakening of British interest in the first half of the nineteenth century in the Arctic was the direct result of the efforts of three individuals: William Scoresby, a whaling captain; Sir Joseph Banks, President of the Royal Society; and John Barrow, second Secretary of the Admiralty. However, the plans and dreams of these men would not have been realized had it not been for two essentially fortuitous factors; namely, the general peace which endured in Europe from 1815 until the Crimean War, and the natural phenonomen of unusual ice-drifting in the years 1816, 1817 and 1818. This combination of men and events resulted in a systematic and sustained policy by the British towards the attainment of those twin objectives in previous northern expeditions - the reaching of the North Pole and the discovery of a northwest passage.

Whalers played a major role in Arctic exploration and discovery. For centuries they had plied their trade in the ice-cold waters of the north, and the demand for the products of the whale increased dramatically from the fifteenth century onward. A booming whale industry flourished in Amersterdam Island, just due north of Spitsbergen, and in the early part of the seventeenth century a frontier town was established there. A much needed commodity, the whale provided blubber oil and spermaceti, and, 'The nation that controlled the Spitsbergen waters, was, in a sense and in modern terms, at once the leading plant furnishing light, the foremost

distributor of lubricating oil, the largest manufacturer of soap, and the source whence derived the vast trade of cosmetics."[1]

The English, the Dutch, the French and the Danes all competed for control of the Spitsbergen waters, and, by the beginning of the eighteenth century, whales in that area were so greatly depleted that they were driven to seek new feeding grounds. As a result of this, whalers scoured the north searching for their prey. While so engaged, whalers often found themselves in high latitudes, particularly around the eightieth degree north, and because of this, these fishermen provided a constant and important stream of knowledge on conditions in the Arctic regions with particular regard to the climate, physiography, and the navigational difficulties that they encountered in attempting to free themselves from hazardous ice-floes. Much of this information was invaluable to those engaged in Arctic exploration and discovery.

English whalers, however, unlike other nations, were restricted in their operations, in that they were forced to sign an oath each time they left port that their energies would be concentrated on whaling and not on exploration,

> I ... master of the ship ... make oath, that it is really and truly my firm purpose, and determined resolution, that the said ship shall, as soon as licence shall be granted, forthwith proceed so manned, furnished, and accoutred, on a voyage to the Greenland Seas, or Davis Strait, or the seas adjacent, there in the now approaching season, to use the utmost endeavor of myself and the ship's company, to take whales or other creatures living in the seas, and on no other design or view of profit, in my present voyage, and to import the whale fins, oil, and blubber thereof into the port of ... Sworn, & c. at the Custom House ... & c.[2]

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[1]Jeannette Mirsky, To the Arctic!, The University of Chicago Press, Chicago and London, 1970, p. 48.

[2]Statutes at Large, 58th Geo. III, C. 15 # 2.

Yet, despite the restrictions imposed on English whalers, a member of a whaling family, William Scoresby, was one of the chief instruments by which the British found themselves involved in a series of expeditions into the far north. A veteran of fifteen voyages into the Arctic, and a self-educated man, Scoresby found time on his annual whaling trips to engage in scientific experiments. He invented the 'marine diver', an instrument which could gauge deep-sea water temperatures and he was able to prove conclusively that in Arctic seas the bottom temperatures were higher than at the surface. His success in scientific experimentation and the publication of various papers on the far north attracted attention and in 1807, brought him into contact with two important men: Sir Joseph Banks, President of the highly prestigious Royal Society, and Professor Robert Jameson, a mathematician at the University of Edinburgh.

In 1810, Scoresby was elected to the Wernerian Society and read a number of papers before the membership of that body. The Wernerian Society, founded in 1808, and named after the mineralogist Werner of Freiberg, was the result of the academic interest in natural science in the Edinburgh community. It attracted many of the great minds of its day, among them of course, Banks. The object of the Society, which was stated in its charter was, "... the general promotion of every branch of natural science."[1]

Since Scoresby resided in Edinburgh, and since an intense interest was aroused in his discoveries there, he was naturally connected with the University, particularly through his friend, Professor Jameson. This was the hey-day of the Scottish Enlightenment, and Edinburgh boasted some of

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[1] Blackwood's Magazine, Edin, 1817, No. 111, vol. 1, page 323.

the finest minds in Europe at that time. Scoresby was able to pursue his studies and his investigations in that intellectual climate during the long winter months each year, months in which it was impractical to whale.

Returning from his annual whaling voyage in 1817, a voyage that was unsuccessful, Scoresby nevertheless brought back some interesting information. In a letter to Professor Jameson, the whaler discusses an experiment concerning the effects of pressure on various objects, such as wood, tin, and cloth, and what these pressures were at different depths in the arctic seas. In the same letter he refers to a natural phenonomen that will ultimately set in motion and revive British interest in the Arctic regions. This was the presence of large pieces of ice further south in the Atlantic than had heretofore been noticed.[1]

In another letter to Sir Joseph Banks (with whom he would correspond until the latter's death in 1820) in October, 1817, Scoresby informed the President of the Royal Society in more detail of the condition of the Greenland Seas on his last voyage,

> I found on my last voyage, about 2,000 square leagues of the surface of the Greenland Sea, included between the parallels of 74 degrees and 80 degrees north, perfectly void of ice, which is usually covered with it. Now, all this ice has disappeared within the last two years, and there is little doubt but that it has been drifting to the southward into warmer climes, and there dissolved ... Had I been so fortunate as to have had command of the expedition for discovery instead of fishing (remember the English whaler's mandatory oath), I have little doubt but that the mystery attached to the existence of a northwest passage might have been resolved. There could have been no great difficulty in exploring the eastern coast of Greenland, and probably the fate of the colony established by the Icelanders so many centuries ago might have been ascertained. I do conceive that there is sufficient interest attached to these remote regions to induce Government to fit out an expedition,

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[1]Robert E. Scoresby-Jackson, Life of William Scoresby, T. Nelson & Sons, London, Edinburgh & New York, 1861, page 123.

> were it properly presented. The simple examination of the shores of Spitsbergen would be a matter of much interest to the naturalist and the geologist. I should have much satisfaction in attempting an enterprise of this kind, namely, to examine and survey the islands of East Greenland or Spitsbergen, especially the eastern part, which has not been visited for many years past; and to ascertain, for the benefit of the whalers, whether the whales resort thither; to endeavour to reach the shore of West Greenland, determine its position, prove its insularity, and ascertain the fate of the Icelandic colony, together with making researches (contemplating a continuation of the exploration through a series of years)[1] relative to the northeast and northwest passages, etc.; for the enterprise could be conducted with little, or possibly no expense to the nation.[2]

Scoresby had also sent Banks a copy of his Treatise on the Northern Ice (1815), in which he had outlined his theories concerning the nature of the Arctic regions. Banks answered this letter quickly and in it, suggested that Parliament should amend its Act of 1745 by offering a reward of 1,000 pounds to explorers for every degree that they should advance beyond the eightieth parallel.[3]

After examining Scoresby's arguments in his Treatise, Banks sent another communication to Scoresby, impressed with the latter's theories and concerned especially with the breaking up of the ice-pack, "The more I have considered the facts stated in it, the more I am convinced that the information given in it to the public for the first time, is likely to lead to results highly advantageous to maritime service."[4]

Why was Sir Joseph Banks so impressed? What arguments did Scoresby use to so convince the President of the Royal Society? In his work, An

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[1]Underlining mine for emphasis.

[2]Robert E. Scoresby-Jackson, op. cit., pages 123-125.

[3]Ibid., pages 125-126.

[4]Ibid., pages 126-127.

Account of the Arctic Regions (1818), Scoresby sets forth the basic reasons why he suspects that there is indeed a northwest passage and why that passage was navigable.

First, Scoresby points out that the currents in the Arctic regions (and here he is referring to the area of the North American continent), follow a circular pattern, that is, the currents in the Spitsbergen area flow from the north-east towards the south-west, while those in the Bering Straits flow towards the north-east.

Second, Scoresby argues that the connection between these two currents and the way in which they flow is responsible for the fact that ice-floes drift in a south-westerly direction into the Atlantic. Third, the origins of vast amounts of driftwood indicate that this sewage must have passed through the Bering Straits from the Pacific, carried by the prevailing currents, and reached the Greenland Seas and the Atlantic Ocean. Although the uppermost portion of the North American continent is unknown, Scoresby thinks that it unlikely that, geographically, the northern faces of Europe, Asia and America are such that it is improbable that they all meet together at the North Pole.

Lastly, and here Scoresby is able to draw from his own experience, whales have been caught in the Pacific and vice-versa with harpoons still imbedded in their bodies, when they have originally been harpooned in the Atlantic and have somehow managed to escape and to elude their captors.[1]

Scoresby also alludes to the matter of the Parliamentary Act of 1776 (Act 16th, George lll, c. 6), offering a reward of 5,000 pounds to

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[1]William Scoresby, An Account of the Arctic Regions, Arch. Constable & Co., Edin., 1820 (vol. 1), pages 4-12.

anyone who sailed beyond the eighty-ninth degree of latitude. Those who were in high latitudes, chiefly whalers, were restricted in their activities by virtue of the oath they had to sign before leaving port, and in addition to this inhibition, there was no real incentive offered by the Act to go any further, even if the opportunity presented itself. Furthermore, the reason why no one had attempted to progress further since the expedition of Captain Phipps was quite obvious and was not the result solely of the War,

> No one employed in the whale-fishery, who had the opportunity, would hazard his life, his property, and the success of his voyage, in seeking after a reward which he had every reason to believe was quite beyond his reach; especially as he well knew, that although he should sail to within a few miles of the extent, which would entitle him to the premium, and there be interrupted by some insurmountable obstacle, yet he could have no claim on the reward. Hence, while he considered the prize as beyond his reach, the adventurous voyager had no stimulus to lead him forward; whereas, had a proportionate reward been offered for a proportionate success, he would have had every encouragement to make the attempt.[1]

Based on the information he had received from Scoresby, Banks attempted to influence the Government in sending out an expedition to the north. Sir Joseph Banks had long been recognized as an outstanding advocate of the study of natural science. Among his many achievements, he was a botanist, and had made the expedition with Cook in 1772, in which he had named Botany Bay in Australia because of the proliferation of new and unnamed flora in that region. Elected to the Royal Society in 1766, Banks provided one of the most dedicated and forceful personalities that that body experienced in its leadership. From 1778 to 1820, Banks was President of the Royal Society, a position which gave him access to the

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[1] Ibid., pages 50-51.

highest circles in government. From this exalted podium he was listened to with great respect, and he used his influence and his position to pursue his ambition - the advancement of scientific knowledge, particularly in the field of natural science.

Described by his critics as being something of an autocrat as President, and a man who ran the Society with an iron hand, Banks, nevertheless, was responsible for considerable government interest in and involvement with scientific research. With his political connections, his academic and intellectual stature, and his hard-driving personality, Banks used the prestige of the Royal Society to advocate the continuance of Arctic exploration and discovery.

Accordingly, convinced of the wisdom and the practicality of Scoresby's theories, Banks wrote to Lord Melville, First Lord of the Admiralty, pointing out that the time was opportune for sending out an expedition, and showing what such an expedition might result in for the Admiralty and the British Government,

> ... the unusual abundance of ice islands (icebergs) that have during the last two summers, been brought by currents from Davis Straits into the Atlantic; the ice which this year has surrounded the northern coast of Iceland in unusual quantity, and remained there unthawed till the middle of August, with floods which have during the whole summer, inundated all these parts of Germany, whence rivers have their source in snowy mountains; afford ample proof that new sources of warmth have been opened, and give us leave to hope that the Arctic Seas may at this time be more accessible than they have been for centuries past; and that discoveries may now be made in them, not only interesting to the advancement of science, but also to the future intercourse of mankind and the commerce of different nations.[1]

Banks concluded by offering the full cooperation of the Royal Society and the Wernerian Society in the matter.

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[1]Charles C. Weld, History of the Royal Society, J. W. Parker, London, 1848 (2 vols.), pages 274-277.

The Admiralty responded favorably to this intelligence. Lord Melville, First Lord from 1811 to 1826, and a close friend of Pitt and Liverpool, was well aware of the strategic implications and possibilities of such a venture should it succeed. The Admiralty's decision to go into the Arctic represented its willingness to involve itself in Scoresby's and Banks' plans and was,

> ... at once an indication of the government's new awareness of the importance of maritime exploration to Britain's position as a great trading and sea power, and a sign of the increasing disinclination of individual merchants to hazard capital in expeditions which held out little prospect of immediate financial returns and monopolistic privileges.[1]

Commercial interests, particularly those in the whaling industry, who knew the state of the ice better than anyone else, made no attempt to take advantage of the situation by sending out an expedition.

Yet the Admiralty was under severe pressure from the civil authorities to economize. War had left its mark on the national economy, and the nation was saddled with a huge debt. As a result of this, the years following the Vienna settlement witnessed an economic depression in England. Navy forces were cut drastically with officers being placed on half-pay, and the ranks of ordinary seamen were reduced considerably. From an annual budget of 14 million pounds during wartime, by 1817, the British Navy found itself having to struggle along on a mere six million. And, to make matters worse, as a result of the Napoleonic wars and the Vienna settlement, the Admiralty found itself with enlarged duties in patrolling the sea-lanes of the world. Assurances had been given Castlereagh by the other powers at Vienna that the sea was England's special

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[1]Glyndwr Williams, The British Search for the Northwest in the Eighteenth Century, Longmans, London, 1962, page 269.

province and, as a consequence, that country found itself after the war with greater commitments and responsibilities. Figures on the strength of the Navy after the War indicate that this was no easy task, "In 1813 there were no less than six hundred and six ships in commission, manned by 130,127 men. Immediately after the war was over most of the big ships were laid up 'in ordinary'; their pressed crews dispersing to their homes or their normal avocations in the merchant service."[1]

While the status of the Royal Navy during the post-war period had increased immeasurably, the Navy itself underwent drastic reductions in men and materiel. Particularly hard-hit was the officer corps. In 1813 there were 3,285 Lieutenants fully employed, but by 1817 this number had fallen to around 600, with approximately 3,300 drawing half-pay.[2] Unlike able-bodied seamen, the officer corps, by and large, had no other vocation to fall back on. They were, for the most part, career men, and this abundance of officer material, unemployed and drawing half-pay, played a large factor in the decision to send out expeditions into the north from 1818 to 1855.

Naturally the Admiralty had a vested interest in its own particular image and growth. Wars make a navy possible. Yet, after Trafalgar, how else to maintain the prestige of Britain's premier fighting arm? Exploration in the Arctic, the equivalent of America's space program today, would provide the answer. Here was a challenge worthy of the Navy's

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[1]Christopher Lloyd, The Nation and the Navy, The Cresset Press, London, 1961, page 202.

[2]William L. Clowes, The Royal Navy, Low, Warston & Co., Ltd., London, AMS Press, New York, 1966 (vol 6), page 204.

interest and a challenge which would keep the Admiralty's standing high. Confidence in the prowess and ability of the British Navy was high during this period. No other country or consortium of countries could match her on the seas. Because of this, the Admiralty found in the prospect of Arctic exploration a singularly attractive proposition,

> ... and their confident handling of their obscure subject is attributed not only to their imperfect acquaintance even of the best geographers of that day with the terraquaceous conditions of the Polar regions, but also no doubt to the glorious belief then prevalent, a survival from the great war, that there was no exploit under heaven which the British Navy and its sailors could not perform, in all probability at the first attempt.[1]

The Admiralty was not alone in being impressed with Scoresby's and Banks' recommendations. Banks solicited and enlisted the support of the Council of the Royal Society, whose impact on future northern exploration was enormous. Originally founded in 1660, and receiving its charter from Charles II two years later, the Society engaged in promoting the interests of science from that date, and gave to the nation and to the world in general the benefits of its discoveries. Its basic philosophy was Baconian and what it stood for was, "... the gradual evolution of new, developing sciences, not as an end, but as a means - towards a much fuller understanding of man's physical environment, for the service of mankind."[2] Its most famous member was Isaac Newton, and his ideas would, over the years, compete with the French Cartesian rationalism and would be reflected in some of the scientific instruments, particularly the timekeepers, used on Arctic explorations as advised by the Royal Society.

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[1]Henry D. Traill, Life of Sir John Franklin, London, 1896, page 34.

[2]Margery Purver, The Royal Society: Concept and Creation, Massachusetts Institute of Technology Press, Mass., 1967, page 128.

The Admiralty responded to Bank's letter quickly, and Lord Melville, in a letter to the Royal Society, advised that body that tentative plans had been drawn up by his office to send out two expeditions in the following Spring,

> The circumstances to which you have adverted, have not failed to engage the attention of the Board of the Admiralty, and we have deemed it our duty, in conformity with your suggestion, to give orders for the fitting out of four vessels, of proper size and construction, to be in readiness to sail on the first of March (1818) with a view to the important objects stated in your letter. Our present intention is, that two of them should proceed to Davis's Straits, and from thence in a north-westerly and possibly afterwards in a westerly direction, and that the other two should proceed along the coast of Spitsbergen, to the northward if practicable, afterwards to the westward.[1]

Melville further asked the Society to review the plans drawn up and to make recommendations on the scientific instruments to be used on the expeditions and how they should be put to the best advantage in collecting scientific data.

While Scoresby and Banks were putting pressure on a receptive Admiralty, there was a man within that branch of government who, by his efforts both in government circles and the public at large, can be credited for getting the expeditions started in the manner in which they did. That man was John Barrow.

Barrow was familiar with the Arctic and the possibilities that it offered. As a youth, he had sailed in a whaler in the Spitsbergen seas as high as the eightieth parallel, and it provided him with an experience that he never forgot. Barrow had been under the patronage of General Dundas who, impressed with the former's ability in mathematics and the natural sciences, took him to South Africa where Barrow was employed in surveying the Cape,

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[1]Charles D. Weld, op. cit., page 279.

taken from the Dutch during the war. Dundas and his entourage were forced to leave South Africa as a result of the Peace of Amiens in 1802. Taken with his abilities, Dundas, an uncle of Lord Melville, procured for Barrow, once back in England, an appointment as second Secretary of the Admiralty, a position he held, with one brief intermission, from 1807 to 1845. More than anyone else it was John Barrow who, familiar with Scoresby's writings and suggestions, and in a series of private conversations with Sir Joseph Banks, contrived and was able to secure Melville's support for a series of expeditions that the British sent out.[1]

Starting in October, 1817, Barrow wrote a series of articles in the Quarterly Review, in which he attempted to inform the public as to the present conditions in the Arctic. The number of contributions he made to this Tory journal, founded to combat what its originators thought to be the insiduous doctrines of the Whig magazine, the Edinburgh Review, was enormous, and ran to some two hundred pieces. In his first article, Barrow mentioned the fact, already noted in Scoresby's and Banks' memorandums, of the recent break-up of the ice and its unusual drift into the Atlantic as far south as the fortieth parallel. One indication of this drift was the dramatic incident in 1817 of the fishing fleet being unable to set out from Newfoundland for its annual summer catch because of the vast quantities of ice blocking the shores of that region. Barrow reasoned that the regular ice-barrier, which normally extended between the seventy-sixth and eightieth parallels from the southern part of Greenland up to the

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[1]John Barrow, Voyages of Discovery and Research Within the Arctic Regions, John Murray, London, 1846, see Introduction and Chap. 1.

Spitsbergen, and which for years had been drifting in a westerly fashion, had finally broken of its own accord because of its volume and weight.[1]

In August, 1817, a ship called the Bremen was reputed to have sailed west from Jan Mayen's Island until it reached Greenland. Turning north, the Bremen reached a latitude of 81 degrees 30 minutes at which point it lost sight of land. She then proceeded westwards for a few days until land was sighted once again.[2] This news excited Barrow for it seemed to prove what he and Scoresby had assumed, that the current going through Davis's Straits could not exist if Baffin Bay were indeed a bay and was joined to Greenland.

Barrow's map (see his Chronological History of Voyages into the Arctic Regions) showed three distinct locations on the northernmost part of the North American continent: first, Icy Cape, north of the Bering Straits, the point at which Cook was forced to return; second, the mouth of the Mackenzie; and third, the mouth of the Coppermine, rivers which were discovered by Mackenzie and Hearne and which flowed into the Arctic Ocean. From this existing geography of the northernmost points that man had reached in the Arctic together with the theories propounded by Scoresby, Banks and Barrow, it was now argued (especially by Barrow) that the favorable conditions rendered by the break-up of the ice now present made it imperative that Great Britain take the initiative in exploring the Arctic, particularly the North American continent.

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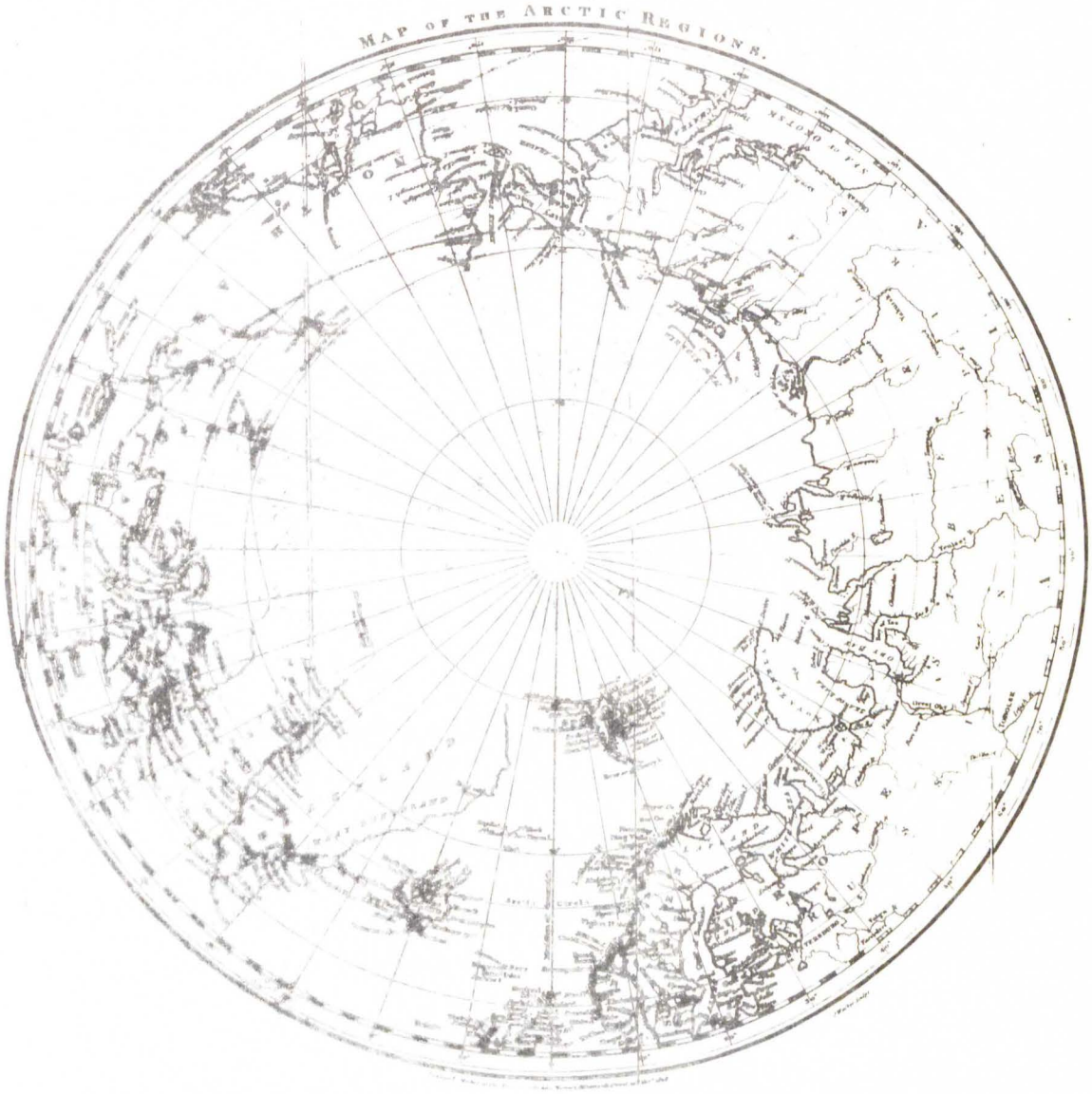
[1]Quarterly Review, London, 1818, No. XVIII, pages 199-223; 431-458.

[2]John Barrow, A Chronological History of Voyages into the Arctic Regions, John Murray, London, 1818, page 365.



BARROW'S MAP OF THE ARCTIC (1818)

We will recall that Lord Melville's response to Sir Joseph Banks had indicated that the Admiralty was acting on the advice of the Royal Society and would send out not one expedition, as Banks had suggested, but two. This idea to send out two expeditions, was the work of John Barrow. He reasoned, and here he agreed with Scoresby and others, that the temperature around the North Pole in the summer months was less severe, and that latitude had very little to do with temperature levels. Barrow's conclusions had led him to believe that Greenland was an island, and, because of this, he thought that an expedition might reach the Bering Straits by sailing north through the Polar Sea.[1]

Yet, Barrow's views aroused some controversy. In 1818, Bernard O'Reilly published a book entitled, Greenland and the Adjacent Seas and the North-West Passage to the Pacific. O'Reilly in the previous year had gone out in a whaler, the Thomas, as a surgeon, and reached a latitude of 77 degrees at the Linnaean Isles. It was O'Reilly's contention that it was impossible to sail beyond the ice-barrier approximating the eightieth parallel. Infatuated with the Arctic, O'Reilly had kept a record of his voyage in which he recorded the impressions of the state of the ice in 1817. To prove his point, O'Reilly used as evidence the unsuccessful attempt made by Captain Phipps, who, although he reached a latitude of 81 degrees 30 minutes was unable to sail further north even though he had searched along the barrier to the east and to the west. If there was a possibility in reaching the Pole or of finding a northwest passage, O'Reilly felt that the Admiralty should consider putting its energies into finding an entrance north and west of 74 degrees at Davis's Straits.[2]

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[1] Ibid.

[2] Bernard O'Reilly, op. cit., pages 243-255.

Barrow reviewed this book in the Quarterly Review, and dismissed O'Reilly's contentions and suggestions as mere speculation and imagination. With biting sarcasm, Barrow contended that O'Reilly was a petty huckster, a man who was just out to make a splash. Yet, subsequent events would prove O'Reilly to be correct in his estimation of where the best approach might be made to attain the northwest passageway.[1]

The Edinburgh Review also tended to disagree with Barrow's plan to send an expedition to sail to the North Pole. In this journal's view, William Scoresby had the best plan for attacking the North Pole. Scoresby postulated that the Pole was a mass of ice and that the only way in which to reach it was to sail as far north as was possible and from thence to cross the ice on sleds, using horses or reindeer for traversing the ice-pack. Barrow, on the other hand, felt that the North Pole was land-free and that the Pole was a point in the Arctic Ocean, an ocean that was free of both land and ice. The problem as Barrow saw it was that prior to this the ice-barrier at the eightieth parallel had prohibited ships from sailing directly to the Pole. The break-up of the ice convinced Barrow that the time was right to find an opening in this barrier so that a ship might sail directly to the Pole and thence to the Bering Straits. The Edinburgh Review's author, however, felt that Scoresby's plan was the better of the two and was the most practical means of obtaining the stated objective, "The bold plan suggested by Mr. Scoresby, for approaching to the Pole over the icy continent, though liable to very serious and formidable objections, affords perhaps, after all, the only tolerable prospect of accomplishing the design."[2]

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[1] Quarterly Review, 1818, vol. XIX, pages 208-215.

[2] Edinburgh Review, 1818, vol. XXX, pages 1-59.

Yet the Edinburgh Review agreed with the sending out of the expedition, and applauded the Admiralty on its intention to do so. The journal recognized that there would be benefits from such an undertaking, particularly in the advancement of scientific knowledge that would accrue from the expedition, 'Yet we think it befitting the character of a great maritime nation, to embrace every chance even of improving geographical knowledge, and of extending the basis of natural science.'[1]

While these opinions were being aired publicly, Barrow was busy drawing up plans for the expedition itself. These, once completed, were submitted to Sir Joseph Banks and the Council of the Royal Society for that body's approval and/or emendation. Upon the general plan being approved, Lord Melville submitted it to Lord Liverpool, the Prime Minister, for his verification and acquiescence. The latter's consent having been obtained, Barrow implemented the plans as quickly as possible. However, for this expedition and for all future expeditions, two new policies were enacted, designed to lift the former restrictions on Arctic exploration and to provide an additional monetary incentive to British seamen in the higher latitudes.

First, the oath required of all whalers before they left port was rescinded and a new one, much more flexible, was drawn up to take its place. This new oath allowed owners and captains to search for a northwest passage and to go as near the North Pole as possible in accordance with the Parliamentary Act offering a reward for those regions.[2]

Second, at Barrow's insistence following up Scoresby's and Banks' intimations, to the reward of 20,000 pounds offered by the Act of 1776, were to be added further emoluments to be made up by a Commission composed of

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[1]Ibid.

[2]Statutes at Large, 58 Geo. III, March 19, 1818.

members of the Government and the Royal Society.[1] The Commission modified and improved the existing Act and established a scale of rewards which were designed to give encouragement and motivation to those who desired to hazard the rigors of the Arctic regions. The results of the Commission's recommendations were: to the first vessel sailing within the Arctic Circle to longitude 110 degrees West or to the mouth of the Coppermine River, 5,000 pounds; to 130 degrees West or to the mouth of the Mackenzie River, 10,000 pounds; to 150 degrees West, 15,000 pounds; and to the Pacific Ocean, 20,000 pounds. For those going to the North Pole, the scale was set as follows: as far north as 83 degrees, 1,000 pounds; to 85 degrees, 2,000 pounds; to 88 degrees, 4,000 pounds; and to 89 degrees, 5,000 pounds.[2]

From these scales it can be seen that the discovery of a northwest passage was of paramount importance and was thus the more attractive proposition especially in the view of those who established the rewards (made up from the governmental and scientific communities). Legally and administratively, the way was now clear for the expedition to proceed and, at Deptford, on the Thames, preparations went on hurriedly under Barrow's supervision.

From Scoresby's letter to Banks it will be recalled that the whaler had offered his services in any expedition the Government would send out. Scoresby had ample qualifications for the position; his experience in the region, and his academic and proven scientific interest were respected by all. In a letter in Blackwood's Magazine, Baron von Buch mentions Scoresby's contributions to science and his knowledge of the Arctic regions. Von Buch,

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[1] Ibid. 58 Geo. III, c. 20, no. 10.

[2] Ibid. 58 Geo. III, no. LVIII, May 8, 1818, pages 30-37.

aware of the Admiralty's decision to send out an expedition, urged that body to place Scoresby in charge of it,

> Mr. Scoresby is also known as one who frequents the Greenland Seas; he, indeed, is a man worthy of being placed along with a Hudson, a Dampier, and a Cook; and if he should be placed at the head of a voyage of discovery, I am persuaded that his name will descend to future ages with those of the most able navigators.[1]

Nor was the German the only advocate on Scoresby's behalf. Another tribute was paid to Scoresby, again in Blackwood's. The whaling captain was commended for his recent discovery (on his voyage of 1817) of the Greenland whale (Balaena mysticetus) and his further contributions to the relatively new science of zoology. The author of the article, in referring to the forthcoming expedition and the excitement that it had aroused among the scientific community both in England and abroad, stated that, "... there is no individual so well qualified to be placed at the head of such an arduous enterprise as Captain William Scoresby."[2]

Yet Scoresby was not to get the position he desired and for which he had worked to get started. In the middle of December, 1817, shortly after the decision was reached to send out an expedition, Commander John Ross of the Royal Navy received his commission to head the whole voyage through the intercession of Sir George Hope of the Admiralty Board. Scoresby was offered a secondary position by Barrow but, disappointed in not getting the command, declined the offer. Later, the Admiralty would regret the choice it had made.

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[1] Blackwood's, Jan. 1818, no. X, vol. II, page 364.

[2] Ibid., pages 185-186.

John Ross had had considerable experience at sea. He had served for a time with the mercantile marine and when war broke out had enlisted as a Lieutenant in the Royal Navy. Although injured during the war, he served with distinction and rose to the rank of commander. A former member of the East India Company, Ross had twice wintered in the Baltic, and had been employed in surveying the White Sea and had been as far north as Bear (Cherie) Island. Yet, despite his reputation and experience, his qualifications nevertheless did not match a man of Scoresby's caliber.

Ross arrived, in accordance with his instructions, at Deptford in late December to assist in outfitting four vessels selected for the expedition. The ships, all whalers, were commissioned by the Admiralty on the 15th of January, 1818, and it took six weeks to make them ready. The ships chosen were: the Isabella of 382 tons; the Alexander of 252 tons; the Dorothea of 370 tons; and the Trent of 250 tons. During preparation time, the ships were reinforced with stout wooden planks and iron hoops designed in such a manner as to withstand the pressures of the ice.

The ships were provisioned for two years, with every care taken to ensure the safety and sustenance of their crews. The Isabella and the Dorothea had a surgeon and a surgeon's assistant on board and the Alexander and the Trent an assistant surgeon each. In addition to this, a master and mate, familiar with the Greenland Seas and with some years of experience in the whaling industry, were attached to each ship. Not only did these experienced seamen provide the necessary knowledge of the area to be explored but they served in another capacity too. In the event that the ships were forced to turn back and so that the whole expedition might not be written off as a total loss, each ship was equipped with two iron tanks to bring blubber back so that part of the cost of the expedition might be defrayed.

Each ship was also provided with the necessary items for collecting and collating objects of interest both on sea and land for natural history. Lieutenants Hoppner and Beechey were assigned as artists to reproduce as accurately as possible a series of drawings for the expedition.

The men chosen to head the expedition were all to find their names appear again and again in Arctic exploration. These men would provide the Royal Navy with a cadre of experienced and disciplined elite, a group that would go down in their nation's history who would add considerably to man's knowledge of the Arctic regions. To Captain Ross (he had now been promoted a rank) was given the main expedition, that is the one chosen to advance into Davis Straits in the hope of discovering a northwest passage. Ross commanded the Isabella, and under him, commanding the Alexander, was Lieutenant William E. Parry, who later was to have a brilliant career as a navy navigator. Also on the Isabella was James C. Ross, a nephew of John Ross and a man who would distinguish himself later both in the Arctic and in the Antarctic.

The other branch of the expedition and the one that was to make the attempt on the North Pole was under the command of Captain David Buchan, in charge of the Dorothea, a man who had experience as a navigator in Newfoundland. Under him, and commanding the Trent, was Lieutenant John Franklin, who would later have a tragic death and for whom the country would mobilize its forces in an effort to rescue him. With Franklin on the Trent were two future heroes of Arctic exploration, Frederick W. Beechey and George Back. The total number of officers, men and marines in each of the larger ships was fifty-six, while in the smaller, fifty.[1]

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[1]See DNB

In his Chronological History of the Voyages into the Arctic Regions, published in 1818, John Barrow described the types of scientific instruments that were placed on board the vessels, some of which were new inventions designed specifically for the expedition. Each ship was supplied with a clock having a pendulum cast in one solid mass; a dipping needle designed to measure magnetic force; a new type of azimuth; an instrument for determining the altitude of celestial bodies when the horizon was shrouded in fog, a frequent condition in Arctic regions; a micrometer and dip-sector, designed to adjust the variation of the real dip caused by the difference between the temperature of the sea and the atmosphere; a macrometer; three chronometers to each ship; a hydrometer to gauge the specific gravity of sea water at different levels (a project that Scoresby had done much work on); thermometers; a barometer; and various instruments to test electrical forces and phenonema in those areas.

In order to help use the scientific instruments placed on board, two men were selected primarily with that purpose in mind. Captain Edward Sabine of the Royal Artillery, a man conversant with astronomy and mathematics and also in the practical use of scientific instruments was recommended by the Royal Society. Mr. George Fisher, a mathematician from the Cambridge University, was also to accompany the expedition to take care of and to use the extensive set of scientific instruments on board, some of them in duplicate.[1] Every effort was made to ensure that the equipment was the best available and the expedition was the most carefully planned that the British had ever sent out, "On the whole, neither care nor expense

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[1]John Barrow, op. cit., pages 366-368.

appears to have been spared in sending out the two expeditions as complete and as well equipped as possible, and nothing that the commanders of them deemed to be useful was refused."[1]

The Admiralty was preparing for all contingencies and the outfitting of this expedition of 1818 represented the most clearly planned of all previous English Arctic explorations. The commanders of the expeditions were instructed by the Admiralty to examine the variation and inclination of the magnetic needle, the intensity of the magnetic force, and how far it was effected by atmospherical electricity; the temperature of the air, the dip of the horizon, refraction, height of the tides, set and velocity of the currents, depths and soundings of the seas. Collections of specimens to illustrate the animal, mineral and vegetable kingdoms were also directed to be made.[2]

All the preparations having been made, the flotilla sailed down the Thames on the 25th of April, 1818. However, the fate of the expedition was plagued by an unexpected problem that came up. It will be recalled that the officers who manned the ships were chosen from a plentiful supply of men on half-pay and the Admiralty was deluged with offers from them. However, getting crews proved to be difficult. Initially, while at Deptford, the expedition could not attract enough ordinary seamen who would volunteer for the voyage. There was a certain superstition, a romantic strangeness and uncertainty about the north that manifested itself in the

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[1] Ibid., page 369.

[2] Peter L. Simmonds, Sir John Franklin and the Arctic Regions, George H. Derby & Co., Buffalo, 1852, page 46.

reluctance of able-bodied seamen to join the expedition. The force of the power of the unknown reflected itself vividly among this group,

> In the contemplation of this stupendous obstacle the most ardent enthusiasm became chilled and benumbed, and the proverbially reckless spirit of the sailor was appalled. There was a feeling of romantic and almost superstitious terror connected with the idea of sailing to a locality which appeared to be beyond the limits of the habitable globe ... and which, once passed, might be closed again on the too-daring traveller ...[1]

The Times of London had assigned a correspondent to report on the progress of the preparations for the expedition before it was to make its final essay north in the beginning of May from the north of Scotland. Besides the element of superstition among the crews, the Royal Navy did not have a high complement of men who had Arctic experience. Even the Parliamentary award of 20,000 pounds and an allowance of three pounds per month, with two months pay in advance, failed to attract the necessary numbers. The Times' man wrote, " ... a difficulty is found in obtaining suitable hands for the voyage, and the vessels will complete their crews at the Orkneys, the great rendezvous for the Greenland service."[2]

This particular problem, that of getting crews for the ships almost caused the cancellation of the entire project itself. The Times' man, fully aware of this, offered an alternative suggestion,

> Instead of the ships destined on this interesting proceeding to Orkney, in the first instance, with the expectation of getting hands competent to navigate the vessels, it might be better if they put into Leith for that purpose. This the writer is sure of, that the Greenland ships sailing from thence

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[1] August Sonntag, Sonntag's Narrative of the Grinnell Exploring Expedition, James T. Lloyd, Philadelphia, 1857, page 12.

[2] London Times, February 27, 1818.

> are well manned, and there is every likelihood that choice hands could easily be procured there. Should Orkney, however, be preferred, and the expected supply not procured, the disappointment must prove to be a serious one indeed; perhaps of such magnitude as to set aside the voyage altogether.[1]

The fleet set out for Lerwick and arrived there on the 1st of May. Despite the careful planning that had gone into the preparations of the ships, the Trent sprung a leak while at sea and had to be repaired at Lerwick. While the leak itself was not that dangerous, the fact that there had been slip-shod workmanship at Deptford, prevented Captain Buchan from picking up some additional crewmen there. Nevertheless, the expedition set out on its mission on the 2nd of May, despite the fact that there was a shortage of seamen on board.

What was the attitude of the officers on board? We have seen that among the crew members the success of the expedition was not expected, indeed, many thought that disaster awaited them. For the officers, however, a different view prevailed. It was generally felt that the attempt on the North Pole was the easier of the two voyages. The officers showed and revealed an optimism about the expedition in stark contrast to the pessimism of the ordinary seamen,

> The officers of the expedition seem quite confident that the Dorothea and the Trent, under the command of Captain Buchan, destined for the discovery of the North Pole, will attain their object, but they are by no means equally sanguine of the success of the Isabella and the Alexander, under Captain Ross, who is instructed to attempt the passage of Davis Straits.[2]

A look at Barrow's map of 1818 of the Arctic reveals that very little was known at that time about the North American continent. Its

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[1] Ibid., March 3, 1818.

[2] Ibid., March 26, 1818.

chief feature and what makes it so conspicuous is the fact that vast stretches are blank. Lancaster Sound, just beyond Davis Straits was the furtherest northwest that had been explored, and nothing is shown north of Hudson's Bay, only three-quarters of Greenland is reproduced. Even the North Pole is an unknown entity; no one knew whether it was a sheet of ice, a land continent, or open sea.

We have seen how the British became involved again in Arctic exploration. The efforts of men such as Scoresby, Banks and particularly John Barrow stand out. Now we must ask why did the British go into the Arctic.

There were two predominant reasons or motives behind the decision to explore the north. First and foremost was the pursuit of knowledge, that is, the advancement of science. Scoresby, Banks and Barrow all had strong backgrounds in that discipline and all had the perserverence and determination to propagate their beliefs. In this regard, the laurels must go to Barrow, 'None the less, it is to him more than anyone else that the credit for reviving the search must go, a search in which the object, as he wrote at the end of his life, has been the acquisition of knowledge, not for England alone, but for the general benefit of mankind.'[1]

Secondly, it was a matter of national prestige. New facts had to be discovered, new lands explored, and English names given to remote and faraway places. For the Royal Navy this was its moment; to study and improve upon navigation, to chart ocean currents, to make astronomical observations, to research meteorological data, to open up new routes and faster sea lanes and most especially to follow in that proud tradition

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[1]Christopher Lloyd, Mr. Barrow of the Admiralty, Collins, London, 1970, page 129.

that had been already blazed for them from Raleigh to Cook. Above all, the maintenance of British naval supremacy meant one thing - prestige. Much like the space program of the United States today, the immediate results were intangible, the unknown was there to be known. Perhaps the words of John Barrow, written in 1818, just after the expedition had set sail for the Arctic, best convey the sense of what the British were doing,

> Of the enterprise itself it may be truly characterized as one of the most liberal and disinterested ever undertaken, and every way worthy of a great, a prosperous, and an enlightened nation; having for its primary object that of the advancement of science, for its own sake, without any selfish or interested views. On this account it has justly excited the attention, and called forth the approbation of maritime Europe; for it is well known that whatever new discoveries may be made, will be for the general benefit of mankind; and that if a practical passage should be found to exist from the Northern Atlantic into the Northern Pacific, the maritime nations of Europe will equally partake of the advantages, without having incurred either the expense or the risk of exploring it.[1]

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[1]John Barrow, op. cit., pages 378-379.

CHAPTER III

BRITISH EXPLORATIONS FROM 1818 TO 1829

The instructions given to both Buchan and Ross by the Admiralty were overly confident and optimistic in light of the government's knowledge of the geographical regions that these commanders faced.

Buchan's orders were to proceed to and beyond the Spitsbergen island group and sail from thence to the North Pole. Once there, he was instructed to sail for the Bering Strait and effect a rendezvous with Ross in the Pacific. Should this particular route not be open to him, Buchan was ordered to sail west around Greenland and then head for Baffin Bay.[1]

Buchan sailed around the western side of Spitsbergen and because he ran into adverse weather at 80 degrees latitude, was forced to put into Magdalena Bay. Unable to proceed north because of the presence of the ice-barrier, Buchan, like Phipps before him, sailed in a westerly direction to 4 degrees, 31 minutes east. Again he was frustrated by the ice-pack, and a gale which badly battered his ships, particularly the Trent. Forced to seek immediate repairs for his vessels, Buchan limped back to Fair Haven. He stayed there for a month, and, when his ships were ready, once more attempted to strike westwards. Again he was turned

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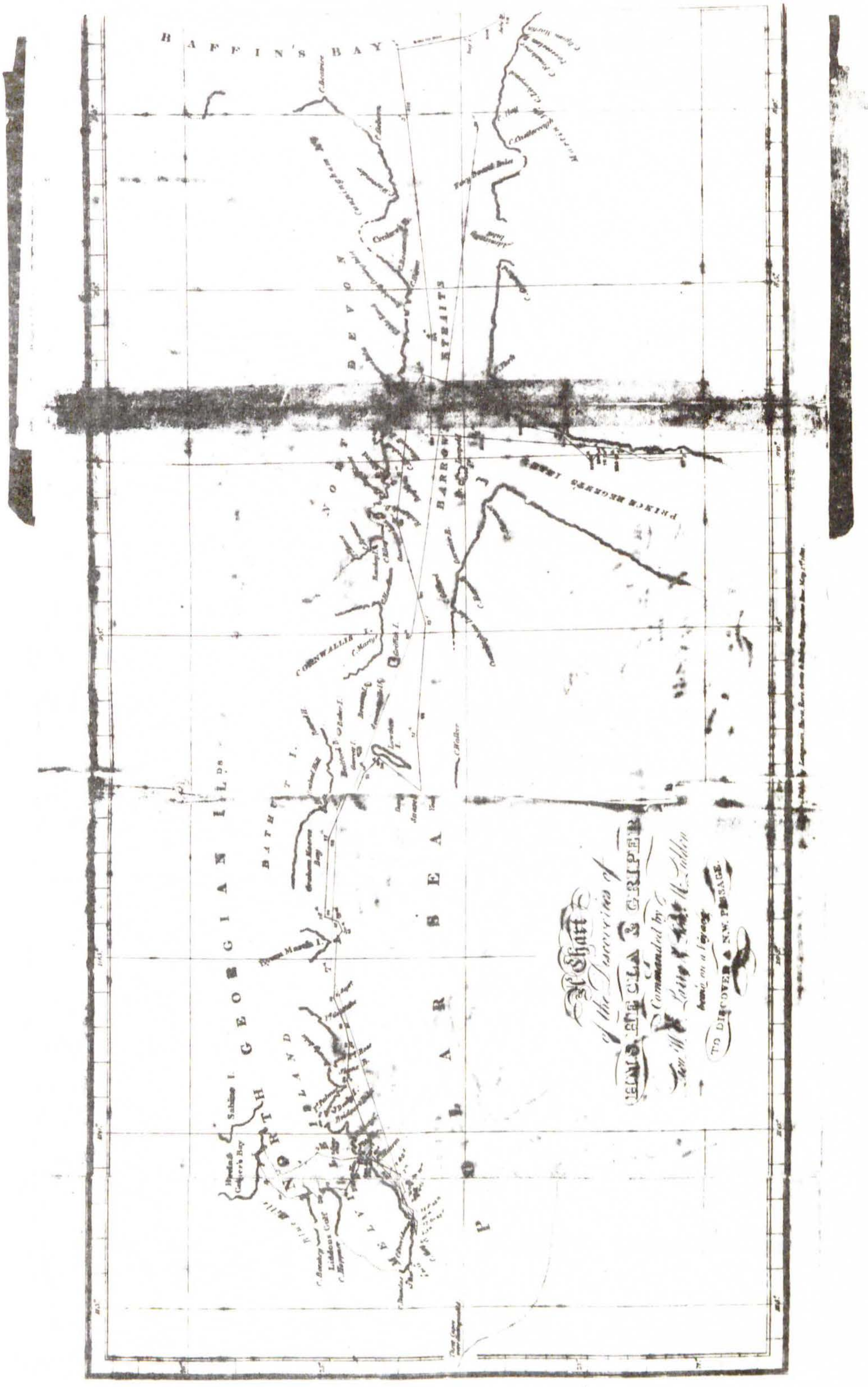
[1]Captain Frederick W. Beechey, Voyage of Discovery Towards the North Pole, Richard Bentley, London, 1843, pages 6-22.


BAFFIN'S BAY
BARROW STRAITS
PRINCE REGENT'S INLET
NORTH GEORGIAN ISLDS
POLAR SEA
CORNWALLIS
MELVILLE ISLAND
TO DISCOVER A N.W. PASSAGE

back by the ice after achieving a latitude of 80 degrees, 34 minutes. As the season was far advanced, he consulted Franklin and his other officers, and acting on their advice, decided to return home. He arrived back in England on the 22nd of October, 1818.[1]

Although Buchan did not deem his expedition important enough to publish its results due to the fact that the main objectives had not been accomplished, the voyage had not been entirely wasted. An important survey had been taken of the north-western coast of Spitsbergen and the charts which Phipps had drawn were found in many instances to be inaccurate. It would be at the instigation of Barrow that the results of the expedition were published by Beechey in 1843.[2]

Ross's instructions ordered him to sail to Davis Strait and into Baffin's Bay at the 72nd parallel. From that point he was instructed (as was then thought) to proceed around the coast of the North American continent to the Bering Strait. From there he was to cross the Strait to Kamchatka, give a copy of his records to the Russian governor residing there, and meet with Buchan in the Pacific. Both parties were then to exchange copies of their log books and then sail home, choosing if they thought it feasible, the newly discovered north-west passage.[3]

Ross sailed up the western coast of Greenland as far as Melville Bay, named after the First Lord of the Admiralty, before he was stopped

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[1] Ibid. Information on the voyage is taken from this work.

[2] John Barrow, Voyages of Discovery and Research Within the Arctic Regions, John Murray, London, 1846, page 62.

[3] John Ross, Voyage of Discovery in H. M. Ships Isabella and Alexander, John Murray, London, 1819, pages 1-14.

by impenetrable ice. As the expedition went around Cape York, an unusual phenonomen was sighted - this was crimson snow, and an amount of this snow was placed in a bottle to be taken back to England for analysis.[1] While on their way Ross and Parry compared their respective chronometers to test their accuracy and also dropped overboard at various points copper cylinders, each containing papers giving their positions at various times in the expectation that these might be picked up somewhere else. It was hoped that something might be learned from the direction taken by the northern currents.

Ross had taken an interpreter with him, an Eskimo called John Sacheuse, who proved invaluable on the expedition. On the 10th of August at Cape Dudley Digges, Ross encountered a party of Eskimos who thought themselves the only living beings on earth. They were invited aboard the Isabella. Although somewhat skeptical at first since they thought the ships to be living creatures, their fears were finally banished chiefly through the efforts of John Sacheuse. From his meeting with these aborigines, Ross was able to derive interesting information on their native habits and customs and he called them Arctic Highlanders.

Ross, stopped in his advance up the Greenland coast, sailed west to explore Jones, Smith and Lancaster Sounds. What Ross was attempting to do was to verify and authenticate Baffin's discoveries. Ross sailed up Jones Sound but found that ice blocked his path. He turned next to

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[1]Protococcus - a rapidly multiplying unicellular plant filled with chlorophyll-green cytoplasm which often changes to red by exposure. Palmella nivalis is the well known 'red snow' that frequently and swiftly covers large tracts of snow in Arctic or alpine regions. Jeannette Mirsky, To the Arctic!, University of Chicago Press, 1970.

Smith Sound and while he was not able to advance up that Sound he gave the names of his two vessels, the Isabella and the Alexander to the two cliffs that marked its entrance.

Sailing south, Ross entered into Lancaster Sound which he found relatively free from ice. He sailed up this Sound, judged it to be fifty miles wide and noticed the presence of a strong current. Soundings were taken and it was discovered that the depth of the water had increased from 150 fathoms to 650 fathoms. Three miles behind him Parry followed in the Alexander. On August 28, Ross committed an error which would bring universal scorn upon him on his return to England. The commander of the Isabella was the victim of a mirage or an ocular illusion, "I distinctly saw the land round the bottom of the bay, forming a chain of mountains connected with those which extended along the north side and south side (of the Bay)."[1] He named these the Croker Mountains after the First Secretary of the Admiralty. Because of the lateness of the season, he resolved to head back for home. Ross was convinced, as had been Baffin before him, that Lancaster Sound was indeed a bay, and further that it was closed off by a chain of mountains.

Not all the officers agreed with Ross's observations, however, and on the journey home, Sabine and Parry concluded that Ross ought to have sailed on. The expedition arrived back in England in the beginning of November, 1818, and The Times reported that,

> NB. It is confidently asserted to in a Morning paper, that Captain Ross, on his arrival at an English port, took away all the journals which had been kept by any persons under his command, and thus precluded the publication of what would have been the best evidence against him.[2]

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[1]John Ross, op. cit., page 174.

[2]The Times, London, January 25, 1819.

Sabine published an article shortly after his return in the Quarterly Journal of Literature, in which he stated that there were many encouraging signs evident to indicate that Lancaster Sound was not a bay. Sabine argued that the absence of ice, the strength of the current and the depth of the water must lead to the conclusion that the Sound was open.[1] In addition to this another letter, this time appearing in Blackwood's Magazine and written by an unsigned officer of the Alexander, tended to reinforce Sabine's opinion.[2] Lieutenant Parry's diary records that the swell of the water came from the north-west and that, based on this alone, it was impossible to feel that this did not come from an ocean.[3] Alexander Fisher who was surgeon aboard the Alexander (which was three miles astern at the time Ross saw the 'Croker Mountains' and the officers of which were unanimous in their opinion that there were no such mountains) in his Journal of a Voyage of Discovery, points out that, 'The only one of those inlets into which we entered, was that which Baffin called Lancaster Sound; and from what we ascertained of it, I believe that no doubt remained in the minds of those who were there, that it was a strait, or passage, and not a sound."[4]

John Barrow, an old friend of Ross, published a scathing attack on the commander in the Quarterly Review, accusing him of negligence, cowardice

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[1]Quarterly Journal of Literature, VII, page 94.

[2]Blackwood's Magazine, IV, December, 1818.

[3]As quoted by John Barrow in the Quarterly Review, XXI, pages 213-262.

[4]Alexander Fisher, A Journal of a Voyage of Discovery to the Arctic Regions, Longman, Hurst, Rees, Orme, and Brown, London, 1821, page VII.

and failure to follow or carry out his instructions. In this indictment, Barrow was obviously influenced both by Sabine and Parry, for Barrow went on to argue that Lancaster Sound was indeed the entrance to the north-west passage.[1]

It should be remembered that this whole venture had been Barrow's pet project, a project in which he had expended a great deal of effort and personal interest. Not to see it realized hurt his pride, especially when he had good reason to believe that Ross had mismanaged and bungled the whole affair. Yet, although Ross indeed had been misled, we should not judge that commander too harshly. Refracted images in the Arctic regions are commonplace - it was unfortunate that Ross was the victim of such a frequent occurrence.

Whatever feelings and misgivings Barrow had about Ross's competency, the Admiralty Board promoted that officer to the rank of captain. He was the only officer of the whole expedition to be so honored. Yet, in spite of this approbation, Ross would never again be given a command on a government sponsored expedition to the Arctic.

Two important contributions were made on the Ross expedition. First, new grounds were opened up for the whalers to fish in,

> The whale fishery was confined to Davis Strait until Ross, in 1818, passed through Melville Bay and showed the way into the 'North Water'. The consequence of his voyage was that the whalers followed him, and a most lucrative fishery was established, which flourished for more than half a century.[2]

Second, in the scientific field, the magnetic experiments conducted by

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[1] Quarterly Review, XXI, pages 213-262.

[2] William L. Clowes, The Royal Navy, Low, Marston & Co., London, AMS Press New York, 1966, volume 6, page 517.

Captain Sabine resulted in the revelation that scientific instruments could be influenced by heat or cold, by atmospheric pressure and humidity, and by density and the strength of the prevailing winds. These factors could result in a substantial deviation in the readings derived from these instruments and it was now evident that allowances had to be made for them.[1]

The failures of the Buchan and Ross expeditions, however, chastened the Admiralty and the Royal Navy, in that, 'The Royal Navy quickly found out that Britannia might rule the waves, but she did not rule the ice. The polar expedition dented its prows and pride against the permanent pack and limped back, chastened, to England.'[2] Yet, for all that, the failure of the two expeditions only served to stimulate and whet government's appetite for yet another venture and Barrow immediately made preparations for a second voyage into the Arctic, to set out the following season.

Parry was assigned to lead this next expedition. Two ships were made ready, the Hecla, recently built in 1815 of 375 tons, and the Griper of 180 tons. The expedition was well supplied for a two year period, with meat and various types of soup stored in tin packing cases, supplied by Messrs. Donkin and Gamble of Deptford (the leading manufacturers of canned food since its introduction in 1813).[3] As well as this, a plentiful supply

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[1]John Ross, op. cit.

[2]William D. Smith, Northwest Passage, American Heritage Press, New York, 1970, page 30.

[3]Christopher Lloyd, Mr. Barrow of the Admiralty, Collins, London, 1970, pages 133-134.

of coal was laid on board, so that there would be an adequate amount of fuel should the expedition have to winter over in the Arctic.

One important aspect of the first expedition was that it resulted in giving the British a corps of experienced and trained men familiar with Arctic waters and conditions. This body of men made up the bulk of the new expedition. Parry led on the Hecla while Lieutenant Liddon commanded the Griper.

Parry received his orders on the 16th of January, 1819, and once more they bore the mark of Barrow's hand. Parry was instructed, as had been the previous expedition under Ross, to attain the discovery of a north-west passage. He was ordered to take the same route that he and Ross had taken on the first voyage, to explore thoroughly Jones, Smith and Lancaster Sounds, with special emphasis of course being placed on the exploration of Lancaster Sound. As has already been mentioned, provisions and directions were given should the party have to winter in the Arctic.[1]

The expedition set out from Deptford in early May, 1819, replete as before with a large number of scientific instruments on board. The voyage on the Greenland coast was largely uneventful and, following in the path of the previous expedition, Parry, after he was blocked by ice at the 73rd parallel on the Greenland coast, turned south-west to examine the Sounds.

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[1]Edward Parry, Journal of a Voyage for the Discovery of the North West Passage in 1819-1820, John Murray, London, 1821. Information concerning this expedition is taken from this work.

However, in attempting to reach the Sounds, Parry took a different tack, a rather risky one at that. Unlike Ross, Parry decided to use the 'middle pack',

> In the days of sailing ships, there was great difficulty in passing northwards from Davis Strait to open water, found by Baffin and by Ross, in the head of Baffin's Bay. The safe passage which was made by sticking to the land flow of Melville Bay usually caused much delay; while an attempt to pass through the 'middle pack' drifting south entailed the danger of being beset, and being drifted again out into the Atlantic. Such an attempt could very rarely be successful. Parry, after consultation with his ice masters, and careful consideration of the circumstances of the season, resolved to take the 'middle pack'. He was right, and his ships reached 'North Water' unprecedently early.[1]

What Parry had done resulted in his being at the entrance to Lancaster Sound a month earlier than he had been the year before. This was the crucial point of the whole expedition. It was a gamble, and Parry was fortunate that it proved to pay off for him. On this rested the whole question of proving who had been right, Ross or Parry and Barrow.

Because the Griper was the slower vessel of the two she was left behind at the entrance to the Sound while the Hecla under Parry proceeded ahead. On August 2, 1819, Parry sailed past and over the mythical Croker Mountains, and the huge gulf sighted to starboard was given the name Croker Bay. Meanwhile, the Griper had managed to catch up with the Hecla owing to swift breezes astern, and both ships scudded along taking advantage of the prevailing winds. However, at the ninetieth meridian, they were halted because of the presence of a large block of ice. This proved to be impassable. Parry sailed south and entered a strait, to which he gave the name Prince Regent's Inlet. It was Parry's hope that a passageway might be found at a lower latitude.

At this point there occurred a strange phenonomen - the ship's

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[1]William L. Clowes, op. cit., page 510.

compasses became useless due to the fact that they began to fluctuate wildly. The reason for this, unbeknown to Parry at the time was the proximity of the North Magnetic Pole. The compasses being rendered ineffective, the vessels had to rely on their azimuths to guide them.

Sailing north, Parry sighted and named Wellington Channel and Barrow Strait. In a north-westerly direction he entered Melville Sound and, at Byam Martin Island (named after the Comptroller of the Navy), Captain Sabine was sent ashore with his scientific instruments,

> After setting up their instruments the scientists discovered that the variation had changed since they had made their last observations on the shores of Prince Regent's Inlet, from 128 degrees 58 minutes west to 165 degrees 50 minutes east, showing that they had passed the meridian on which the Magnetic Pole was situated. Parry, with these calculations before him, determined that the meridian in question was in the vicinity of 100 degrees west longitude - actually it was between 96 degrees and 97 degrees - but the precarious condition in which the vessels were placed at present prevented him from making further observations and reducing his deductions to a greater degree of precision.[1]

On the 4th of September, 1819, at Melville Island, Parry was the first to pass the 110th meridian west. He thus assured for himself and his crew the 5,000 pound Parliamentary reward offered for passing that point and he appropriately named an adjoining promontary, Bounty Cape. He now made ready to winter over at Hecla and Griper Bay as the winter ice was beginning to form quickly.

The sails were lowered and large canvas sheets were spread out over the top decks of the ships, stuck firmly and held up in the ice. The problem of heating the boats and keeping the crews warm proved to be less than adequate, however, because the heating system, as it was constructed, while giving warmth also created a high humidity level within the ships holds.

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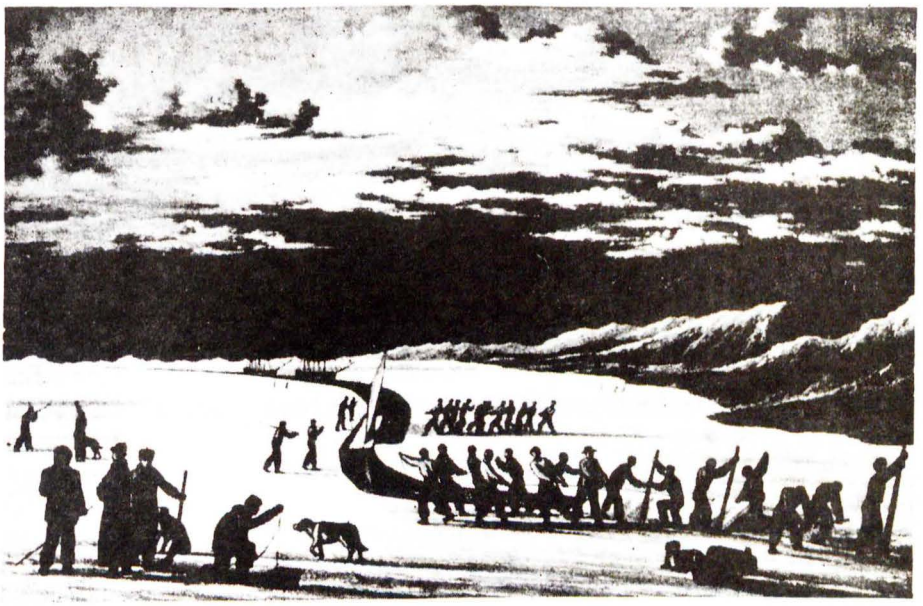
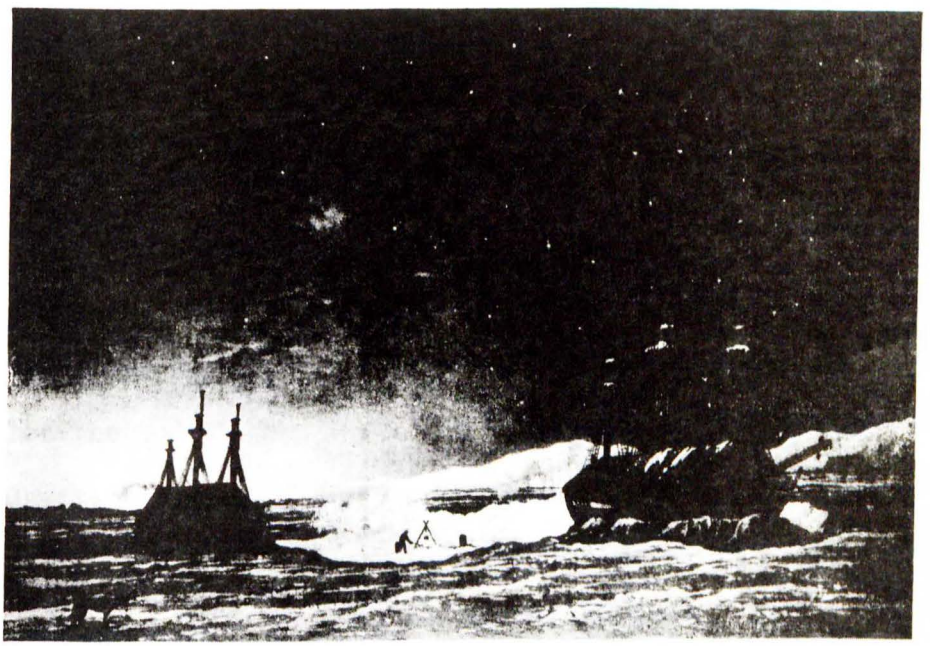
[1]Nellis Crouse, Search for the North West Passage, Columbia University Press, New York, 1934, page 97.



"*The Crews of H.M.S.* Hecla & Griper *cutting into Winter Harbour, Septr. 26th 1819.*"



"*H.M. Ships* Hecla & Griper *in Winter Harbour.*" THE TOP DECKS WERE COVERED OVER SO THAT THE MEN WOULD HAVE A PLACE TO EXERCISE IN ALL SORTS OF WEATHER.

Both from Parry's JOURNAL OF A VOYAGE . . . 1819–20

But the most important factor was of course the health of the men and this meant not only their physical well-being but also their morale and how to keep their spirits up. It is in this regard that the organizational ability and the ingenuity of Parry becomes quite evident.

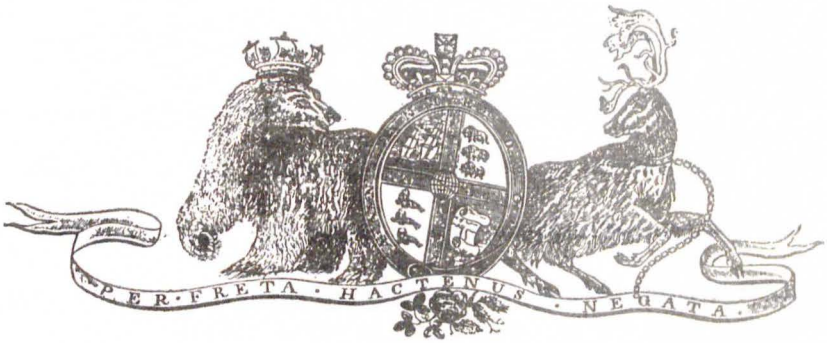
Each day lime juice (from fresh limes - Parry had been adamant about that in his requests to the Victualling Office) and sugar had to be swallowed by each man in the presence of an officer who recorded the fact so that any incidences of scurvy might be kept to a minimum. The men were also engaged each day in a rigid regimen designed to keep them busy so that time would pass more quickly for them. Classes, teaching the men how to read and write were conducted each day and religious instruction and services were conducted regularly.

For entertainment, the officers wrote a weekly paper called the North Georgia Gazette and Winter Chronicle, under the editorship of Captain Sabine. Although somewhat lacking in any artistic or literary qualities, twenty-one issues appeared. The Officers also put on a theater production called Miss in her Teens, which was a smashing success and which was so well received that it enjoyed a re-run two weeks later. In addition to this, an operetta entitled Northwest Passage was performed at Christmas, together with a huge Christmas dinner, drinking and dancing.

Towards the end of May, 1820, the ships were freed from the ice and the exploration continued again. Parry sailed west, discovered Banks Island but was forced to give up when he was confronted with ice at the McClure Straits, the final waterway to the Beaufort Sea. Little did he know that he had almost discovered the north-west passage! Parry had reached his furtherest point west at 113 degrees, 46 minutes and 43.5 seconds. At this point the expedition returned to England and arrived there without further incident at the end of October, 1820.

THE

NORTH GEORGIA GAZETTE,



AND

WINTER CHRONICLE.

Nº. XIX—MONDAY, MARCH 6, 1820.

To the EDITOR *of the* Winter Chronicle.

THE cry of Reform having reached even to North Georgia, I shall request of you to exert your interest with Z in my behalf, trusting that the commiseration which my case must excite, will induce him to adopt measures for effecting its speedy amendment. You must know then, that I am very fond of telling a good story, or what is technically called "spinning a yarn;" have doubled the Cape, been at Pulo Penang, Palambang, Tanjong, Goonting, Mangalore, Cannanore, and most of the pulo's, bangs and ores in the Indian and China seas.

What I have to complain of is this—having finished what I believe to be a very marvellous story, up rises one of these gentlemen, whom I shall distinguish by the appellation of a walking phenomenon, who, not having doubled the Cape, is not a privileged man, and relates something similar, but three times more extraordinary, and immediately robs me of that awe and admiration which we Cape men are alone entitled to.

Now, Mr. Editor, I'll leave it to your impartial judgment, whether my case does not deserve notice. Pray, do all you can for me with Z, and use your editorial influence and authority to lay these unqualified wonder-mongers.

I am, Sir,
Your obedient Servant,
NATHAN LONG-BOW.

To the EDITOR *of the* Winter Chronicle.

MY DEAR SIR—Captivated by the delicacy, the exquisite sentiment, and the tender-

Facsimile of a Page of the North Georgia Gazette

From Parry's JOURNAL OF A VOYAGE FOR THE DISCOVERY OF THE N.W. PASSAGE IN 1819–20.

The return of Parry'a expedition and the success that it had made a deep impression on the nation. Parry was promoted to commander and his efforts made possible a settled policy of continuing British voyages into the Arctic. The Admiralty realized too that, 'The great advantages to the Navy were then clearly understood, and the most captious acknowledged that the slight outlay which secured the results were well spent."[1]

The interesting thing to notice about the officers of this expedition was their youthfulness. Parry himself was only 29, and the average age of his junior officers was only 21. This particular expedition proved the fact that Parry was a master navigator, a brilliant organizer and was endowed with a bravery tempered with a fine sense of caution. His essential genius lay in his ability to lead men, and the means by which he kept his crew's spirits up during the voyage, especially in the winter sojourn, bear adequate testimony to that characteristic.

That Parry's discoveries and success were indeed monumental was evident, especially since, 'The expedition had sailed upwards of 30 degrees of longitude beyond the point gained by any former navigator; many new kinds of lands, islands, and bays had been discovered; the existence of a polar sea to the north of America had been established ..."[2] In addition to this, the approximate placing of the North Magnetic Pole laid the groundwork for future explorers.

Parry brought back various specimens of different types of animals that he encountered in the Arctic. The Times listed some of them and showed

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[1]William L. Clowes, op. cit., page 511.

[2]Charles Tomlinson, Arctic and Antarctic Regions, Society for Promoting Christian Knowledge, London, 1872, page 68.

where they would be placed. Barrow and the Admiralty were quite aware of the impact they would make on popular opinion and what it would do for naval prestige,

> The natural curiosities from the polar sea have been deposited in the British Museum, and are arranging for the inspection of the public. Several entire heads of the musk-ox, sea-horse, and sea-unicorn, with a horn projecting nearly five feet, have been sent to the Royal College of Surgeons. Several skins of the white-bear, musk-ox, sea-horse, and dogs, with other curious articles have been sent to the museum at Edinburgh.[1]

Parry in this voyage established many precedents for all future expeditions of the same nature in that he had mastered the technique of wintering over in the Arctic regions on ship. This served to give the government and reinforce in the public mind the sense that the British Navy would inevitably, despite the hardships and the rigors of the north, succeed in accomplishing their assigned mission. Future events, however, would shatter that rather naive and simplistic notion.

In an article in the Quarterly Review, Barrow reviewed Parry's expedition and what it meant for future Arctic exploration. It was now obvious to both Barrow and Parry that the northwest passage would be found by going through Lancaster Sound. Parry's recent voyage had given that navigator the possibility that Prince Regent's Inlet might be the next stage in the discovery of such a passage. With this, Barrow concurred, and, in this article, Barrow contends that the passageway would probably be found by entering Lancaster Sound, sailing south down Prince Regent's Inlet, and from there sailing along the coast of the North American continent.[2]

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[1] The London Times, January 1, 1821.

[2] Quarterly Review, XXV, pages 175-216.

As a result of this thinking, not only did the British direct their future efforts at achieving a northwest passage by sea, but they also sent out land expeditions. The only two points on the North American coastline that were known at this time were those discovered by Hearne and Mackenzie in the eighteenth century, the Mackenzie and Coppermine Rivers. It was the wish of the British government to fill in those uncharted sections of the coastline that bordered the Arctic Ocean. A commercial motive was operative, too - the Hudson's Bay Company had a vested interest in this region, and pelts still attracted good prices. The best furs were to be found in the northernmost regions, and better furs, particularly better beaver furs, meant better prices on the market in London.[1]

In accordance with this plan, John Franklin, who had sailed with Buchan in 1818, was commissioned to undertake a land expedition. His instructions were to proceed from the Hudson Bay, travel up the Coppermine River until he reached the point where it flowed into the Arctic Ocean and from there explore the coastline east of that river surveying and charting its physiognomy carefully. He was further instructed to make note of the important bays and inlets in those places which proved to be natural harbors for sailing ships. He was also to leave information as to his discoveries at these particular places to help the next expedition that would set out by sea. The government had also instructed the Hudson's Bay Company and the North West Company to furnish the expedition with all the necessary supplies and aid that it might require.[2]

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[1]For a detailed study of the fur trade and especially the economics of that trade, see Harold Innis, The Fur Trade in Canada, Yale University Press, New Haven, 1930.

[2]John Franklin, Narrative of a Journey to the Shores of the Polar Sea, Greenwood Press, New York, 1969.

In 1819, Franklin, together with Dr. John Richardson, a naturalist, and two midshipmen, Robert Hood and George Back, a sailor called John Hepburn, and some Indian guides and Canadian voyageurs left York factory on the Hudson Bay and set out for Fort Chipewyan. Franklin and his party left with two days supply of food with them as they were determined to live off the land as they proceeded.[1] From Fort Chipewyan, Franklin crossed to the northern side of the Great Slave Lake, and from there to Fort Enterprise on Winter Lake where he built his winter quarters. It had taken him almost two years to set up what he planned to do originally - in that period he had covered 1,500 miles by canoe and on foot.

While at Winter Lake, Franklin sought more Indian guides to help him the following Spring. He was, however, opposed in this by Ka-Ka-Wa-Rents, a local Indian magician who held great power over the local tribes because of his supposed skill in the art of witchcraft. Franklin, as his biographer Henry D. Traill reveals, was an intensely religious man and was greatly distressed by the actions of this local shaman.

Ka-Ka-Wa-Rents challenged Franklin to test his magic, as it was obvious that Franklin posed a threat to the Indian's image. A test was arranged whereby Franklin was to tie up the conjuror and leave him in a tent. The Indian promised to undo himself in a few minutes to prove his magical claims and his superiority over Franklin. Franklin readily assented to this trial. The magician was stripped, and Franklin tied him up using standard British Navy regulation knots and placed Ka-Ka-Wa-Rents in a tent

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[1]It would be Franklin who would introduce to the British the concept of using pemmican on long land journeys. He copied this from the Indians.

in a clearing. The temperature was below freezing and, when the Indian did not appear after half an hour, Franklin and the others who witnessed the test, rushed to the tent where they found the imposter, still fully tied up, choking, and going blue in the body from the cold. Franklin immediately released him. The Times reported the incident and observed that,

> The power of this circumstance had the effect of removing from the minds of thousands of Indians who had placed such confidence in the power of the conjuror, all respect for his former exertions. He slunk back to his own people, but was no longer received as a superior. It was a wish expressed with a great deal of fervency by Mr. Franklin upon observing the exceeding docility of the Indians, and their contempt of all attempts at imposture, that the religious societies of England would send out amongst them some of those excellent men who are so easily procured to visit other countries, for the purpose of giving religious instruction where it would be most gratefully received.[1]

Franklin got his Indian guides.

In the Spring of 1821 Franklin and his party, which now included some Canadian voyageurs, among them an interpreter for the Iroquois Indians called Michel, three of the Canadian wives who could sew, and a tribe of Indians under their chief Akaitcho whose function was to set up a storage place of food for the expedition on the return trip back to Fort Enterprise. Travelling alternatively by canoe and by foot up the Coppermine, they proceeded until they reached a point where a party of Eskimos had been massacred in 1772.[2] Franklin named this spot, Bloody Fall. At this juncture

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[1]The London Times, December 13, 1821.

[2]This incident refers to Hearne's expedition up the Coppermine River to its outlet in the Arctic Ocean in 1772. While just a few miles away from his destination, Hearne's party came across a wandering band of Eskimos. Ostensibly the traditional enemy of the Indians, Hearne's guides proceeded to slaughter the entire Eskimo group much to the Englishman's horror and consternation. He could only stand by speechless and watch the gory spectacle unfolding before him.

the Indians left the main party and started back to set up and provision the storage cache. The expedition had now travelled 550 miles up the Coppermine and were now at the Arctic Ocean. It had taken Franklin five weeks.

The expedition struck out east along the coast charting carefully its geography until they arrived at Point Turnagain. Franklin had mapped out 650 miles of shoreline. At Point Turnagain, Franklin and his party decided to return owing to the shortness of provisions left and also because of approaching winter.

Instead of returning the way they had come, that is, back along the coast, Franklin determined to cut diagonally across land. The party set out on September 2 for the homeward trip. However, after a few days travel the weather steadily got worse. High winds, snow storms and a difficult terrain slowed the party considerably. In addition to this the Canadians were unable to hunt or to find food. Their supplies gradually diminished until they reached a situation in which they had to exist on tripe-de-roche (a lichen of the genus Gyrophora) which gave many of them diarrhea. The situation had become desperate when they had to burn their canoes for warmth along the way.

Franklin sent midshipman Back ahead to the Fort to organize a relief party. When, a few days later, Franklin himself left the main body and pushed on to Fort Enterprise, he arrived there to find that there was no one there and that there was no food. Back had left a note saying that he had gone to Fort Providence for help.

The starving travellers gradually came in. Richardson and Hepburn finally arrived with a gruesome tale to relate. It seemed that Michel, the interpreter, had killed three of his fellow companions and eaten them

on the way. He then killed Hood, and claimed to Richardson who was not present at the killing, that Hood had committed suicide. Richardson, fearful of his own safety and that of the others remaining, shot Michel in the head.

The little group of men huddled at the Fort were finally relieved by some Indians sent by Back from Fort Providence. It took a week for the party to be nursed back to health so that they could carry on with their journey. The reason why Akaitcho had not provisioned Fort Enterprise as he was instructed to lay in the fact that a bitter rivalry existed between the traders of the Hudson's Bay Company and the North West Company at this time. Consequently, supplies were kept from the Indians. Three members of Akaitcho's party had died of starvation as a result of this.[1]

Franklin had journeyed 5,500 miles, and, upon his return to England in October, 1822, received a hero's welcome. He was promoted to the rank of captain and the Royal Society, in recognition of that explorer's contributions to geography gave him a fellowship in their body. Henry D. Traill, Franklin's biographer, in discussing this land expedition and the dangers which the explorers faced, states that it, " ... must always rank as one of the most daring and hazardous exploits that has ever been accomplished in the interest of geographical research."[2]

The British now realized the value of embarking on the systematic, arduous and long process of mapping out the northern part of the North

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[1]For a fuller treatment of this bitter feud see Edwin E. Rich's Hudson's Bay Company, volume 2, and Marjorie E. W. Campbell's The North West Company.

[2]The best biography of Franklin is Life of Sir John Franklin by Henry D. Traill, London, 1896. A much-needed modern work on this remarkable explorer has not been attempted at this date.

American continent. Franklin's expedition had been the first important step in that direction - from now on the British would gradually conquer the vast unknown areas of the north in much the same fashion.

Not long after Parry had returned from his first expedition, John Barrow was busy with preparations for a second voyage, again to be led by Parry. This time Parry and Barrow were convinced that the passageway lay along the shores of the North American continent and that to reach that region, an expedition would first have to sail through Lancaster Sound and then through Prince Regent's Inlet. (We will recall that Franklin had been ordered to leave information as to the topography of the land at certain inlets and bays on the coast of the Arctic Ocean.)

Due to the fact that the Griper had sustained heavy damage on Parry's first voyage, a new ship, the Fury, of 377 tons was built. Parry stressed that it must be built identical to the Hecla, " ... precisely alike ... so that any article belonging to either ... might be transferred from ship to ship, and at once applied to its proper use, without selection, trial, or alteration of any kind."[1] Parry was to command the new ship while Commander George F. Lyon was the master of the Hecla.

Learning from their previous experience in which there had been too high a level of humidity in the ships while in winter quarters, a more elaborate system of heating and insulation was installed. Cork was applied to the interior of the ship's sides and lined the undersides of the decks. Both ships were provisioned for three years and a transport ship, the

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[1]Edward Parry, Journal of a Second Voyage for the Discovery of the North West Passage, John Murray, London, 1824, page 8.

Nautilus, was to accompany the expedition and to reprovision it at Lancaster Sound.

Parry's instructions ordered him to proceed through Hudson Strait and make his way to Repulse Bay. From there he was to explore the west coast, in the hope that the expedition might enter the southernmost exit of Prince Regent's Inlet and from there sail along the coast to the Bering Straits. However, although the Admiralty was not aware of it at this time, such a supposition would prove to be false in that that particular direction would only result in Parry being forced into a cul-de-sac. He would be stopped by Melville Peninsula as yet uncharted and unknown.[1]

Parry set out in May, 1821, and reached Repulse Bay the following month. Great was his disappointment when he discovered that it was land-locked and not open to the west. Forced therefore to head north, Parry systematically examined every bay and inlet along the coast. He wintered over at Melville Peninsula. This time winter operations were conducted in much the same fashion as on his previous expedition. Similar entertainments were furnished for the officers and men, with the addition this time of magic lantern shows. The heating system proved to be more effective thus ridding the crews of the problem of perennial dampness. This, of course, resulted in better morale.

During the winter an Eskimo tribe arrived and a burgeoning trade soon developed between the two groups. Parry was able to learn some valuable information from the Eskimos on hunting procedures. As a result of this mutual collaboration, and exchange, Parry's men were able in the

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[1] Ibid. Information for this expedition is taken from this journal.

spring to adopt the Eskimo mode of travel when they set out on exploratory land trips. The British sailors used sledges and snowshoes for hauling equipment and for walking.

In August, 1822, Parry's expedition sailed north, rounded Melville Peninsula and entered a strait which was named Fury and Hecla Straits. Parry followed this strait to its western outlet in the Gulf of Boothia where he was confronted by heavy ice-floes. Once again, Parry was forced to winter over. In this interval, Parry was convinced that he was on the right path or approach to Prince Regent's Inlet. This conception seemed to be justified in that the topographical information he had received from the Eskimos who had drawn some crude maps for him, had been verified as being fairly accurate. However, in the Spring of 1823, Parry was compelled to abandon any further search and return home. This time, the key factor involved was not the presence of ice, but rather the physical condition and well-being of his crews. While the men seemed to have lasted well through one winter in the Arctic, the second winter brought a depression of spirit and a physical toll on the ship's crews. The men had spent three years in the Arctic and the conditions which they were forced to live under were beginning to take their toll.

Although the expedition had been for the most part a failure, Barrow in the Quarterly Review expressed the strong conviction that Parry had been on the right track and urged that another expedition through Prince Regent's Inlet would be a success. Barrow wrote that the likelihood of there being open water in the Polar Sea was reinforced by Parry's information that there was a strong tide in Fury and Hecla Strait. If that were the case, Barrow reasoned, then such a sea must be free of ice because of the existence of a strong tide and also because the moon could not attract

enough motion in ice-laden seas to cause such heavy tides.[1]

Meanwhile William Scoresby was not idle. Although he had turned down an appointment in the first expedition of 1818, and although he was still obligated to go on his annual whaling voyages, he had not given up his research and investigation. On one such voyage, in 1822, unsponsored by the government, Scoresby managed to survey and chart 800 miles of the eastern shore of Greenland from Cape Barclay to Gale Hamkes Land.

Sailing in the Baffin of 321 tons, built in 1820 to Scoresby's stringent specifications, the whaler/scientist tried a novel approach for exploring the coast of eastern Greenland. Prior to this whalers and explorers had run into heavy ice-floes extending beyond the 69th degree of latitude off the coast of Greenland and thus were prohibited from an examination of that coast itself. What Scoresby did was to sail to the eastern coast of Greenland beneath that parallel at the 65th degree of latitude, and then, hugging the coastline, which proved to be free from ice, wend his way gradually up the eastern side of Greenland.

Returning from his voyage, Scoresby published an account of his discoveries in his Journal of a Voyage to the Northern Whale-Fishery, in which he indicated that he had been able to attain a latitude of 75 degrees. This work gives a wealth of information concerning the topography of the region. Appendices contained in it have his old friend and mentor, Professor Jameson of the University of Edinburgh (for whom incidentally, Scoresby named a bay in Greenland), with a section on geology; and Professor Hooker of Glasgow University with commentaries on Scoresby's discoveries in

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[1] Quarterly Review, XXX, page 270.

Zoology. Also contained in this volume are a series of meteorological tables designed to aid the northern explorer. Strangely enough, the British government took little notice of Scoresby's contributions in this regard. Perhaps this was because Sir Joseph Banks at the Royal Society had died in 1820, thereby cutting off the whaler's chief friend and advocate in government circles.[1]

Yet, just after Scoresby's journey, another expedition, this time under Clavering and Sabine carried on the work that Scoresby had been involved with, although with a slightly different purpose in mind.

Captain Sabine of the Royal Artillery had been conducting pendulum experiments while on Parry's first expedition. On his return back to England, he was sent out in the Pheasant to erect a series of scientific stations around the world in conjunction with scientists from other nations, notably France, from 1820 to 1822.

Through the kindly patronage and influence of Sir Humphrey Davy at the Board of Longitude, Sabine was able to expand his investigations into high latitudes. Accordingly, Sabine was sent with Commander Clavering aboard the Griper in 1823, to the Arctic regions. The plan proposed by Captain Sabine was to proceed to Hammerfest about the 70th degree latitude, thence to the northern coast of Spitsbergen at the 80th parallel, and then to the highest latitude that was possible on the eastern shore of Greenland, so that pendulum stations might be erected and various scientific observations made. Sabine was then to proceed to Iceland and set up the fourth and last station there.

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[1]William Scoresby, Journal of a Voyage to the Northern Whale-Fishery, Archibald Constable & Co., Edinburgh, 1823. Data is taken from this journal.

The Griper sailed in the early part of May, 1823. At Hammerfest, Sabine was able to take his measurements at a latitude of 70 degrees 40 minutes.[1] Clavering then sailed on to the northern shore of the Spitsbergen group and deposited Sabine and a party of men to help him with his scientific experiments. Clavering decided to push on northward while the opportunity presented itself. As with Phipps and Buchan before him, Clavering was compelled to turn back having reached a latitude of 80 degrees and 20 minutes.

Picking up Captain Sabine and his party, the Griper headed for the eastern shore of Greenland. Following in the path traced the preceding year by Scoresby, Clavering passed Gale Hamke's Land and ran into a group of islands off shore to which were given the name, Pendulum Islands. On these islands, Sabine conducted his various experiments and Clavering had reached a latitude of 76 degrees.

In the second week of August, the Griper arrived at Fair Haven and erected an observatory there, again with Sabine conducting successful pendulum experiments. Because of the lateness of the season and because by this time ice packs around Iceland made it impossible for the group to land there, Clavering sailed for a comparable latitudinal area. The Griper

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[1]The information for this voyage is taken from the Journal of a Voyage to Spitsbergen and the East Coast of Greenland in His Majesty's Ship Griper, by Douglas C. Clavering, communicated by James Smith, Edinburgh New Philosphical Journal, volume 9, 1830, pages 1-30, and An Account of Experiments to Determine the Figure of the Earth by Means of the Pendulum Vibrating Seconds in Different Latitudes; as well as on other Subjects of Philosophic Inquiry, by Edward Sabine as quoted in John Barrow's Voyage of Discovery and Research Within the Arctic Regions, John Murray, London, 1846.

put in to Drinheim on the western shore of Norway on the same latitude as Iceland, and the final station was erected there. The Griper returned to England in the middle of December, 1823. It had been a most successful voyage.

The efforts by the British and particularly by Edward Sabine to establish seconds by the pendulum method was of the utmost importance for it proved or attempted to prove the elliptical nature of the earth's sphere. In Captain Sabine's words, the expedition marked,

> ... the attempt to determine the figure of the earth, by the variation of the gravity at its surface, has been carried into full execution on an arc of the meridian of the greatest accessible extent, and the results are seen to be consistent with each other, in combinations too varied to admit a probability of the correspondence being accidental.[1]

By 1823, the British abandoned the policy of attacking the Arctic from more than one approach. Consequently, they attempted to conquer the north-west passage on four fronts: first, by sending Parry through Lancaster Sound; second, by having Lyon come through the Hudson Bay from the south-east; third, a land expedition under Franklin again to explore the Mackenzie and the shoreline east of that river to Icy Cape; and lastly, by sending Captain Frederick W. Beechey round the Cape of Good Hope, up the western side of North America and entering into the Arctic Ocean through the Bering Straits, in an attempt to rendezvous with Franklin. This was the most gradiose plan yet that the British had conceived.[2]

Commander Lyon's expedition was therefore instructed to winter at Repulse Bay or on the Wager River and make a journey across the Rae Isthmus.

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[1] John Barrow, op. cit., page 140.

[2] Evidence for this change in policy is not available in this country. Yet the fact that four expeditions, going from different points, and attempting to link up together, shows clearly that some such change in previous British policy was effected.

On reaching the northern part of the isthmus, Lyon was to follow the coast westward as far as Point Turnagain thereby completing the work initiated by Franklin.[1]

Lyon was given command of the Griper, a gun brig of 180 tons that had seen Arctic service before under Parry and Clavering. With a complement of 41 men, the Griper sailed on June 19, 1824, but almost immediately ran into difficulties. Not only was she slow (we will recall Parry's command of her and the fact that Clavering had been unable to establish a station with Sabine on Iceland) but, in the words of Commander Lyon, " ... the Griper, from her great depth and sharpness forward, pitched very deeply."[2] The account that Lyon gives in his journal is full of misgivings about the seaworthiness of his ship. Yet the Admiralty must have known that it wasn't suitable for such an expedition. Had they not been aware of the reports filed on her unsuitability by both Parry and Clavering? This mission was a failure chiefly because of ineptitude at the Admiralty headquarters, and for this, Barrow must take the blame. In addition to this Lyon ran into adverse weather which, together with the type of transportation that he was supplied with could only result in failure.

The Griper, making slow progress, reached Southampton Island, and sailed up the western side of it until it reached Cape Kendall, where it ran into heavy seas. A strong gale was blowing and Lyon gave the preliminary order to make the long-boats ready to abandon ship. Fortunately Lyon and the crew were able to gain the shelter of a bay, which Lyon aptly named

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[1] George F. Lyon, A Brief Narrative of an Unsuccessful Attempt to Reach Repulse Bay, John Murray, London, 1825, pages 1-XI and pages XIII-XVI.

[2] Ibid., page 3.

Bay of God's Mercy. After a few days, the storm abated somewhat and the Griper, badly battered, was able to limp back to England, arriving in Portsmouth in October, 1824.

It is ironic that the Admiralty had seen fit to build two new ships (the Hecla and the Fury) especially for Arctic voyages and had provisioned and sustained them in the best manner possible, yet, at the same time, send out a ship already proven to be incapable of taking Arctic conditions, and so endangering the lives of the men on board. It was a tribute to Lyon's skill and perseverence that he was able to get both the crew and the ship back to England without the loss of any lives.

The Admiralty's instructions allowed Parry a great deal of latitude in selecting the best possible route once he came through Lancaster Sound. But Parry was positive that the real answer to the riddle lay in Prince Regent's Inlet. The ships sent under Parry were the same as on his previous expedition, the Fury and the Hecla, this time Parry took control of the Hecla and Captain Hoppner was placed in charge of the Fury. In addition to this, a transport, the William Harris, was provisioned to supply both other ships once they reached as far as Davis Strait.

The expedition set out in May, 1824. Unfortunately, as we have seen from Lyon's account, the year 1824 was a bad one for weather. The ice in Baffin Bay was unusually thick and it slowed Parry's progress considerably, thereby causing him valuable time in reaching Lancaster Sound. Once there, Parry was compelled to winter over at Port Bowen. By the end of July in the following year, the ice had thawed enough to allow the vessels to set sail. The expedition headed south but was blown onto the coast by heavy gale winds. These winds had pushed the ice-pack up to the shoreline and the Fury was crushed and thrown upon the beach. The

Fury was in a hopeless condition and Parry, after consulting with his officers, removed the men and what provisions he could from the Fury to the Hecla and set sail for England. The trip had been a total failure. This expedition, together with Lyon's unfortunate experience was a serious blow to the advocates of Arctic exploration and discovery.

On this expedition two important contributions were made, however, to science and commerce. The scientific experiments that were conducted revealed that in the Arctic, sound could travel great distances. While from the first expedition in 1818, ships had to muffle their ship's bells when approaching ice-bergs, Lieutenant Foster found on this trip that he could easily converse with another man at a distance of 1,000 yards. Secondly, the voyage resulted in the extension of the whaling fleets capability and a boost to the industry. Clowes points out that,

> In the same way Parry's third voyage was the direct cause of a whale fishery up Prince Regent's Inlet. Two young lieutenants, Joseph Shere, and James Clark Ross, were the first to kill a payable whale in that remote and ice-encumbered sea. They led the way.[1]

Even after three unsuccessful attempts to locate the north-west passage, Parry was still convinced that the route he took was the best one and that the prospects for eventually finding it would be amply and richly rewarded. He repeats, however, that what is needed is more planning,

> I would only therefore, in conclusion, urge those who may at any future time be charged with this attempt, to omit no precaution that can in the slightest degree contribute to the strength of the ships, the duration of their resources, the wholesomeness and freshness of their provisions, the warmth, ventilation, and cleanliness of their inhabited apartments, and the comfort, cheerfulness and moral discipline of their crews.[2]

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[1]William L. Clowes, op. cit., page 517.

[2]Edward Parry, Journal of a Third Voyage for the Discovery of the North West Passage, John Murray, London, 1826, page 159.

Parry realized better than most of his peers in Arctic exploration just what the Arctic and the conditions found there can do psychologically to a man, and the means by which he chose to obviate the boredom created by those conditions is all too evident in the great care he took to ensure his crew's welfare, "In the very silence there is a deadness with which a human spectator appears out of keeping."[1]

Franklin set out to cooperate with Parry's third expedition with one overland. The Lords of the Admiralty were at first skeptical, mindful of the horrors of Franklin's first overland trip. However, they finally agreed to the venture and to the plan submitted to them by Franklin and Barrow.[2]

Franklin immediately obtained the services of his two former companions, Dr. Richardson and Lieutenant Back to accompany him together with E. N. Kendall, a surveyor, and Thomas Drummond, a naturalist. This time, Franklin's plans were much more painstaking and thorough. He did not want a repeat of the privations of his first land expedition. Since the fratricdal warfare that had existed between the Hudson's Bay Company and the North West Company had now been resolved by the amalgamation of the two trading companies in 1821, Franklin felt sure that his expedition would not be plagued by the incompetence displayed by these traders in supplying the first expedition. Franklin, through the auspices of the British government and the Hudson's Bay Company's Governor George Simpson, obtained Peter Dease, the chief trader of the Company, to go with him on the expedition.

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[1] Ibid., page 56.

[2] John Franklin, Narrative of a Second Expedition to the Shores of the Polar Sea, John Murray, London, 1828.

Franklin laid out his groundwork well. The Admiralty instructed him to ship from Liverpool to New York, go to Lake Huron, and pick up the provisions waiting there for him at Penetanguishene. From there he was to go to the Great Bear Lake and winter over. In the following spring, he was ordered to proceed with his party and descend the Mackenzie as far as its outlet in the Arctic Ocean. Once there the party was to split up into two groups, one under Franklin himself, and the other under Richardson and Kendall. Franklin was to go west along the shore towards Icy Cape, meet Beechey and sail for home, while Richardson and Kendall were instructed to strike out eastwards and connect the Mackenzie with the Coppermine. Thus, the British hoped to extend the groundwork already laid out by Franklin in his first expedition and effectively chart the entire coast-line of North America.

In June, 1824, Franklin set out for York factory, then proceeded to Cumberland House where he wintered over. In the following spring he set out for the Great Bear Lake. As before Franklin travelled living off the land while he went. At Cumberland House the preceeding party under Dease had already assembled and accompanied him, fully supplied and provisioned to the Bear Lake River. Here, during the winter of 1826, a new site was constructed and named Fort Franklin. This site was to provide the staging house for the return trip. The spring of 1827 saw the party set out on the Mackenzie River, and they reached the Arctic Ocean a few weeks later.[1]

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[1]There is reason to doubt that Mackenzie himself ever followed the river which bears his name to its ultimate joining with the sea. In Mackenzie's short narrative, the explorer does not mention certain topographical features in the last 100 miles of the river's course to the Arctic Ocean. It is all too likely that the Indians who accompanied him told him of the existence of the sea and Mackenzie gave up for some unknown reason before

At this point, in accordance with their instructions, the expedition split up into two groups. Franklin was accompanied by Peter Dease, his old Indian friend Akaitcho and some voyageurs. Charting along the coast, Franklin was able to advance and survey 374 miles of land. Little did he know that Beechey had sent out a long-boat to meet him under Robert Elson who was forced back by ice. The men were only 160 miles apart from one another! Elson's small craft being wrecked, he was forced to abandon it, and go back to the Blossom (Beechey's ship) on foot. Franklin meanwhile had reached longitude 148 degrees 42 minutes west and had passed the so-called demarcation line between British and Russian influence. Franklin was forced back at this point because of the presence of heavy fog and also because of the lateness of the season.

Richardson and Kendall met with a comparable degree of success. They managed to chart over 800 miles of territory and reached the Copper-mine. They even managed to ascend that river for fifty miles.

The results of Franklin's and Richardson's expeditions were extremely important in British knowledge and discovery of the North American coastline fringing the Arctic Ocean. The entire North American coastline was now covered from longitude 109 degrees to 149 degrees 30 minutes while Beechey and Elson had covered the rest from the eastern side from and up to 156 degrees. Yet Franklin had discovered no suitable harbor in his investigation of the coast, and Richardson did not find one until he came to Dolphin and Union Strait.

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following the river all the way. There is a large delta basin covering 100 miles of the Mackenzie River's outlet to the ocean. Mackenzie makes no mention of the various tributaries that branch out from the main trunk of the river and his narrative and discovery is therefore highly suspect. Perhaps the tribute for discovery should go to Franklin.

Parry's return from his last unsuccessful voyage saw that navigator anxious once again to explore the Arctic regions. This time though he proposed a scheme to Lord Melville for reaching the North Pole by means of sledges drawn by reindeers or using wheels. Aided and abetted by his patron, John Barrow, Parry succeeded in convincing the Admiralty of the efficacy of his scheme.

Parry was given the command of the Hecla with his second-in-command being Lieutenant Foster. With him he took two specially designed boats, about twenty feet long and seven feet broad, equipped with removable wheels and steel runners. This was a novel approach for it meant that Parry was prepared to use amphibious vehicles, something that had not been tried before.

Parry was instructed to go to Spitsbergen and, leaving Lieutenant Foster in charge of the Hecla, proceed with his sledge boats as far north as possible and when stopped by the ice-pack, put the boats on ice complete with steel runners, and using traction (the reindeer) or prevailing winds, attempt to reach the North Pole, a distance of some 600 miles. Before making the dash for the Pole, Parry was ordered to build a provision station so that should he run into difficulties, he could at least have supplies and provisions available to him. In his absence, Foster was to conduct a survey of the northern and eastern coasts of Spitsbergen.[1]

Parry left England in April, 1827, aboard the Hecla and put in to Hammerfest, where eight reindeer were purchased together with bales of moss for their sustenance for use on his proposed trip. He reached a bay on the northern part of Spitsbergen which he appropriately named Hecla Bay and left Foster in charge, started out with his two amphibious craft, named

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[1]Edward Parry, Narrative of an Attempt to Reach the North Pole, John Murray, London, 1829.

the Enterprise and the Endeavour. However, at this point, the reindeer and the wheels had to be abandoned because of the nature of the ice terrain which was rough and not suitable for those animals.

Parry reached a latitude of 81 degrees, 51 minutes when he was stopped by a large ice-mass. At this juncture, Parry took the boats out of the water and his small party proceeded on land. It was Parry's intention to travel by night and rest by day so that the party would receive the minimum amount of snow blindness. The expedition alternated between skidding over ice-floes and sailing. However, they soon ran into a serious unforeseen difficulty,

> We halted at 7 A.M., having, by our reckoning accomplished six miles and a half in a N.N.W. direction, the distance traversed being ten miles and a half. It may therefore be imagined how great was our mortification in finding that our latitude by observation at noon was only 82 degrees, 36 minutes and 52 seconds, being less than five miles to the northward of our place at noon on the 17th, since which time we had certainly travelled twelve miles in that direction.[1]

What had happened was that while Parry and his party had been travelling northward, the current was pushing the floes on which they travelled, in a southward direction, thereby cutting back their progress.

The furtherest point that they reached was 82 degrees, 45 minutes and by that time they were receding faster than they could advance. They had advanced only 172 miles towards their destination, yet by their reckoning had actually travelled 292 miles. After an absence of 61 days, Parry was forced to give up and the expedition arrived back on the Hecla at the 21st of August.

The two chief reasons for the failure of the expedition were, first, the softness and the ruggedness of the snow and the terrain and second, the

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[1]Edward Parry, op. cit., page 94.

southern drifting which took place. Yet Parry had achieved a record distance north that would not be surpassed for another 48 years. The expedition arrived back in England in October, 1827, totally disheartened. Perhaps The Times, which editorialized on the expedition best caught the mood of the party and of the nation as a whole when it stated that,

> It is vexatious to be forced to the conviction that any attempt to reach the North Pole is but too likely to end in disappointment; but every fresh enterprise seems to lead to this conclusion. In our opinion, the southern hemisphere presents a far more tempting field for speculation; and most heartily do we wish that an expedition be fitted out for that quarter. The sea is much more open and every object of commerce as well as science might be brought towards the South Pole, with prospects far superior to any that are offered in the impenetrable North.[1]

This last expedition concludes the first chapter in British interest and involvement in the Arctic regions. For ten years the British had thrown themselves against the Arctic - to no avail. True, vast stretches of territory had been discovered, much valuable and useful scientific data had been gained, and British prestige had soared accordingly. However, the failure to achieve the North Pole or the north-west passage, prospects which men both in academic and government circles were all too convinced of in 1817, had been dashed by 1827. Where there had been a high sense of euphoria in the early expeditions and the feeling that it was just a matter of time before these two hurdles were overcome, it now became evident that the British had not realized the dimensions of the task which they had undertaken - it had proved too much for them. As a result of this, Arctic exploration went into a state of flux,

> So long a series of efforts, fruitless as to the ultimate object, and without the prospect of any decisive result, not only wearied out the perseverence of the British government, but combined with

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[1] The London Times, October 8, 1827.

> the severe spirit of the economy, which began to pervade its councils, in inducing a determination not to send any more ships in quest of the north-west passage. Under this chilling influence, even the Board of Longitude was abolished ...[1]

As well as this, the award granted by Parliament to the first vessel which would effect such a passageway and the concommitant reward scale that was granted was repealed in 1827.[2] Parry's expedition to the North Pole had been final blow to present British interest in the Arctic, "Government was so discouraged at this finale (i.e. Parry's recent voyage), to a long list of failures to effect the discovery of a North-West Passage, that notwithstanding the brilliant geographical discoveries that had been made, they resolved to discontinue their efforts."[3]

The British had attempted to discover the passageway and to reach the North Pole both by sea and by land and, in each case, they had failed. They failed because they had not quite understood the magnitude of the task that confronted them and they failed because of adverse weather conditions and an inadequate knowledge of how to cope with those conditions.

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[1]John Leslie, The Polar Seas and Regions, T. Nelson & Sons, London and Edinburgh, 1855, pages 271-272.

[2]Statutes at Large, LXV, pages 391-393.

[3]James Mason, Ice-World Adventurers, Ward, Lock and Tyler, London, 1876, pages 210-211.

CHAPTER IV

RESULTS OF BRITISH EXPERIENCE IN THE ARCTIC

Although British efforts in the Arctic from 1818 to 1829 failed in terms of their stated objectives (the discovery of a northwest passage and the attainment of the North Pole), some positive results were obtained, particularly in science. The British had gained a knowledge of an unknown region's geography and they could pride themselves in having taken the lead in geographical discovery in the Arctic regions. In addition to this, other areas of science benefited enormously from the sending out of exploratory expeditions. Botany, geology, zoology, magnetism, and studies conducted to discover the figure of the earth, together with more information on meteorology and navigation, provided for the British and for the world at large, much new data on the world we live in.

The results of geographical discovery attained by the British was impressive. Ross's expedition in 1818 opened up Lancaster Sound, which would prove to be the gateway to the passage itself, and, at the same time, gave the whaling industry a much-needed boost. Parry's first expedition the following year provided for further exploration along Lancaster Sound, for by his use of the middle-pack, he entered and discovered Prince Regent's Inlet, Wellington Channel, Barrow Strait and Melville Sound. Parry also reached a longitude of 113 degrees, 46 minutes, and 43.5 seconds West, thereby enabling him to collect the Parliamentary award for passing the 110th meridian. As well as this, Parry provided for his men's physical and psychological welfare by being the first to winter over successfully in the

Arctic and, by ensuring through a number of diversions, the survival and fitness of his crew, he laid down the basic techniques for future expeditions in Arctic regions that would be forced to winter there.

Franklin's first land expedition reached the Coppermine and delineated 650 miles of coastline east of that river to Point Turnagain. Because of the tragic nature of this particular expedition, the British made sure that future land expeditions in that region were better organized and that provisions were taken to ensure that expeditionary forces were well provisioned.

Parry's second voyage allowed him to reach Melville Peninsula, Fury and Hecla Strait, and the Gulf of Boothia. On this second venture into the Arctic Parry was able to perfect the techniques he had established the year before for wintering over in the Arctic.

Lyon's expedition up Hudson's Bay resulted in the loss of his ship and was a glaring example of poor management and planning on the part of the Admiralty. Both Lyon and his crew were fortunate to get back to England alive. Parry's second expedition and Lyon's abortive attempt in the Hudson's Bay area made the British realize that they would have to proceed more carefully. The Arctic regions were now recognized as a tougher adversary than the British had supposed them to be.

Parry's third expedition resulted in the loss of the Fury. For the first time the British realized that they might have to give up the whole idea of Arctic exploration. Although Parry opened up new areas for whale-fishing as had Ross before him, the result in terms of geographic discovery of the expedition was negligible.

Franklin's second land expedition along with Richardson up the Mackenzie was successful in that Franklin was able to chart 374 miles west

of that river, while Richardson, who had struck out east, had managed to trace the outlines of the North American continent for a distance of 800 miles to the Coppermine.

Parry's last expedition and the one which concludes our examination was a failure. Yet, the methods by which that great explorer attempted to reach the North Pole, using a combination of both sailing ship and sled would be the very method by which that objective would eventually be conquered in 1906.

By 1829, therefore, the British had succeeded in revealing the northern outlines of the North American continent. With the exception of the 80 miles from Icy Cape towards the Mackenzie, the British had managed to chart and outline its points. In addition to this, large groups of islands on the Canadian archipelago were discovered.

Yet, although the British could look at this period as successful in terms of geographical exploration, perhaps the most important contributions made by them during this period were in the work of the various scientists who accompanied the various expeditions that set forth.

William Scoresby's voyage in 1822 revealed the refractive properties of that region. Scoresby showed how atmosphere affected the ice itself and how this in turn had an inverse effect on other objects. Scoresby pointed out the phenonoma of topographical features of the Greenland coast, even his own ship appeared to be upside down. Barrow, writing in 1846, stated that, 'The extensive evaporation of the melting ices, with the unequal condensation produced by streams of cold air, are considered by Mr. Scoresby as the chief sources of this extraordinary refraction.'[1] Yet the British

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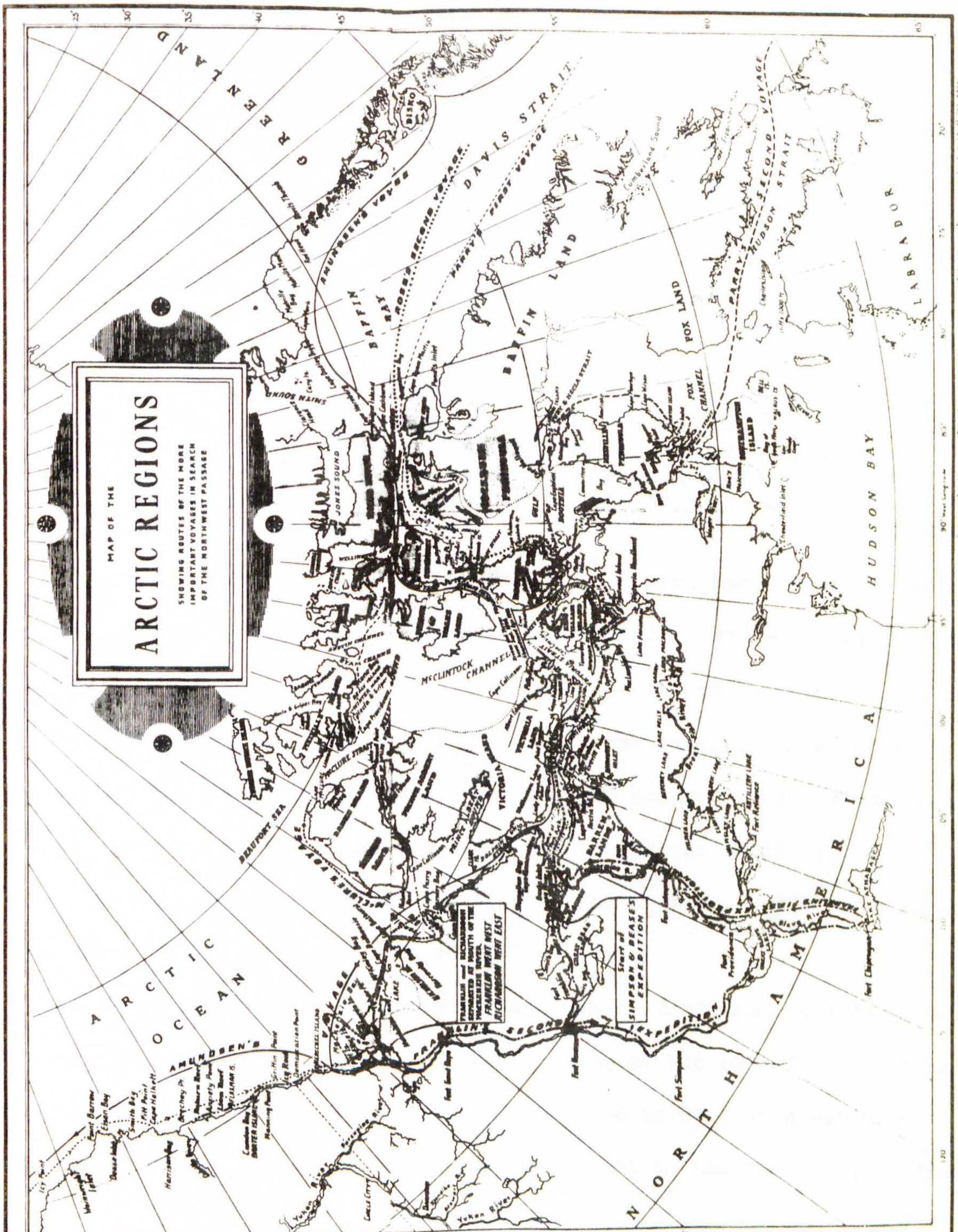
[1]John Barrow, Voyages of Discovery and Research Within the Arctic Regions, John Murray, London, 1846, page 274.


MAP OF THE
ARCTIC REGIONS
SHOWING ROUTES OF THE MORE IMPORTANT VOYAGES IN SEARCH OF THE NORTHWEST PASSAGE
ARCTIC OCEAN
GREENLAND
NORTH AMERICA
HUDSON BAY
LABRADOR
BAFFIN LAND
BAFFIN BAY
DAVIS STRAIT
HUDSON STRAIT
FOX LAND
FOX CHANNEL
JONES SOUND
SMITH SOUND
McCLINTOCK CHANNEL
BEAUFORT SEA
AMUNDSEN'S VOYAGE
PARRY'S FIRST VOYAGE
PARRY'S SECOND VOYAGE
ROSS'S SECOND VOYAGE
FRANKLIN'S SECOND EXPEDITION
SIMPSON & DEASE'S EXPEDITION
Point Barrow

were heedless of one of the Arctic's greatest advocates. It was Scoresby who we will recall introduced government to the possibility of Arctic exploration and who himself had contributed much useful scientific investigation and information. Even after Scoresby's successful voyage in 1822 to the eastern shores of Greenland he was still ignored by the higher echelons of government. The London Times noticed this and reminded the government of it,

> ... we cannot help regretting that the Government of this great commercial country has not seized the opportunity of employing the individual attention and talents of Captain Scoresby in prosecuting his researches, no less conducive to the advancement of science, than to the glory of our country.[1]

Captain Edward Sabine, of the Royal Artillery, had sought to determine the shape of the earth by swinging a pendulum in different latitudes. On Parry's first expedition, Sabine engaged in experiments checking the dip, variation, and declination of the dip of the needle, and also, with the help of others including Parry, Beechey and Hooper, used thermometers to find out and to verify the latitudes and longitudes of different positions that the expedition found itself in. Sabine also took observations on the moon while Parry wintered at Winter Harbour.

The most important experiments that Sabine conducted on this voyage dealt with the acceleration of the swing of the pendulum in different latitudes. The importance of this was found to be that a pendulum increased its time of vibration the closer it got to the North Pole. From

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[1]The London Times, October 14, 1822.

this Sabine and other scientists at the Royal Society were able to deduce that the polar axis of the globe was less than that of the axis at the equator, and as one proceeded further north, the force of gravity at the surface of the earth was greater.[1]

Two clocks, on loan from the Royal Society, and the same ones used in Cook's expedition fifty years earlier, were used in the experiments conducted. The result of these experiments was that the mean daily acceleration was found to be 74,734 vibrations. This was considered to be the rate of the pendulum's increase between the latitudes of 51 degrees, 31 minutes, and 08 seconds (Greenwich) and 74 degrees, 47 minutes, and 14 seconds (Melville Island). Sabine postulated that there was a decrease in the force of gravity at the surface of the earth between the North Pole and the equator and that that figure's decrease was 0.00555258. From the information of the experiments conducted, Sabine construed the ellipticity of the earth to be 1/312.6 degrees.

In order to further determine the exactitude of the shape of the earth's sphere, Edward Sabine, with the assistance of his friend and patron Sir Humphrey Davy at the Office of Hydrography, set up a series of observation stations at various latitudes in Sierra Leone, St. Thomas, Ascension, Bahia, Maranham, Trinidad, Jamaica, and New York.

In the expedition that the Government sent out with Clavering and Sabine, the latter continued his painstaking work. The purposes of this expedition were to conduct the following experiments: to fix times of

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[1]See the Appendix of Captain Edward Sabine in William E. Parry's Journal of a Voyage for the Discovery of the North West Passage, 1819-1820, John Murray, London, 1821.

transit of the stars to determine the rate of the clock; to adjust the telescope to the same vertical plane; to determine the daily rate of chronometers from preceding transits; to compare the chronometer and the clock at exact intervals; and lastly, to account for the number of coincidences in a double series of pendulum vibrations.

From the information that Sabine was able to bring back from this expedition, and the tables that he had made up indicating the differences in the variations of the pendulum, the Royal Society discovered that: the length of the equatorial pendulum was established at 39.01520 inches, and the increase of gravitation from the equator to the North Pole was 0.20245. Therefore, the ellipticity of the earth was reckoned to be 1/289.1 degrees.

What the British did was to attempt to determine the figure of the earth by using the pendulum on the widest possible arc. While their experiments were not conducted at the North Pole itself, the results they derived from the area they covered indicated that these experiments were fairly accurate and conclusive. These new findings destroyed the work of the French geometricians who had held that the ellipticity of the earth was 1/306.75 degrees.[1]

On Parry's second expedition into the Arctic, it was noticed that wind could cause great changes in temperature in the Arctic regions. Parry recorded that on October 20, the wind was at N.N.W. and the thermometer recorded a level of temperature at -10 degrees. However, on the 24th and 25th of that month, when the wind had shifted to the S.E. there was a dramatic change in the temperature level as it rose to 23 degrees, a

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[1]John Barrow, op. cit., pages 140-141.

difference of 33 degrees fahrenheit. Parry also recorded on this voyage that perhaps the most difficult aspect of Arctic exploration for a man to accept in the wintertime was the all-pervading silence which he found there, "In the very silence there is a deadness with which a human spectator appears out of keeping."[1]

On Parry's third expedition various astronomical observations were taken on the fixed stars; by fixed stars and the moon; by the transit of the moon; by Jupiter's satellites, in order to provide better navigational aids. In addition to this further investigation was carried out on the magnetic dip of the needle and the variation of the pendulum conducted chiefly by Lieutenant Henry Foster. The expedition hoped to find out means for determining the longitude while at sea.

Building on Sabine's work before him, Foster was able to discover that the number of pendulum vibrations at Greenwich was 86,159,434 while the number of vibrations at Port Bowen stood at 86,230,242. As well as this, Foster found that the length of the second's pendulum at Greenwich was 39.13911 inches while at Port Bowen the length was 39.203468 inches.[2]

From this new information, Foster was able to conclude that the fraction expressing the diminution of gravity from the North Pole to the equator was 0.0054155. As a result of these experiments at Port Bowen, Foster received the Copley Award from the Royal Society for his studies in

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[1]Various references are made to these phenonoma throughout William E. Parry's Journal of a Second Voyage for the Discovery of the North West Passage, 1821-1823, John Murray, London, 1824.

[2]William E. Parry, Journal of a Third Voyage for the Discovery of the North West Passage, 1824-1825, John Murray, London, 1826, pages XIV, and 73-95.

this area as well as terrestial magnetism, velocity of sound and refraction.[1]

These expeditions also added in knowledge to other fledgling sciences, particularly in Botany, Zoology and Geology. Dr. Richardson, the naturalist who had accompanied Franklin, collated all the data received from the many expeditions and opened up at the Royal Society and the British Museum a collection of them for future study. He divided this new store of scientific evidence into four new branches for classification purposes: the Fauna Boreali-Americana, Quadrupeds; the Fauna Boreali-Americana, Birds; the Fauna Boreali-Americana, Fishes; and the Fauna Boreali-Americana, Insects.[2]

In Geology, Professor Jameson at the University of Edinburgh was able to conclude from a study of the samples of rocks that were returned to him, that the islands in the Canadian archipelago were at one time formed with and a part of the great land mass of the North American continent. He found this out by comparing the deposits of secondary limestone, sandstones, gypsum and coal that were on both these areas. What gave added authenticity to his findings was the fact that similar striations on the surface of these rocks were caused by the passage of water and ice over them.[3]

Apart from the scientific successes that resulted from these expeditions, other aspects of British Arctic exploration and experience during

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[1]John Barrow, op. cit., page 273.

[2]Ibid., page 274.

[3]William E. Parry's Journal of a Third Voyage ... op. cit., pages 210-232 (Appendix).

this period were important too, in that they tend to tell us something about how the British felt about such ventures into the frozen north and what their attitudes were to those that they encountered there.

Although John Barrow was concerned about geographic discovery (It would be he who would be the chief figure in 1832 in founding the Royal Geographical Society) and scientific experimentation and development, he was also concerned with the moral effects that Arctic service had on British seamen. For Barrow, the experiences that an able-bodied British seaman received in Arctic service was invaluable for the individuals concerned and also for the British Navy. The establishment of regular discipline and good order, the fact that these men were in a controlled environment where they could be taught both by example and by practical teaching by the officers, could only result in an improvement in the average British sailor's character. Barrow pointed out that one result of this of inestimable benefit to the image of the Royal Navy and also to the men themselves was that the need for corporal punishment was sharply reduced.[1]

In Clowes' eight volume work on the Royal Navy, the author states that the most important thing about Arctic service was precisely that it defined strong character among the seamen who participated in it,

> Arctic service is arduous and difficult, but it offers admirable opportunities for gaining habits of forming quick and right decisions, and for cultivating presence of mind, and all the qualities that are needed for success in war. This is its most useful and important side.[2]

In their relationships with the Indians and the Eskimos, British explorers revealed their sense of superiority when discussing or referring

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[1]John Barrow, op. cit., pages VII-VIII.

[2]William L. Clowes, The Royal Navy, Low, Marston & Co., London, AMS Press, New York, 1966, volume 6, page 511.

to native groups. Yet their attitude to each is rather different. The Indians were not looked upon with much respect - we can easily recall Franklin's experience with Ka-Ka-Wa-Rents and his admonition that missionaries were needed to tame and christianize them. Added to that of course was the bloody massacre of the Eskimos by the Indians in 1772 on Hearne's expedition. In addition to this, British explorers were somewhat shocked by the manner in which white traders treated and used their Indian concubines.[1] It is the Eskimos who are rather favored by the British in that many of their aboriginal customs and values were similar to those of the British themselves. The Eskimos were found to have a strong sense of family relationship based on the father as the partriarch of the social unit. They were further shown to be kind, warm, simplistic, and friendly people. Perhaps Parry revealed the British attitude best when he wrote contrasting the Indian and Eskimo races,

> When viewed more nearly in their domestic relations, the comparison will, I believe, be still more in their favor. It is here as a social being, as a husband the father of a family, promoting within his own little sphere the benefit of that community in which Providence has cast his lot, that the moral character of the Esquimaux peacably seated after a day of honest labour with his wife and children in their snow-built

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[1]For a good insight into the relationship that existed between the Indian and the British trapper in the Canadian north, see Arthur S. Morton's Sir George Simpson, a biography of the Governor of the Hudson's Bay Company from 1821 to 1860. Morton reveals that originally traders had taken squaws as wives or concubines while in the frontier. This had the advantage not only of providing the individual trader with female company and service, but also meant that the trader had a ready-made supply of furs through his woman's relatives. In time, the traders preferred half-breeds to the aboriginal type. Within two months of his arrival at Hudson's Bay, Simpson himself took a concubine, by whom he fathered three children. Yet, when the Governor wanted to take a wife, he went back to England in 1842 to procure one.

> hut, to the self-willed and vindictive Indian, wantonly plunging his dagger into the bosom of the helpless woman whom nature bids him cherish and protect.[1]

Yet, for all their seeming antipathy towards the Indian and social superiority towards the Eskimo, the British were forced and compelled to learn from these native races in order to survive in the Arctic regions. Franklin's use of pemmican and Indians to guide and to sew for him on his land exploration and Parry's subsequent adoption of the sledge on his last voyage bear testimony to that. Even in dress, the British made immense strides when, in the early days, " ... when garbed in thick wool, underwear and outer garments alike, the polar explorers of the nineteenth century sweated and froze alternatively."[2]

In addition to all this there was the personal heroism and courage of the explorers themselves. Cut off from all civilized living that they knew of, with the willingness to risk their lives in the unknown, and confronted with a harsh and alien climate, the British explorers in the north revealed a spirit and a determination that was remarkable. In spite of the many failures and obstacles, both physical and mental that they were confronted with, they still managed to overcome and conquer these dangers and so to open up the Canadian north. We have seen how various British explorers were thrown back, time and time again by the crushing pressure

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[1] Parry met with bands of Eskimos on each of his first three voyages and was most favorably impressed by them. This account is taken from his last experience with them and ends a general discussion on the Eskimo in the last chapter of Parry's third expedition, Journal of a Third Voyage ... pages 113-130.

[2] Patrick D. Baird, The Polar World, John Wiley & Sons, Inc., New York, 1964, page 42.

of the ice that stopped them, only once more, undaunted in spirit like Parry, to sally forth again the following summer. Fridtjof Nansen, a famous Arctic explorer in his own right tells us why,

> But from the first to the last the history of polar exploration is a single mighty manifestation of the power of the unknown over the mind of man, perhaps greater and more evident here than in any other phase of human life. No where else have we won our way so slowly, no where else has every new step cost so much trouble, so many privations and sufferings, and certainly no where have the resulting discoveries promised fewer material advantages - and nevertheless, new forces have always been found ready to carry the attack further, to stretch once more the limits of the world.[1]

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[1]Fridtjof Nansen, In Northern Mists, William Heinneman, Columbia University Press, Morningside Heights, New York, volume 1, page 4.

APPENDIX A

SAMPLE OF INSTRUCTIONS GIVEN TO PARRY'S THIRD EXPEDITION

OFFICIAL INSTRUCTIONS.

By the Commissioners for executing the office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, &c.

Lord Viscount Melville having communicated to the King the proceedings of the late Expedition into the Arctic Seas, and his Majesty having been graciously pleased to express his commands that another Expedition should be fitted out, for the purpose of pursuing the attempt to discover a passage by sea between the Atlantic and Pacific Oceans, and of ascertaining the geography of the Northern boundaries of the American continent;

We have thought proper to appoint you to the command of the Expedition, and you are hereby required and directed to put to sea in His Majesty's ship Hecla under your command, with His Majesty's ship Fury, whose Commander has been placed under your orders; and taking with you the William Harris transport, which the Navy Board has been directed to place at your disposal, for the purpose of carrying a proportion of your provisions and stores across the Atlantic, you are to proceed, as quickly as may be consistent with a due care not to part company, up Davis's Strait, and, having arrived at the latitude in which you may think it advisable to cross over to the Western side of that strait, you will take the first favourable opportunity of clearing the transport of the stores and provisions with which she is charged for the use of the Expedition; and, having so done, you are to send the transport

back to England, so as to prevent her incurring any danger from the ice, reporting, by that opportunity, your proceedings to our Secretary, for our information, and then making the best of your way with His Majesty's ships, in the prosecution of your orders.

The experience of your former voyages seems to prove that the two channels which afford the most reasonable prospect of a passage for the ships into the sea, which bounds the north coast of America, are that round Cockburn's Island, near which your last voyage terminated, and Prince Regent's Inlet, which you discovered in your former.

Several considerations, but particularly the obstacles which you found in Prince Regent's Inlet in 1819, might have induced us to give the preference to the attempt to make a passage round Cockburn's Island; but the strong opinion which you have conveyed to us in favour of the attempt through Prince Regent's Inlet, the confident hope which you express that the ice, which, at the period of the year in which you visited the inlet, obstructed your passage, was likely to be removed by circumstances of season and weather within the navigable part of the year; and the confidence which we are justified in placing in your judgment and experience, determine us to authorize and direct you to pursue the course which you consider the most promising, namely, through Prince Regent's Inlet.

You will, therefore, after you have despatched the transport home, make the best of your way to Lancaster Sound, and, proceeding through Barrow Strait, endeavour to make, through Prince Regent's Inlet, your passage into the sea which bounds the continent, and thence westward to the Pacific.

Should you succeed, in this first attempt of passing through Prince Regent's Inlet, it is probable, from what has been already discovered of these parts, that you may find different courses opening to you. The decision as to that most likely to conduce to the objects of the Expedition, must be referre

to your own judgment, on a view of the existing circumstances of your own former proceedings, and of the discoveries of Captain Franklin (with a copy of whose account of his proceedings you are furnished), at the mouth, and to the eastward, of the Coppermine River.

If you should be so successful as to find a practicable passage down to the coast of America, you are to make the best of your way in accomplishing the main object of the Expedition, without stopping to examine that coast, or for any other object not of imperious importance; but whenever the ships may be checked in their progress by ice, or unavoidable circumstances, you will take every opportunity of examining the coasts and islands in the neighbourhood, and of making all useful observations relating to them.

His Majesty's government having appointed two Land Expeditions for exploring the North Coast of America, the one under Captain Lyon, to proceed from Repulse Bay across the Isthmus towards Akkoolee, and thence along the coast towards the Coppermine River; the other, under Captain Franklin, to proceed from Mackenzie's River to the Icy Cape: it would be desirable, if you should reach any part of the coast, that you should mark your progress by erecting flag-staffs on a few of the most distinguishable points which you may successively visit, and you are to bury at the foot of each staff a bottle, containing such information as you think may be useful to the Land Expeditions, and any particulars relative to your own proceedings, which you may think proper to add.

As one of the great difficulties under which Captain Franklin's last expedition suffered, was the want of provisions, you are also to bury at the foot of the flag-staffs such proportion and kind of provision as you may think advisable. And, as it is possible that the flag-staff may be removed by natives, you should surround it by a pile of stones, conspicuous from some point of the shore, which may guide the Land Expeditions to the depots there left.

It is unnecessary to give you any detailed directions as to the concert of signals with them, as you have informed us that

you have made arrangements of that nature with Captains Lyon and Franklin, respectively; and if you should meet with these officers, or their parties, and that they should be desirous of coming on board, you are to receive them, bearing them as supernumeraries.

Should you happily reach the Pacific, you are to proceed to Kamtschatska, for the purpose of delivering to the Russian governor duplicates of the journals and other documents which the passage may have supplied, with a request that they may be forwarded overland to St. Petersburg, to be conveyed from thence to London. From Kamtschatska you will proceed to the Sandwich Islands, or Canton, or such other place as you may think proper, to refit the ships and refresh the crews; and if, during your stay at such place, a safe opportunity should occur of sending papers to England, you should send duplicates by such conveyance. And, after having refitted and refreshed, you are to lose no time in returning to England by such route as you may deem most convenient.

It may happen that your progress along the North Coast of the American Continent may be so slow as to render it desirable that, if you should not be able to accomplish your passage into the Pacific earlier than the autumn of 1827, you should be assured of finding a depot of provisions at that period, in the most advanced situation to which they can safely be conveyed.

In the event, then, of our not receiving from you such intelligence as may render the measure unnecessary, we shall, about the close of the year 1826, direct the Commander-in-chief on the South-American station, to despatch a vessel with a supply of provisions and stores, so as to be at Behring's Straits about August or September 1827. The commander of this vessel will be directed to make the best of his way round Cape Prince of Wales, where he may expect, as we are informed, to find an inlet in latitude 68° 30', in which Captain Kotzebue is stated to have found anchorage a few years since. He will be directed to lie in that anchorage, or in the nearest good anchorage he may find to that latitude; and he will be

ordered to erect, in the most prominent and visible situation, a flag-staff for your direction. As it is possible that you may touch at the Sandwich Islands, this officer will be directed to call at Owyhee, in order that, if you should have passed to the southward, he may not be put to the inconvenience of going on to Cape Prince of Wales: and this affords a reason of preference for your touching at Owyhee. And you, on your part, if you should first reach the neighbourhood of Captain Kotzebue's anchorage, should erect a flag-staff, or a pile of stones, in some conspicuous place, and bury a bottle with a paper, which may acquaint the said officer of your having passed. This vessel will be directed to remain in that neighbourhood as long in the autumn of 1827, as the season will admit; and when she is obliged to leave it, her commander will bury, under a pile of stones, in some conspicuous place, directions where you may find a depot of provisions, of such species as he may judge likely to be most useful to you, and that he may be able to spare.

Whenever the season shall be so far advanced as to make it unsafe to navigate the ships, on account of the long nights having set in, and the sea being impassable on account of ice, you are, if you should have so far advanced as to prevent your return to England, to use your best endeavours to discover a sheltered and safe anchorage, where the ships may be placed for the winter; taking such measures for the health and comfort of the people under your command, as the materials with which you are supplied for housing in the ships, or hutting-in the men on the shore, may enable you to do. And when you find it expedient to resort to this measure, if you should meet with any inhabitants, either Esquimaux or Indians, near the place where you winter, you are to endeavour, by every means in your power, to cultivate a friendship with them, by making them presents of such articles as you may be supplied with, and which may be useful or agreeable to them. You will, however, take care not to suffer yourself to be surprised by any attack from them, but use every precaution, and be constantly on your guard against any hostility.

You will endeavour to prevail on them, by such reward, and to be paid in such manner as you may think best to answer the purpose, in the event of your making progress to the westward, to carry to any of the settlements of the Hudson's Bay Company an account of your situation and proceedings; with an urgent request that it may be forwarded to England with the utmost possible despatch.

If you should, on your arrival at Prince Regent's Inlet, find the passage to be impracticable, you are at liberty either to seek any other opening in that quarter, or to wait in the inlet for any change in the state of the ice which you may have reason to expect; but if your expectations in this particular should be disappointed, and if you should find yourself unable, during the favourable season, to effect a passage to the southward and westward, it is evident that nothing can be gained by wintering in a situation which may in any year be reached from England before the passage can be practicable; and we, therefore, order and direct that you do not, under such circumstances, attempt to winter out, but that if you find yourself prevented from proceeding, with some prospect of ultimate success, further in that direction than has been already explored, you are to take care to ensure your return to England at the end of the present season.

We deem it right to caution you against suffering the two vessels placed under your orders to separate, except in the event of accident or unavoidable necessity; and we desire you to keep up the most unreserved communications with the commander of the Fury, placing in him every proper confidence, and acquainting him with the general tenor of your orders, and with your views and intentions, from time to time, in the execution of them, that the service may have the full benefit of your united efforts, and that in the event of unavoidable separation, or of any accident to yourself, Captain Hoppner may have the advantage of knowing, up to the latest period, all your ideas and intentions relative to a satisfactory completion of the undertaking.

We also recommend that as frequent an exchange take place as conveniently may be, of the observations made in the two ships; that any scientific discovery made by the one be, as quickly as possible, communicated for the advantage and guidance of the other, and to increase the chance of the observations of both being preserved.

We have caused a great variety of valuable instruments to be put on board the ships under your orders, of which you will be furnished with a list, and for the return of which you will be held responsible; and we have appointed Lieutenant Foster, as assistant surveyor, an officer well skilled in astronomy, mathematics, and various branches of knowledge, to assist you in making such observations and experiments as may tend to the improvement of geography and navigation, and the advancement of science in general. We deem it unnecessary to specify those objects, a detail of which you have already been furnished with, in our instructions for the guidance in your late Expeditions, and to which we refer you; not doubting from the zeal and ability with which you have conducted the former Expeditions, that you will on this be equally diligent in collecting information yourself; and you will impress on the minds of Captain Hoppner and all the officers under your command, the importance and necessity of each respectively using his best exertions to promote the several scientific objects of the Expedition.

From Captain Hoppner we have every reason to expect drawings of the land, of natives, and their various implements, and of objects of natural history, in which he will be assisted by Mr. Head, who has received an appointment as Admiralty Midshipman, principally with this view. You are to direct Lieutenant Foster to be particularly careful to keep an accurate register of all the observations that shall be made, in the same form, and according to the same arrangement, that were followed by Captain Sabine and Mr. Fisher on the late voyages; and you are to place in charge of Lieutenant Foster the several chronometers with which you have been supplied for the Hecla.

You are to avail yourself of every opportunity of collecting and preserving specimens of such objects of natural history as may be new, rare, or interesting; and you are to instruct Captain Hoppner, and all the other officers, to use their best diligence in increasing the collections in each ship; the whole of which must be understood to belong to the public.

The knowledge which Doctor Neill, surgeon of the Hecla, has been represented to us to possess in this department of science, will be of material service to you in arranging the collections of, and making notes upon, the various subjects of natural history. In the event of any irreparable accident happening to either of the two ships, you are to cause the officers and crew of the disabled ship to be removed into the other, and with her singly to proceed in prosecution of the voyage, or return to England, according as circumstances shall appear to require; understanding that the officers and crews of both ships are hereby authorised and required to continue to perform their duties according to their respective ranks and stations, on board either ship to which they may be so removed. Should unfortunately your own ship be the one disabled, you are, in that case, to take command of the Fury; and, in the event of any fatal accident happening to yourself, Captain Hoppner is hereby authorized to take the command of the Expedition, either on board the Hecla or Fury, as he may prefer, placing the officer of the Expedition who may then be next in seniority to him, in command of the second ship; also in the event of your own inability, by sickness or otherwise, at any period of this service, to continue to carry these instructions into execution, you are to transfer them to Captain Hoppner, or to the surviving officer then next in command to you, who is hereby required to execute them in the best manner he can, for the attainment of the several objects in view.

In the event of England becoming involved in hostilities with any other power during your absence, you are nevertheless clearly to understand that you are not on any account to

commit any hostile act whatsoever; the Expedition under your orders being only intended for the purpose of discovery and science, and it being the practice of all civilized nations to consider vessels so employed as excluded from the operations of war. And, confiding in this general feeling, we should trust that you would receive every assistance from the ships or subjects of any Foreign Power, which you may fall in with, but special application to that effect has been made to the respective governments.

You are, whilst executing the service pointed out in these instructions, to take every opportunity that may offer of acquainting our secretary, for our information, with your progress; and, on your arrival in England, you are immediately to repair to this office, in order to lay before us a full account of your proceedings in the whole course of your voyage, taking care before you leave the ship, to demand from the officers, petty officers, and all other persons on board, the logs and journals they may have kept, together with any drawings or charts they may have made, which are all to be sealed up; and you will issue similar directions to Captain Hoppner and his officers, &c.; the said logs, journals, or other documents, to be thereafter disposed of as we may think proper.

Given under our hands, the 12th of May, 1824.

MELVILLE,
WM. JOHNSTONE HOPE,
G. COCKBURN,
G. CLERK,
W. R. K. DOUGLAS.

To

WILLIAM EDWARD PARRY, Esq.,
Captain of His Majesty's Ship
the Hecla.

By Command of their Lordships

J. W. CROKER.

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