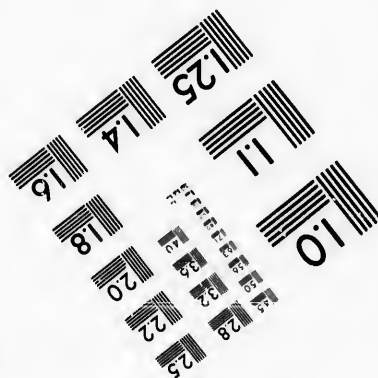
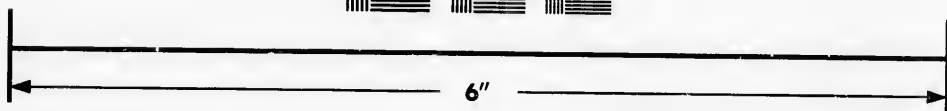
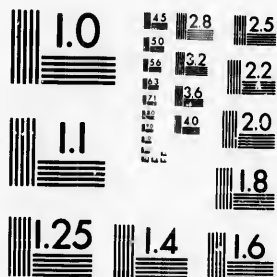
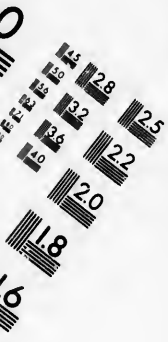


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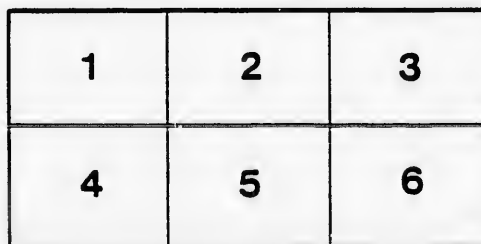
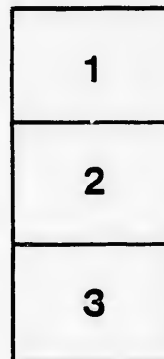
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# THE SEARCH FOR THE NORTH POLE;

OR,

LIFE IN THE GREAT WHITE WORLD.

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A Complete and Connected Story of Arctic Explorations, Superbly  
Illustrated from Real Scenes. Replete with Anecdote, Incident,  
Thrilling Adventure, and Intensely Interesting  
Information. The Book with a Purpose  
Consecrated to Further Polar  
Investigation.

BY

EVELYN BRIGGS BALDWIN, A. M.

Member of the Chicago Academy of Sciences, Member of the National Geographic Society  
Washington, D. C., Non-Resident Member of the Geographical Club of Philadelphia,  
formerly Assistant Observer United States Weather Bureau, and  
Meteorologist to the Peary North Greenland Expedition, 1893-4.

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SPECIAL NOTICE.—As this book is published for the advancement of Polar Research and as a direct means of increasing the funds for the better equipment of our expedition, all communications relative thereto should be addressed as follows: (Business address)

E. B. BALDWIN, Slayton Lyceum Bureau, Central Music Hall, Chicago, Ill.  
(Or, Naperville, Ill.)

## DEDICATED

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TO

My grandfather, Nathaniel Crampton, Esq., for his generous encouragement at all times;

TO

My father, who, with the patriotism of a soldier and the appreciation of a scholar, once and again has said "Go!"

TO

My mother, who finds "in all this discipline a verification of her faith in the leadings of a Divine Providence".

TO

My comrades whose fellowship in North Greenland, amidst scenes of common interest, is ever an inspiration for further effort;

TO

The members and friends of the auxiliary expeditions by whom we were restored opportunely and in health to our homes as an unbroken band; and, finally,

TO

All lovers of the arts and sciences, among whom are especially the subscribers to this volume as well as to those who may otherwise promote the cause in the advancement of which it has been gladly written.



## MAPS AND PRINCIPAL ILLUSTRATIONS.

Nos.	Pages.
1.—Frontispiece.	
2-3.—Fatal Accident on the Matterhorn—Group of Arctic Explorers .....	Between 16 and 17
4-5.—Groups Parry's First and Second Expeditions.....	Between 32 and 33
6.—Barents' House (Exterior and Interior).....	43
7-10.—Groups Franklin's First Expedition.....	Between 48 and 49, 64 and 65
11-14.—Groups Parry's Second Expedition.....	Between 80 and 81, 96 and 97
15.—Group Early Explorers .....	97
16.—Map of the North Polar Regions.....	104-105
17-20.—Groups Franklin's Second Expedition..	Between 112 and 113, 128 and 129
21-22.—The "Fury;" Eskimo Weapons; Glacier; Seal..	Between 144 and 145
23-26.—Upernavik; Midnight Scene; Church and Parsonage; the Three Graces; Native Huts.—Sir Leopold McClintock .....	Between 160 and 161, 176 and 177
27-28.—West Greenland Group; Melville Bay, Eskimos, etc.....	Between 192 and 193
29-30.—Cumberland Eskimos.—Sea Game.—South Greenland Natives .....	Between 208 and 209
31-32.—Reindeer.—Siberian Life.—Reindeer; Swans; Geese.....	Between 224 and 225
33-34.—Officers Nares' Expedition; West Greenland Views.....	Between 240 and 241
35-36.—Godthaab; Nordenskiöld, King Oscar, Lockwood.....	Between 256 and 257
37.—Map: From Baffin's Bay to Lincoln Sea.....	263
38-39.—Baffin's Bay Views:—Natives, Dogs, Glaciers....	Between 272 and 273
40.—Map of King William's Land.....	285
41-42.—General Greely; Cape Dudley Digges; Natives...	Between 288 and 289
43-44.—Musk-Calves, Floe-Ice; Greely Relief Vessels....	Between 304 and 305
45-46.—Cairn, Kyakers, etc.; Godhaven, Ships, Natives..	Between 320 and 321
47-48.—West Greenland Views; Lady Franklin Bay Expedition.....	Between 336 and 337
49-50.—Return of the Greely Survivors; Lieut. Peary, Sea Ice.....	Between 352 and 353
51-52.—Companions in Furs.....	Between 368 and 369
53-54.—The "Falcon," Capt. Bartlett; Etah Eskimos, Cape York.....	Between 384 and 385
55-56.—The "Falcon:"—Crew; at Disco .....	Between 400 and 401
57-58.—Peary Relief Expedition; Dr. Chamberlin.....	Between 416 and 417
59-60.—Climbing a Glacier; Dr. Chamberlin, Mr. Bridgman, and the Author on Greenland Glaciers.....	Between 432 and 433
61-62.—Ice-berg, Aurora Borealis; the "Kite".....	Between 448 and 449
63-64.—Lieut. Brainard, Paleocrystic Ice; Jackson-Harmsworth Expedition .....	Between 464 and 465
65-66.—Nansen and the "Fram;" Masonic Apron, Etc..	Between 480 and 481
67-68.—Botanical Specimens; Antarctic Explorers.....	Between 496 and 497
69.—Names and Ages (1893) of Nansen's Associates.....	497
70.—Jackson and Harmsworth, the "Windward".....	502
71.—Andree's Balloon .....	505
72.—"Farewell," the "Fair Augusta".....	511
73.—Hunting Musk-Catle .....	518

Pages.

Ex-  
 16 and 17  
 32 and 33  
 .....43  
 64 and 65  
 96 and 97  
 .....97  
 .....104-105  
 28 and 129  
 4 and 145  
 Three  
 .....  
 3 and 177  
 .....  
 and 193  
 natives  
 3 and 209  
 .....  
 and 225  
 .....  
 end 241  
 6 and 257  
 .....263  
 2 and 273  
 .....285  
 8 and 289  
 4 and 305  
 0 and 321  
 .....  
 and 337  
 .....  
 and 353  
 3 and 369  
 .....  
 and 385  
 9 and 401  
 8 and 417  
 l the  
 2 and 433  
 and 449  
 Expe-  
 and 465  
 and 481  
 6 and 497  
 .....497  
 .....502  
 .....505  
 .....511  
 .....518

## CONTENTS.

---

CHAPTER I.—To Our Readers and Friends.—Defense of Polar Explorations.—Loss of Life in Arctic Exploration.—Means of Equipping Expeditions.—Mission of This Book.—Acknowledgments.....11-31

CHAPTER II.—Early Norse, English, and Dutch Voyages: Ericson.—Northeast and Northwest Passages.—Frobisher.—Drake.—Barents.—Barents' Death.—Slaughter of Arctic Game.—Conflicts with Eskimos.—Sad Fate of Hudson.—Search for Hudson.—Discovery of Baffin's Bay.—Noble Fellows: Captain James and Companions.—Origin of the Hudson's Bay Company.....32-66

CHAPTER III.—Russian Arctic Voyages:—Private Adventurers.—Peter the Great's Patronage.—Vitus Bering.—The Greatest Geographical Enterprise Ever Undertaken.....67-85

CHAPTER IV.—Arctic Voyages of Captain Cook, the Scoresbys, Sir John Ross, and Others:—Benjamin Franklin's Patronage.—Discovery of the Hawaiian Islands.—Discovery of the Mackenzie River.—The Gospel Among the Eskimos.—The Northernmost Tribe of People in the World.—Crimson-Colored Snow.....86-101

CHAPTER V.—Parry's First Voyage:—Wonderful Discoveries; A Fascinating Narrative .....102-115

CHAPTER VI.—Franklin's First Expedition:—Franklin's Soldier Life.—Explores British America.—Sufferings, and Death of Companions..116-129

CHAPTER VII.—Russian Expeditions:—Wrangell's Great Journeys in Siberia and on the Arctic Ocean.—Life Among the Chookchees, Yakuts, Tunguses, and Yakagires.—Visits the Bear Islands.—Observance of Easter Sunday.—Exploration of the Tundras.....130-157

CHAPTER VIII.—Parry's Second Voyage:—Capture of a Huge Bear.—Sports With the Eskimos.—Hunting Arctic Game.—Explores Region about the Gulf of Boothia.....158-167

CHAPTER IX.—Voyages of Sabine, and Lyon:—To Spitzbergen, and the East Coast of Greenland; to Hudson's Bay.—Lyon's Miraculous Escape.. 168-171

CHAPTER X.—Parry's Third Voyage:—To Prince Regent's Inlet.—Abandonment of the "Fury".....172-176

CHAPTER XI.—Franklin's Second Expedition, and the Voyage of the "Blossom":—Descent of the Mackenzie.—Auroral Displays.—Hostile Eskimos .....177-182

CHAPTER XII.—Parry's Fourth Voyage: Attainment of a High Latitude North of Spitzbergen.....	183-189
CHAPTER XIII.—Second Voyage of Sir John Ross:—Discovery of the North Magnetic Pole.—Booth's Generous Patronage.—A Thrilling Deliverance .....	190-197
CHAPTER XIV.—Expeditions of Back, and of Dease and Simpson:—To the North Coast of America.—Assassination of Simpson.....	198-204
CHAPTER XV.—Middendorf in the Taimur Peninsula:—Summer Weather and Animal Life.—A Grateful Savage.....	205-208
CHAPTER XVI.—Fateful Voyage of Franklin, and Expedition of Rae:— Last Message of Franklin.—Rae on Committee Bay.....	209-212
CHAPTER XVII.—Richardson's Search for Franklin:—He Visits the United States.—Travels via Great Lakes and the Mackenzie River to the Arctic Coast.—Finds Newspapers Within the Arctic World.....	213-218
CHAPTER XVIII.—Search Expedition of James C. Ross:—To Lancaster Sound and North Somerset.....	219-221
CHAPTER XIX.—Voyage of the "North Star".....	222
CHAPTER XX.—Voyage of the "Plover" and the "Herald".....	223
CHAPTER XXI.—The Search Continued:—The Admiralty Squadron and Private Expeditions.—The Americans Assist.—Discouraging Results. ....	224-226
CHAPTER XXII.—Kennedy's Search Voyage:—Exploration of Prince of Wales Land and North Somerset.....	227-230
CHAPTER XXIII.—Voyage of McClure and Collinson.—Discovery of a North-west Passage: To Bering's Strait.—A Strange Deception.—McClure's Discovery of Bank's, or Baring's Land, and of Prince Albert's Land.— McClure's Sympathy for the Eskimos.—Researches.—Peril and Deliverance.—McClure's Gratitude.—Game.—Collinson's Successful Voyage .....	231-241
CHAPTER XXIV.—Belcher's Search Squadron: Rescue of McClure.—Abandonment of the Vessels.....	242-248
CHAPTER XXV.—The American Search Expedition:—Grinnell's Generosity.— Congressional Debate.—Red Snow.—Traces of Franklin.—A Perilous Besetment .....	249-260
CHAPTER XXVI.—Rae's Search and Discovery:—Death of Franklin's Party by Starvation.....	261-262
CHAPTER XXVII.—Inglefield's Voyage:—A Signal Success.....	263-264
CHAPTER XXVIII.—Kane's Expedition:—Grinnell's Generosity Again.—Explorations in Kane Basin.—Critical Situation and Attempt to Escape.— Final Release.....	265-282
CHAPTER XXIX.—McClintock's Successful Voyage:—Important Information Concerning the Fate of Franklin's Party.—The Search in King William's Land.....	283-287
CHAPTER XXX.—Expedition of Hayes:—Public Subscriptions.—In Kennedy Channel .....	288-298

- CHAPTER XXXI.—Hall's First Expedition:—A Struggle for Recognition.—Generous Patrons.—Life Among the Cumberland Island Eskimos. 299-307
- CHAPTER XXXII.—Hall's Second Expedition:—His Heart in the Cause.—Discoveries in King William's Land. . . . . 308-312
- CHAPTER XXXIII.—German Expeditions:—Public Donations.—The King's Sympathy.—A Perilous Drift on the Sea Ice.—Explorations in East Greenland.—Scientific Study of Polar Life. . . . . 313-319
- CHAPTER XXXIV.—Hall's Last Voyage:—His Death.—Miraculous Preservation of Life.—Among the Famous Etah Eskimos.—Lost and Afloat on the Sea Ice.—The End by Rescue. . . . . 323-340
- CHAPTER XXXV.—The Discovery of Franz-Josef Land:—Generous Patronage.—Energetic Leaders.—Loyal Men.—Sunday Observance.—A Joyful Surprise.—Escape by Sledge and Boat. . . . . 341-353
- CHAPTER XXXVI.—The English Expedition of 1875-6:—Patriotic Interest.—Explorations in Grinnell Land.—Markham's Sledge Journey. . . . 354-362
- CHAPTER XXXVII.—Schwatka's Expedition to King William's Land:—Private Subscriptions.—A Long Sledge Journey.—Abundance of Animal Life.—Intense Cold. . . . . 363-367
- CHAPTER XXXVIII.—Nordenskiöld's Wonderful Voyage:—Explorations Along the Siberian Coast.—Through the Northeast Passage. . . . 368-373
- CHAPTER XXXIX.—De Long's Gallant Struggle:—Mr. Bennett's Liberality.—Through Bering's Strait.—Life in the "Jeannette."—Islands Discovered.—The "Jeannette" Crushed.—On the Retreat.—Separation in a Gale.—Death's Horrid March.—Deliverance of the Survivors. . . . 374-404
- CHAPTER XL.—Heroic Americans:—The Lady Franklin Bay Expedition.—Life at Fort Conger.—Abundance of Game.—Scientific Research.—Attainment of the "Farthest North."—Failures of the Relief Parties.—Retreat to Cape Sabine.—Death by Starvation.—Rescue of the Survivors . . . . . 405-427
- CHAPTER XLI.—Nansen's First Triumph as an Explorer:—The First Journey Across Greenland.—Life and Customs of the Eskimos. . . . 428-441
- CHAPTER XLII.—With Lieutenant Peary.—The Author's Plans for Polar Research.—Lieutenant Brainard's Indorsement.—Comrade Astrup's Trip to Melville Bay. . . . . 442-495
- CHAPTER XLIII.—Nansen's Last Famous Voyage:—His Equipment.—Names and Ages of His Associates. . . . . 496-500
- CHAPTER XLIV.—The English in Franz-Josef Land:—The Jackson-Harmsworth Expedition. . . . . 501-502
- CHAPTER XLV.—To the North Pole by Balloon:—Mr. Andree's Project. . . . . 503-506
- CHAPTER XLVI.—Lovers of the Arts and Sciences:—Free and Accepted Masonry in Arctic Exploration.—Emblems Carried Northward.—Interest Taken in Scientific Exploration by Kane Lodge, New York.—Presentation of an Historical Painting.—Entertaining and Instructive Addresses.—Our Working Principle. . . . . 507-520

# ESKIMO MELODY.

Ya-a ya-a ya-a ya-a ya-a ya-a ya-a ya-a

ya-a ya-a ya-a ya-a ya-a ya-a ya-a. Ha

ya-a ya-a ya-a, ha ya-a ya-a ya-a, ha

ya-a ya-a ya. Ha ya-a ya-a ya-a, ha

ya-a ya-a ya-a, ha ya-a ya-a ya. Ya-a

ya-a ya-a ya-a ya-a ya-a ya-a ya-a ya-a

ya-a ya-a ya-a ya-a ya-a ya-a ya-a ya-a

*Dim.*  
ya-a ya-a ya-a ya-a ya-a ya-a ya-a

TECHNICAL TERMS  
USED IN  
ICE NAVIGATION, ETC.

---

- BAY-ICE, OR HARBOR-ICE.**—Ice formed annually in bays or closed seas.
- BESET.**—To be nearly or entirely fast in the sea-ice.
- BORING, OR "BUCKING" ICE.**—Forcing the vessel by steam or sail through crowded ice.
- FIELD-ICE.**—Closely aggregated ice covering a large area.
- FLOE.**—A large piece, either of bay-ice or of paleocrystic ice.
- FLOEBERG.**—A paleocrystic iceberg of regular cubical shape, flat top and bottom, perpendicular sides, "stratified" structure, and regular lines of cleavage.
- HUMMOCK.**—An uneven, irregular part of floe-ice rising above the level, as does a mound above a plain.
- ICE-BLINK, OR ICE-SKY.**—Reflection of light from the ice, causing great brightness in the sky at a particular point.
- ICE-FOOT.**—Sea-ice formed along shore. It is stationary and is separated from the main, movable ice by the tide crack.
- LAND-ICE, OR FAST-ICE.**—Floes or grounded masses of ice attached to the land.
- LANE, OR LEAD.**—A narrow channel or passage between ice masses, through which a vessel may pass.
- NIPPED.**—Situation of a ship when jammed or hard pressed by the ice.
- NORTH POLE (Geographical).**—Ninety degrees of north latitude: the point directly beneath the North (Polar) Star.
- NORTH POLE (Magnetic).**—The point where the dipping-needle becomes vertical—nearly twenty degrees (of latitude) south of the North Geographical Pole. See Voyage of John C. Ross.
- PACK.**—A considerable area of ice, consisting of large masses in close proximity. A pack may be either close or open, depending upon the closeness to which the masses are crowded.

- PALE-O-CRYST-IC ICE.**—Ice of great thickness and of such character as must have required many years in its formation. Occurring generally in floes, its surface is undulatory, like the hills and vales of a "rolling prairie."
- PANCAKE.**—A piece of bay-ice.
- RUBBLE.**—Small, sharp, irregular pieces of ice, generally of recent formation, and which have been broken up by pressure of heavy floes.
- SAILING-ICE.**—A pack sufficiently open to allow a sailing-ship to pass through.
- STREAMS.**—Long, narrow aggregations of broken ice.
- TIDE-CRACK.**—The "break," or opening between the ice-foot and the main body of ice. It is formed by the action of the tides, and through it, during heavy, rising tides, water flows, causing tidal overflows.
- WARPING.**—Moving a vessel by means of ropes attached to distant objects.
- WATER-SKY.**—A dark sky, beneath which is generally to be found open water. It may be said to be the counterpart of the ice-blink.
- YOUNG ICE.**—Ice of recent formation; that is, of not more than one year's growth, generally of a much shorter period.
- BLASTING.**—Breaking the ice by means of gunpowder or dynamite.
- CALF.**—A detached piece of ice either from an iceberg or the face of a glacier.
- CROW'S NEST.**—A barrel fastened near the top of the mast, in which the watch may stand in order to direct the course of the ship.
- DOCK.**—A recess in the sea-ice in which a ship may find anchorage.
- FIORD.**—An abrupt opening in the coast.
- FIRE-HOLE.**—A hole kept open through the sea-ice that water may be available in case of fire.
- PEMMICAN.**—Dried lean beef, pulverized and mixed with an equal quantity of suet. This is seasoned with currants and sugar and then the whole heated till the suet has melted and mixed with the other ingredients. It is kept in cans, hermetically sealed. In early times the hunters of British America preserved the flesh of the buffalo by first sun-drying and mixing it with the suet and then sewing it into bags made of the green hide of the buffalo.
- POLYNIA.**—A Russian term designating an open water space in the ice.
- RUE-RADDY.**—A shoulder-strap used in pulling the sledge.
- TIDE-HOLE.**—Hole through the sea-ice allowing the rise and fall of the tide to be measured.
- TRACKING.**—Towing or sailing a boat along the edge of the ice.

# THE SEARCH FOR THE NORTH POLE;

— OR, —

LIFE IN THE GREAT WHITE WORLD.

## CHAPTER I.

TO OUR READERS AND FRIENDS.

A thoughtful and kindly consideration of the following introductory lines is earnestly requested of every person before whose eyes they may appear. Such a course will explain the motive which has prompted the author in trusting one more book to the tender mercies of an indulgent public. The writer's interest, not merely from theory but from the more practical school of experience, in the matter of exploration and travel, has prompted him to arrange a book "after his own heart"—on the subject of Arctic research. If the reader feels as does the author the importance, the sublimity, of continued effort in the conquest of the Great White World, it is believed that this volume will not be an unwelcome companion of its possessor. Its purpose, its plan, its scope, will appear presently.

Know you, kind friend and reader, that men of science are agreed that definite knowledge of the Pole and its region will be of great value to the world?

Ex-Judge Charles P. Daly, president of the American Geographical Society, once made an address at one of the meetings, in which he said:

"Why should we try to reach the North Pole? Why send out costly expeditions involving peril to life and property, when we all know that the approach to the Arctic Zone is



surrounded by insurmountable barriers? If it involved nothing more than the feat of reaching the Pole, it would be very difficult to answer such questions; but the general answer to them is that there is no portion of the globe where observations in respect to scientific matters affecting the whole globe (every part of it) are so important as in the polar basin and its vicinity. The tremendous forces which are there at work and which are the cause of the difficulty of exploration and observation are physical phenomena which it is most important to observe and study. They have to do with the winds, the ocean currents, magnetic influences, and numerous questions of the most practical nature in their application and in the results to which they lead. The amount of knowledge in the world which has been discovered by accident is small in proportion to that which has been the result of previous investigation. In the polar region will be found the key to unlock those mysteries in respect to the laws of magnetism. All know that magnetism is a polar force; that it directs the needle which guides the seaman upon and around the earth. But it is only the scientific man that knows the insurmountable difficulties that beset investigation of its laws and how important to the world is a thorough knowledge of those laws.

"The best answer ever given to the query, 'Well, what is the use of these expeditions?' was that given by Franklin, when asked one day as regards his discovery of electricity, 'What is the use of your discovery?' Franklin's reply was this: 'What is the use of a child? Make use of it.' The most ordinary things in our present civilization owe their origin to what in their day was scientific information, and they are due to the close observation and patient labors of men who could not have predicted the great results that followed their researches."

In the scholarly language of Lieutenant N. F. Maury, of the United States Navy:

"Voyages of discovery, with their fascinations and their charms, have led many a noble champion both into the torrid

and frigid zones; and, notwithstanding the hardships, sufferings and disasters to which Northern parties have found themselves exposed, seafaring men, as science has advanced, have looked with deeper and deeper longings toward the mystic circles of the polar regions. There icebergs are framed and glaciers launched. There the tides have their cradle, the whales their nursery. There the winds complete their circuits and the currents of the sea their rounds in the wonderful system of oceanic circulation. There the Aurora Borealis is lighted up and the trembling needle brought to rest; and there, too, in the mazes of that mystic circle, terrestrial forces of occult power and of vast influence upon the well-being of man are continually at play. Within the Arctic Circle is the pole of the winds and the poles of the cold, the pole of the earth and of the magnet. It is a circle of mysteries, and the desire to enter it, to explore its untrodden wastes and secret chambers, and to study its physical aspects, has grown into a longing. Noble daring has made Arctic ice and waters classic ground. It is no feverish excitement nor vain ambition that leads man there. It is a higher feeling, a holier motive—a desire to look into the works of creation, to comprehend the economy of our planet—and to grow wiser and better by the knowledge.

“The expeditions which have been sent to explore unknown seas have contributed largely to the extent of human knowledge, and they have added renown to nations, and lustre to diadems. Navies are not all for war. Peace has its conquests, science its glories; and no navy can boast of brighter chaplets than those which have been gathered in the fields of geographical exploration and physical research.” Mr. Henry Grinnell, at a meeting of the American Geographical Society of New York, summarized the commercial results of Northern exploration as follows:

“1. Sir H. Gilbert's discovery of the cod fisheries of Newfoundland. 2. From Davis' discoveries the great whale fisheries of the West. 3. From the discoveries of Hudson (who also discovered and sailed into our North River, which now

bears his name, while on an Arctic voyage), Hudson's Bay, and the operations of the great fur companies. 4. Sir John Ross; the whale fishery of the north and northwest of Baffin's Bay. 5. Captain Parry; whale fishery of Lancaster Sound, Barrow Strait, and Prince Regent Inlet. 6. Admiral Beechey; whale fishery of Bering Straits, in which, in the space of two years, the whalers of Nantucket and New Bedford obtained cargoes from which it is said they have realized eight millions of dollars."

A further illustration is to be found in the rapidly developing resources of Alaska, since the purchase of which, from Russia, in 1867, the United States has annually received over \$300,000 in revenue from the sealeries alone.

In the foregoing paragraphs we have purposely anticipated the oft-repeated question,

"OF WHAT USE IS ARCTIC EXPLORATION, ANYWAY?"

The answers in the language of Lieutenant Maury and Mr. Grinnell should forever silence the tongue of idle objection. As reasonably might one argue against the "use" of spending vast sums of money in studying the worlds now rushing through space millions of miles remote from our little world; or in otherwise promoting the interests of pure science. Well indeed it is for the moral and intellectual well-being of mankind that all are not engaged in the mad rush for wealth, for the mere sake of being considered the possessors—not users—of so many thousands! Sublime indeed it is that one gives money, another talent, another prime years, and even another, life—all that something may be contributed to the sum of human knowledge. Franklin, Kane, Grinnell, Hall, Greely, Lick, Vanderbilt, Rockefeller—all these illustrate the sublimity of man as a public benefactor. No sane person will now question the "use" to which such men put the beneficent portion of their wealth, whether of money or of talent. Without just such contributions as they individually made how many of them would to-day be known beyond a tombstone inscription? Of those dead, not one!

The following editorial from the brilliant pen of Noble Prentiss, soldier, traveler, journalist, is of interest here:

"THE STORY OF ARCTIC EXPLORATION.

"There was an interesting meeting of the Royal Geographical Society in London on Monday evening. The society, we may well suppose, is composed of men in the decline of years, and the 'object of the meeting' was to keep in mind and memory a long-ago event, the sailing away in May, 1845, of the expedition of Sir John Franklin, which nevermore returned.

"Among the old men present was Admiral Sir Francis McClintock, who commanded the 'Intrepid,' one of the five vessels which set out in 1852 in search of the lost Sir John and his company, and as he spoke of the experience of the searchers he alluded to the help extended by the Americans as forming a tie that had drawn kindred nations together. President Markham, of the society, spoke especially of the act of Henry Grinnell, an American, in fitting out an expedition in 1853, and finally our own Minister, Mr. Bayard, spoke of both Americans and Englishmen who had emulated each other in pressing toward the pole; Greely and Kane and Peary, and Franklin, Ross and McClintock, rivals in bravery and endurance and determination.

"The meeting of these elderly gentlemen in a quiet room, talking over the old explorations and the heroes, for the most part gone, afforded a striking history and picture of man's determination to solve the problems of the North. At first bold navigators were led on by the hope of finding a north-west passage to the Pacific and the 'Golden East,' but that idea was dropped as impracticable, after Franklin and all his men had perished; then came expeditions in search of Franklin, and then more expeditions to be followed by more 'searches,' and finally effort narrowed down to what may be called the modern expedition, purely scientific in its character, which aims to settle the question of the open Polar sea. The old plan of sending many vessels, fully manned and equipped, as those of Parry and Franklin, Belcher and the oth-

ers, is no longer attempted. Yet men may be said to push on by twos and threes to the mysterious pole. Not again will a whole ship's company be sacrificed as was Franklin's, who was lost in his third journey, but on any day of the year, it may be said, little companies of men are ready to volunteer for the North.

"The story of Arctic explorations is, that earth nor sky nor ocean can have a terror that will be allowed to baffle man's fixed and intense desire to know. He is determined to tear from the heart of this world its every secret, and no wave so tumultuous and no cloud so black, and no ice gulf so wide, but he will make his way. Amid all the loss and distress, and cold and hunger, and frightful danger and awful death, man has, year by year, worked at the solution of the problem of the North. How since Franklin's time has the map grown! Gulfs, capes, islands, continents have been traced. The blank space around the end of the earth grows smaller; perhaps the man lives who, solitary and alone, shall stand where never man stood before, to say: 'This is the Pole.'"

Again, let us cite that incontrovertible Arctic authority, General A. W. Greely, and quote his admirable address on the

#### SCOPE AND VALUE OF ARCTIC EXPLORATIONS,

delivered before the Sixth International Geographical Congress, held at London, in July, 1895:

"In a brief twenty minutes one can touch only in a desultory way on this great topic that engages the thought and attention of so many famous members of the Geographical Congress, yet a somewhat general outline of the scope and value of Arctic exploration may not be amiss.

"This, however, is neither time nor place to present in detail those phases of Arctic exploration that appeal so strongly to the popular fancy. If one would gain an adequate idea of the true aspects of such voyaging, he must turn to the original journals, penned in the great White North by brave men whose 'purpose held to sail beyond the sunset.'

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More Dangerous than Arctic Exploration.  
Accident on the Matterhorn, August, 1893.



"We pressed up close to the rock, when the two shot past us. They were tied together. Seiler passed close to us \* \* \* Biener flew out against the blue sky, and the rope was stretched tightly between them."



Sir John Franklin.  
Dr. Hayes.  
Lieut. Schwatka.

Mr. Bonsall.

Dr. Kane.  
Capt. Hall.  
Lieut. De Long.

(See Chapters VI., XI., XVI., XXV., XXVIII., XXX., XXXI., XXXII., XXXIV., XXXVII., and XXXIX.)

"In these volumes will be found tales of ships beset not only months, but years; of ice packs and ice fields of extent, thickness, and mass so enormous that description conveys no just idea; of boat journeys where constant watchfulness alone prevented instant death by drifting bergs or commingling ice floes; of land marches when exhausted humanity staggered along, leaving traces of blood on snow or rock; of sledge journeys over chaotic masses of ice, when humble heroes, straining at the drag-ropes, struggled on because the failure of one compromised the safety of all; of solitude and monotony, terrible in the weeks of constant polar sunlight, but almost unsettling the reason in the months of continuous Arctic darkness; of silence awful at all times, but made yet more startling by astounding phenomena that appeal noiselessly to the eye; of darkness so continuous and intense that the unsettled mind is driven to wonder whether the ordinary course of nature will bring back the sun, or whether the world has been cast out of its orbit in the planetary universe into new conditions; of cold so intense that any exposure is followed by instant freezing; of monotonous surroundings that threaten with time to unsettle the reason; of deprivations wasting the body, and so impairing the mind; of failure in all things, not only of food, fuel, clothing, and shelter, for Arctic service fore-shadows such contingencies, but the bitter failure of plans and aspirations, which brings almost inevitable despair in its train.

"Failure of all things, did I say? Nay; failure, be it admitted, of all the physical accessories of conceived and accomplished action, but not failure in the higher and more essential attributes—not of the mental and moral qualities that are the foundation of fortitude, fidelity, and honor. Failure in this latter respect has been so rare in Arctic service as to justly make such offender a byword and scorn to his fellow-laborers and successors.

"Patience, courage, fortitude, foresight, self-reliance, helpfulness—these grand characteristics of developed humanity everywhere, but which we are inclined to claim as special en-



dowments of the Caucasian race—find ample expression in the detailed history of Arctic exploration. If one seeks to learn to what extent man's determination and effort dominate even the most adverse environment, the simple narratives of Arctic exploration will not fail to furnish striking examples.

"There is a widespread impression that all Arctic voyages have been made for practically the same general purpose, whereas polar research has passed through three distinctive phases: First, for strictly commercial purposes in connection with trade to the Indies; second, for advancement of geographical knowledge, and, third, for scientific investigations connected with physical sciences.

"Commercial interests dictated the grand series of voyages wherein England, competing with Spain from the period of the ventures of the Cabots to the discoveries of Baffin, sought for a short route to the Indies, across the pole or by a north-west passage. As the futility of efforts by these routes became more or less apparent, and as the naval strength of Spain and Portugal ensured their continued monopoly of the growing and valuable trade of the Orient, the attention of England was turned in sheer desperation to the northeast passage as possibly offering a competing route. While this quest proved impracticable for the sailing ships of the sixteenth century, yet its prosecution inured to the great financial advantage of England through the establishment thereby of intimate and exclusive commercial relations with the growing and hitherto inaccessible empire of Russia.

"The renewal of the true spirit of geographical exploration in the early part of the present century gave rise to a series of unparalleled voyages in search of the northwest passage, which resulted in the most splendid geographical achievements of the century. These voyages were not splendid alone from the definite results attained, nor from the almost superhuman efforts that ensured success, but also from the lofty spirit of endeavor and adventure that inspired the actors. The men who strove therein were lured by no hope of gain, influenced by no spirit of conquest, but were moved solely

by the belief that man should know even the most desolate regions of his abiding place, the earth, and the determination that the Anglo-Saxon should do his part.

"Franklin said: 'Arctic discovery has been fostered from motives as disinterested as they are enlightened; not from any prospect of immediate benefit, but from a steady view to the acquirement of useful knowledge and the extension of the bounds of science, and its contributions to natural history and science have excited a general interest. The loss of life in the prosecution of these discoveries does not exceed the average deaths in the same population at home.' Parry adds: 'Such enterprises, so disinterested as well as useful in their object, do honor even when they fail. They cannot but excite the admiration of every liberal mind.'

"Of Chancellor's voyage to the northeast Milton said: 'The discovery of Russia by the Northern Ocean \* \* \* might have seemed an enterprise almost heroic if any higher end than excessive love of gain and traffic had animated the design.' Modern critics except from dispraise the gallant men who in this century have given their lives from no sordid motive, and so merit Milton's full praise.

"If not all, certainly some of these arctics have been animated with the noble thought of the poet:

"And this gray spirit yearning in desire  
To follow knowledge like a shining star  
Beyond the utmost bound of human thought."

"Suffice it is to say, for geographic research, that it has remained for the nineteenth century, with its wealth of industrial inventions and store of indomitable energy, to make the northwest and northeast passages, to outline the northern coast of America, and to discover the archipelagoes and islands situated poleward from the three continents of the northern hemisphere.

"Hudson's voyage to the Greenland sea, in 1607, was of vast industrial and commercial importance, for his discovery and reports of the incredible number of walrus and whales

that frequented these seas gave rise to the Spitzbergen whale fishery.

"The voyage of Poole for walrus and exploration, in 1610, was followed by the establishment of the whale fishery by Edge in the following year. Enterprising Holland sent its ships in 1613, later bringing in its train whalers from Bremen, France, and other maritime centers. The whale fishery, as the most important of Arctic industries, from which Holland alone drew from the Spitzbergen seas in one hundred and ten years, 1679-1778, products valued at about \$90,000,000, merits at least our brief attention.

"Grad writes: 'The Dutch sailors saw in Spitzbergen waters great whales in immense numbers, whose catch would be a source of apparently inexhaustible riches. For two centuries fleets of whalers frequented its seas. The rush to the gold-bearing placers of California and the mines of Australia afforded in our day the only examples at all comparable to the host of men attracted by the northern fishery.'

"Scoresby says: 'In a short time (whaling) proved the most lucrative and the most important branch of national commerce which had ever been offered to man.' This emphatic statement is devoid of exaggeration in the slightest degree. Scoresby gives, year by year, the products of the Dutch whale fishery in the Arctic seas from 1668 to 1778, which aggregate in value over \$100,000,000. When it is known that Scoresby himself caught in thirty voyages fish to the value of \$1,000,000, it will not be considered extravagant to place the products of the British whale fishery at \$250,000,000. Starbuck gives the product of the American whale fishery from 1804 to 1877 as \$332,000,000, making the aggregate of three nations—America, England, and Holland—more than \$680,000,000. How far this amount should be increased on account of seal, walrus, and other strictly Arctic sea game need not be considered, but Norwegian and Russian fishers have successfully exploited these sources for the past century.

"The visit of Liakoff to the New Siberian Islands added eventually a wealth of fossil ivory to Siberian trade that was

only second in value to the extraordinary stock of furs that grew out of the explorations of the Arctic valley of the Kolima by Russian hunters. From Hudson's voyage to the bay of his name are attributable the initiation and development of the extremely valuable fur trade of the Hudson Bay Company. Bering failed to outline the definite geographic relations of the contiguous shores of Asia and America, but his voyages directly resulted in the very extensive sea and land fur trade which has proved so profitable through a century and a half.

"Altogether it may be assumed that in a little over two centuries the Arctic regions have furnished to the civilized world products aggregating twelve hundred millions of dollars in value.

"Nor should it be inferred that commercial ends, scientific knowledge, or the glory of effort crystallized in accomplishment have alone turned man to the polar regions. The altruistic spirit of Egede lavished its wealth of effort in the turning of the Greenland Eskimo to Christianity and civilization; and it enkindled the flame of Christian endeavor that Crantz and the Moravian brethren kept alive during the critical phases of Greenland's history. As Cowper says:

'See Germany send forth  
Her sons to pour it on the farthest north.  
Fired with a zeal peculiar, they defy  
The rage and rigor of a polar sky  
And plant successfully sweet Sharon's rose  
On icy plains and in eternal snows.'

"In recent days Great Britain has had its Duncan, France its Petitot, and the United States its Jackson, whose evangelizing labors, acting through the more successful method—that of inculcating civilization and helpfulness—are a part of the glory of this time. The residence of Holm among the East Greenland natives and of Peary with the Etah Eskimos have, it is to be hoped, not been fruitless along these lines, and should stimulate human sympathy for these dwellers on the northern edge of the world. Every lover of mankind will rejoice that Denmark, with the Christian solicitude that has

always marked its policy towards the Greenlanders, has extended its unprofitable trade relations to East Greenland and established a missionary station at Angmagsalik for the benefit of the natives. May we not hope that some religious association may likewise plant the seeds of civilization and Christianity among the Cape York Eskimos?

"There is neither intent nor time to eulogize worthily the deeds of living Arctic men, nor even to stimulate the eager rising youth who shall outdo all that has gone before; rather would this brief word add a leaf of laurel to the crowned dead whose Arctic fame forms part of each nation's historic heritage—hallowed for the past, priceless for the present, indispensable for successful futurity.

"Shall I name the soldiers or sailors, the explorers or scientists, the trader or the whaler? Rather all, since science knows neither station nor profession, neither dialect nor nationality.

"In the roll-call of the dead, Austria-Hungary answers with Weyprecht, whose greatest fame will ever be associated with the establishment of the international polar stations.

"Denmark follows, equally at home in American, Asiatic, or European waters, through Munk and Hamke, Jan Mayen and Vitus Bering.

"Then France with De la Croyère, Pages, Blossville, Fabre, Gaimard, Marmier, Martins, and Bellot, the last a name ever grateful to English ears.

"Germany has generously loaned her talent to insure success wherever sound and important scientific work is to be done. Baer, Bessell, Petermann, and Steller are worthy successors to Frederick Martens, of the seventeenth century—men and work of which any nation may be proud.

"Holland, in Barents, Nay, Tetgales, Rip, and Heemskerck, presents a roll of honor well in keeping with the notable work of the thousands of Dutch whalers that exploited the Spitzbergen seas.

"The Italian contingent, from the Zeni of the fourteenth

century through the Cabots to Bove of our own day, maintain here, as elsewhere, their geographic standing.

"Norwegian Othere set in the ninth century the pioneer standard of Arctic exploration, which later, combined with the labor of exploiting the northern seas, has Mattilas, Carlsen, Tobiesen, and a score of others as worthy successors.

"Russia finds the Arctic problem a domestic question, and from the time of Peter the Great to to-day has done an amount of work not generally appreciated or known. The Laptieffs and Deshneff, Tchirikof, and Liakoff, Anjou and Wrangell, Kotzebue and Lütke, Pachtussof, Krusenstern and Zivolka, stand forth in the annals of the world.

"In Hedenström and Torrell, Sweden finds examples that have borne such abundant fruit in the late active labors of her enthusiastic sons.

"Once it was said that the almighty dollar was the object and end of American endeavor, but when American treasure—not by the millions but by the billions—was poured out and lives by the hundreds of thousands were joyfully given for an idea, the men of the new world rose to a higher place in European estimation.

"A fellow-townsmen of mine was a petty officer under Sir John Franklin, and among the hundreds engaged in the Franklin search none had a more altruistic and generous spirit than the American Elisha Kent Kane. Hayes left no danger undared to reach his 'Open Polar Sea.' Rodgers dared all, in Arctic ice as in the War for the Union. De Long and Ambler knew how to die, but not how to desert a helpless comrade. Hall followed the Arctic sledge to his very death. Lockwood, whose personal toil and suffering accomplished the farthest north and set the goal beyond which some more fortunate rival will soon pass, met with fortitude and sweetness the harsh fate which debarred the world from placing its laurel wreath save on his grave.

"I can scarcely say aught of British effort in a field that has been peculiarly England's for the past three centuries. And how, among her innumerable Arctic dead, shall I single

out representatives, worthy examplers of British courage and effort? Like Macbeth's kings, the line stretches out to crack of doom.

"Great were the daring navigators of the sixteenth and seventeenth centuries—Chancellor and Davis and Frobisher, Hudson and Waymouth, Bylot and Baffin; but were they greater than in their way were Cook, Hearne, and Mackenzie in the eighteenth?

"And when we come to their worthy compeers of this century, there is barely room for the names of these daring spirits. Here is Britain's unequalled roll:

"Austin, Back, Beechey, Buchan, Clavering, Collinson, Crozier, Forsyth, Goodsir, Inglefield, Kellett, Kennedy, Lefroy, Lyon, McClure, Maguire, Mecham, Moore, the immortal Nelson, Osborn, Penny, Pim, Rae, Richardson, James C. Ross, John Ross, Sabine, Saunders, Scoresby, father and son; Simpson, and Stewart.

"Close communion in spirit and thought with their recorded labors for many years has made for me many friends among the great Arctic dead, and so particularly segregates in my mind, from this alphabetical list, the twin Arctic compeers, Franklin and Parry, as facile princeps in this great company.

"But the history of these men is inextricably interwoven with the wonderful development of the British Empire, and their deeds forever abide to the glory of the English-speaking race.

"And of the Arctic dead of Europe, Asia, and America, from the earliest Othere of Norway and the Zeni of Italy to the latest fallen in Sweden, Nordenskiöld the younger, promising son of his distinguished father, there may well be quoted the words of an American soldier:

'On Fame's eternal camping ground  
Their silent tents are spread,  
And Glory guards with solemn round  
The bivouac of the dead.'

"Storm-stayed and ice-beset no longer, their dust awaits the change and fate ordained by God's eternal laws.

"The end they sought, the work they wrought, the courage and devotion they showed, should stand as ideals and patterns for the men of the future in the accomplishment of the great Arctic work which it shall be their good fortune to undertake.

"But now we look again to England to retake its former place in Arctic research. Shall we look in vain? I believe not.

"Let her remember that the beginning of the end will have come for the ever-extending and ever-developing British power when this insular people would ever consent, for any sum in pounds and pence, that the Arctic relics of Greenwich should be scattered, or that there should ever be removed from Westminster Abbey, rich with its clustering memories and gathered treasures of a thousand years, the tribute of genius to heroism, of England's poet laureate to its Arctic dead.

"Well has it been for Britain that hundreds of its youth have imbibed together learning and patriotism, love of the beautiful and admiration for glory, while translating into classic verse these immortal words:

'Not here. The white north has thy bones, and thou,  
Heroic sailor soul,  
Art passing on thine happier voyage now  
Towards no earthly pole.'

Contrary to popular belief, the

#### LOSS OF LIFE IN ARCTIC RESEARCH

has been remarkably small. Of all the men engaged in the search for Franklin, as well as in Arctic explorations since then, less than two per cent died through such service, and in the more recent voyages the casualties have not equalled those ordinarily occurring among the ships on naval duty in other regions of the globe. Says Lieutenant Maury: "The losses by wreckage around the British Isles during a single year exceeded the aggregate of all those within the history of Arctic exploration."



Experience has also demonstrated that the health of men when properly provisioned and equipped is even better north of the Arctic Circle than in lower latitudes. These conditions met, in that region is made the best blood in the world, as pure and vigorous as the air which there purifies and enlivens it.

The fact that

#### PRIVATE ENTERPRISE

has done so much during the past four hundred years toward acquiring a scientific knowledge of the polar regions is a hopeful indication of the spirit of pure benevolence in man, the exercise of which has already in the aggregate led to practical results of great value. A cursory glance at the history of some of the Arctic expeditions will show this. Beginning with Sebastian Cabot, in 1533, who will now venture to question the utility of the private and governmental expense of sending him in search of a passage which he did not find? For he found something better—he found land. Had Frobenius's voyages a quarter of a century later been undertaken with a spirit of exploration and scientific research, instead of a desire for gold, his fifteen years spent in pleading with the nobility of England for funds would not have gone for naught. Greed said nothing was as valuable as gold, and when that was not to be found, all else failed. The true spirit of exploration would at that time have discovered the whale and seal fisheries of Baffin's Bay, and even the waters of Hudson's Bay. Davis, however, under the generous patronage of his friend Sanderson, in 1585, skirted the west coast of Greenland, and endeavored to lighten expenses by fishing. The desire for gain was made of secondary importance. Russia, too, has supplied her share of human benefactors; for Schalaroff, in 1758, built a vessel at his own expense and sought to sail along the north coast of Siberia, and Wrangell, although making his journeys with but four or five white companions as the accredited representative of the Naval Department, reduced expenses by the employment of native help. Ross, after hav-

ing spent \$15,000 of his own, obtained the generous patronage of Felix Booth, by whom he was sent, in 1829, on the voyage which resulted, two years later, in the

#### DISCOVERY OF THE NORTH MAGNETIC POLE,

whereby the navigation of the seas and the surveying of all northern lands is rendered more certain. Moreover, this voyage led to the introduction of steam-power into Arctic navigation. Back's famous and highly satisfactory expedition was made possible by means of a public subscription of \$20,000 and an addition of \$10,000 by the Government. A quarter of a century later much of the funds raised in conducting the search for Franklin was raised by private subscriptions. From these, Inglefield, in 1852, was equipped not only by means of contributions in money, but by individual donations of tents, sledges, traveling apparatus, and countless other articles. Kane, in 1853, was "backed" by Henry Grinnell and George Peabody, while various scientific societies also contributed liberally in money and articles of equipment. Hayes, after persistent efforts during five years, succeeded in organizing his expedition in 1860. He first presented his cause before the American Geographical Society and then before the American Association for the Advancement of Science. The association at once appointed a committee of sixteen to assist him in the furtherance of his plans. Eventually

#### FOUR HUNDRED BUSINESS MEN AND FIRMS

in Albany, Boston, New York and Philadelphia subscribed liberally to the enterprise and the Smithsonian Institution supplied the necessary scientific instruments. Hayes also applied toward the expenses of the expedition the funds secured by lecturing. Hall, the son of a blacksmith, having first divulged his plans to a few intimate friends, received encouragement from United States Senator Chase, Governor Denison and others, while individuals and societies made response in additional funds and equipment.

Free transportation was also granted his expedition by one

of the steamship lines. In 1869 the organizers of the Second German Expedition issued an appeal for funds and donations "to the towns of the fatherland," and in reply received the hearty co-operation of their countrymen.

The King of Prussia took a personal interest in the success of the enterprise in a manner indicative of a great mind and a kind heart. The Austro-Hungarian Expedition, in 1872, was sent out largely at the expense of Count Wilczek. Its discovery of Franz-Josef Land in the following year gave an important vantage-ground to future explorers of the Arctic Ocean. Schwatka, in 1878, was supplied with provisions and equipment from private sources, and was given free transportation by Messrs. Morrison and Brown. In the same year the "Vega," with twenty men, Professor Nordenskiöld in charge, was equipped at an expense to the state of only \$9,500, the remainder being made up by individual contributions. De Long, in 1879, undertook his ill-starred expedition almost entirely through the liberality of James Gordon Bennett. The Lady Franklin Bay Expedition of 1881-4, Lieutenant Greely commanding, although a "Government enterprise," was fitted out at an expense of only \$25,000, three-fourths of which went to charter the vessel, and less than \$6,000 for supplies for a party of twenty-five men. Had the provisions alone been supplemented by private donations and deposited at Cape Sabine and other desirable points, on the outward voyage, the awful tragedy at Camp Clay would not have occurred. Dr. Nansen's first crossing of Greenland, in 1888, was a successful private undertaking. Mr. August Gemel became his financial "backer," while the "Committee of Students' Union" and large numbers of his countrymen added liberally to the expeditionary fund. Nansen's great success in this led him to undertake, in 1893, the great voyage the outcome of which the whole world awaits with intense interest. May no future historian have to record that the brave voyagers of the "Fram" failed for lack of supplies, or for lack of assistance on the part of a world reveling in luxury while men stand ready and willing to carry that assistance at any opportune moment.

All of Peary's expeditions were private ventures, the funds for the same being raised from lecturing, newspaper correspondence and other individual sources.

Elsewhere, in our reference to Lieutenant Peary's Expedition, will be found a concise statement of views which we have long entertained.

In the preparation of this volume the author has not done so without careful study and a certain amount of more valuable experience. Both have enabled him to select and arrange the material so as to save the reader a great expense both of time and money were he to attempt to inform himself concerning North Polar research by the purchase of many expensive books dealing almost exclusively with separate undertakings. So far as known to the writer, no other attempt has ever been made to present a popular, up-to-date narrative of Arctic toil, and no pains have been spared to make it replete with suggestions for the man of learning as well as full of information and entertainment for the masses. Moreover, its purpose,

#### ITS MISSION.

is to assist in prosecuting future exploration—as will be learned by reference to the plans stated toward the close of the volume. Should its sale not even equal by a fourth that of some other books of less value and durability, and which (some of them not unlaudably) have been published solely for the purpose of private gain, we shall be enabled to carry out our plans unhampered for want of funds—with an abundance of food, clothing, equipment, etc. Men engaged in Arctic service gain but little reward in dollars and dimes—they are certainly entitled to a fair share of bodily comfort, and the expedition that cannot reasonably provide for this should not venture poleward—be it either north or south. Had some of the past "failures" occurred before starting, how different would be the record of results! Men are now agreed that the return voyage should be as carefully provided for as the outward trip. The liberal patronage of our friends and read-

ers not only in directly extending the circulation of this book, but also in many incidental ways, will help to insure such a result. In the final outcome, with "a long pull, a strong pull, and a pull all together," each individual may have the satisfaction of having done something for the common good and in rendering success more certain.

Already, in the production of these pages—the study and exploration directly represented—have three of the best years of the author's life found expression, for the most part in recording the work of others, yet not without fond hopes in the future and an unshaken confidence in the intelligence and patriotism of the American people in promoting every cause worthy of man's best efforts.

Thanking numerous friends and well-wishers, among whom are some of the ablest minds of our great commonwealth, for their generous encouragement and hearty co-operation, the author bespeaks for the cause a like response from many thousands. In due time we trust to be able to return all favors in substantial and enduring ways.

To Professor T. C. Chamberlin, formerly president of Madison University, but now head professor of geology, University of Chicago, thanks are especially due for numerous favors, not the least of which are valuable suggestions relating to the arrangement of portions of our manuscript and for his enduring interest in the aims and objects proposed.

To Mr. H. G. Bryant, commander of the Peary Auxiliary Expedition of 1894; Professor William Libbey of Princeton College; Mr. H. L. Bridgman, Managing Editor of the Brooklyn Standard Union; Messrs. F. H. Hild, B. M. Smith, David Oliphant, W. B. Conkey, W. J. Root, John Sebastian, Addison C. Thomas, George H. Benedict, Hon. William A. Vincent, H. H. Rassweiler, Samuel E. Knecht, Hon. George R. Peck, George T. Nicholson, Professors W. H. Holmes, E. B. Garriott, and E. E. Barnard, the Members of The Chicago Academy of Sciences, and others of Chicago; Mrs. N. C. Knickerbocker, Preceptress of Northwestern College, the late James L. Nichols, Esq., and Messrs. Royce and Scott, Naperville, Ill.; Messrs. Patrick and

Luthe, Des Moines; Mr. E. F. Burnett, New York; Major H. C. Bate, Nashville; Major T. J. Anderson, Topeka; Mr. J. B. Marbury, Baltimore, and to General A. W. Greely, Washington, we feel specially obligated for their courteous interest at all times.



TYSON'S CREW SIGHTING THE SCOTCH WHALER WHICH RESCUED THEM OFF LABRADOR

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## CHAPTER II.

## EARLY NORSE. ENGLISH AND DUTCH VOYAGES.

The wind goeth toward the south, and turneth about unto the north; it whirleth about continually, and the wind returneth again according to his circuits.—Ecclesiastes 1, 6.

He stretcheth out the north over the empty place, and hangeth the earth upon nothing.—Job xxvi, 7.

Thus, it may be conjectured, the man of much wisdom and the man of patience each spoke of the same North Polar regions; and, although often baffled, and perishing in the attempt, later generations of men have undauntedly persevered in an ever-enlarging interpretation of the words of inspiration.

FASCINATING INDEX v pr

is the story, and, though oft told, is ever fresh, with the concluding chapters increasing in interest, drawing the reader with siren-like power, irresistibly onward.

Fortunately, one is not compelled to flee to mythological and traditional periods, to any considerable extent, for a beginning. The seal of authenticity appears to have been well stamped upon all Arctic matters from the first. True, that the ancient Greeks considered Scandinavia an island or group of islands; that Pytheas of Marseilles, sailing in 330 B. C. to the Northern Sea, arrived at an island which he called Thule, from his native telos, meaning goal, but by which term is disputable whether he meant Iceland or one of the Shetlands. The difference, however, is of little moment, since it is clear that he had touched upon Arctic conditions. "Here," he says, "the sun never descends (sets) below the horizon for a certain number of days during the summer solstice." Had he remained there during the winter he would doubt-

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(1.) The Barren Lands, August 17, 1826—Kendall. (2.) "Hecla" and "Griper" Cutting into Winter Quarters, September 26, 1819—Lt. Beechey. (3.) "Hecla" and "Griper" July 4, 1819—Beechey. (4.) Iceberg, Ballin's Bay, July, 1819. (5.) "Hecla" and "Griper," September 20, 1819—Lt. Hoppner. (6.) Burnet Inlet, Barrow's Strait—Beechey. (7.) "Hecla" and "Griper" in Winter Harbor, 1819-20—Beechey. (See Chapter V.)





(1.) "Hecla" and "Griper," August 17-23, 1820—Lt. Hoppner. (2.) Musk Bull, Melville Island—Beechey. (3.) Eskimos of the "River Clyde" or Inlet, West Coast of Ballin's Bay—Beechey and Hoppner. (4.) "Fury" and "Hecla" at Ig-loo-lik, Winter, 1822-23—Lyon. (5.) Canoe of Savage Islands, Hudson's Strait—Lyon. (6.) Cutting into Winter Island, October, 1821—Lyon. (See Chapters V. and VIII.)

less have also added that for a like number of days during the winter solstice the sun never ascends (rises) above the horizon.

Following the custom of jealous stay-at-home critics, Polybius and Strabo declare his accounts to be "absurd" and incredible. In his "absurdity" lies the authenticity of his discoveries and observations to more modern intelligence. That he possessed the true spirit of discovery and observation is apparent and it appears that he was the first to determine the latitude of a place from the sun's shadow and the first to suspect that the tides are influenced by the moon.

Five hundred years later, or about the middle of the eighth century, we find

#### THE BOLD NORSEMEN

pushing westward from the densely-populated shores of Scandinavia and effecting permanent settlements on the Faroe, Shetland, and Orkney Islands. Thence again westward and northward to Iceland, hanging upon the Arctic Circle, which they settled permanently in A. D. 874. Whence, less than three hundred miles beyond, and but two years later, they accidentally discovered Greenland, the importance of which, however, did not appear till its re-discovery in 983 by Eric the Red and its colonization two years later.

Iceland, we learn, was able to maintain her independence for four centuries—A. D. 928-1387—or until compelled to submit to the King of Norway and Denmark.

Greenland also "prospered" for several centuries, and maintained her bishops from A. D. 1121 to 1409. The black death, which in three years, 1348-51, swept away from Europe twenty-five millions of her population, also decimated Iceland and Greenland and caused them to decline politically and commercially. With the removal of the last bishop of Greenland probably went the annalist of the colony, as, for the next two hundred years, there is no written record.

Sixty-eight years after the disappearance of the last bishop of Greenland, and fifteen years before the discovery of the southern portion of North America by Columbus, we find the

following confirmation, written by himself, that the great Genoese was himself an Arctic voyager. He says: "In 1477 I navigated one hundred leagues beyond Thule."

Five centuries before the immortal Christopher thus visited Iceland, the bold Biarne Her-julf-son, in search of his father, had set sail from Iceland for Greenland. Driven by storm, he was carried from his course and did not touch upon Greenland until after the comparatively greener shores of Labrador or Newfoundland had been accidentally discovered. Fourteen years later, that is in A. D. 1000, Lief Ericsen, a son of Eric the Red, with thirty-five men sailed along the coast of Labrador southward to a pleasant country abounding in grapes and called by them Vinland. Here the ensuing winter was spent. Two years later Thorwald, another son of Eric the Red, visited the place and discovered Cape Cod. Thenceforward Vinland was extensively colonized from Greenland and visited by the Norsemen. Unfortunately, they were fiercely attacked by the natives, and further efforts at colonization were abandoned. At the head of this colony was Karlsefne. To him and to the beautiful and brave Gudrid was born a son, Snorri, the first child born in America to European parents. To quote: "The boy was named Snorri, and in his noble manhood founded one of the most distinguished families of Iceland, then the abode of princely Scandinavians, with their retinue of armed followers." This was evidently in Rhode Island, for, in an old record of the Vinland colony, it is stated that "On the shortest day the sun remained nine hours above the horizon."

From this astronomical fact it appears that the colony was located between 41° and 42° north latitude, which corresponds with the situation of Rhode Island. Moreover, the old stone tower at Newport, Rhode Island, and the inscription upon Dighton Rock, on the bank of the Taunton River, are manifestly memorials of these hardy people.

We have already seen that, fifteen years after the visit of Columbus to Iceland, he discovered the Bahama Islands, thus

inciting the English and French to rival the Spanish in further discoveries. The search for a

#### NORTHWEST PASSAGE,

by the Cabots, leading to the re-discovery of Newfoundland and Labrador in 1497-8 may be said to be the first in a long series of voyages undertaken for the purpose of revealing the ice-imprisoned secrets of the Arctic world. In a subsequent voyage, undertaken in 1517, Sebastian Cabot explored the region now known as Hudson's Bay, naming several places. In this voyage he passed a degree beyond the Arctic Circle ( $66^{\circ} 30'$ ) attaining  $67^{\circ} 30'$ .

The history of this great man during all these years is one of varying success and disappointment and we see him now in the service of England, now of Spain. Meanwhile, ignorant of the vast extent or configuration of the northern European and Asiatic continents, he had become imbued with the idea of reaching India by a

#### NORTHEAST PASSAGE,

and accordingly in May, 1553, under his own and Royal English patronage, three vessels set sail, one of which, becoming separated from her consorts, returned to England before the close of the year. Of the other two, the one under command of Richard Chancellor reached the mouth of the Dwina River, whence Chancellor, starting from the monastery of St. Nicholas, near the present site of Archangel, made a successful overland journey to Moscow, then the residence of Ivan IV., or Vasilievitch II., "the Terrible," czar and autocrat of all the Russians, with whom he opened very friendly and mutually advantageous commercial relations between England and Russia.

The third vessel, under command of Sir Hugh Willoughby, became hemmed in by the ice at the mouth of the Dwina River, and all on board were found frozen to death the following season by some Lapland fishermen. That these men sacrificed themselves through ignorance and inexperience is

apparent from the fact that there was sufficient moss and turf and animal-life on shore to have amply sustained them had they but put forth efforts in that direction. Sir Hugh's vessel, however, had penetrated as far as Nova Zembla, which, as will be seen by reference to the map, lies just north of the dividing line between Russia and Siberia.

Chancellor again, in 1554, with four vessels, made a successful voyage to the monastery of St. Nicholas, but, upon returning, was storm-harassed and three of his ships were wrecked, the brave navigator himself perishing in the angry sea, while the inexperienced landsman, one of the Russian ambassadors, whose life he was endeavoring to save, escaped. Two years later, Stephen Burrough, pilot to Chancellor, was sent to make further search for the northeast passage and the mouth of the Obi.

He reached the strait between Nova Zembla and Vaigat's Island, now known as Kara Gate, or Strait, but was driven back by the ice and so returned to England.

At this time it was thought that the promontory forming the eastern cape of the Gulf of Obi was the northeastern corner of Asia and that accordingly Nova Zembla and Kara Strait were remote about 400 miles from the eastern shore of Asia. The distance, however, is about 2,700 nautical or 3,100 statute miles, extending through 130° of longitude, more than three-fourths of which lie above the 70th degree, north latitude.

Efforts to solve the problem of a northeast passage were now abandoned for nearly a third of a century and

#### NEW VOYAGES TO THE NORTHWEST

followed the publication of Sir Humphrey Gilbert's "Discourse to Prove a Passage by the Northwest to Cathaia" in 1576, the first of the three voyages being undertaken the same year by Frobisher, who had spent fifteen years pleading with the merchants and nobility of England to provide the necessary funds.

With three small barks, the largest of not over thirty-five tons burden, he set sail from London, soon losing the smallest

vessel, which was sunk in a storm with all on board. The second ship returned to England, Frobisher continuing on alone till at last he reached the coasts of Greenland and Labrador. After coasting among the Savage and Resolution Islands for some time, he went ashore on the mainland called by him "Meta Incognita," i. e., the "Unknown Boundary," now the southern peninsula of Baffin Land, and established friendly relations with the Eskimos of the region. He attained 63° north latitude and entered the strait which he named in his own honor. Returning to England with a quantity of

#### SUPPOSED GOLD ORE.

he soon enlisted the avarice of his countrymen in a second enterprise, and the following year, May, 1577, set sail in three goodly-sized vessels. Retarded by the ice at the entrance of Frobisher Strait, he took aboard 200 tons of the lustrous stones and put about for England.

Public avarice the next year equipped another expedition, a fleet of fifteen vessels being placed under Frobisher's command. With these he, for a third and last time, encountered the ice of the Meta Incognita, one of his largest vessels being crushed by an iceberg at the entrance of the strait, and forty lives lost, while the entire fleet was damaged by the irresistible ice-floe. These mishaps caused the abandonment of the project to establish a

#### MILITARY COLONY

of 100 picked men among the blubber-fed natives of this gold-strewn region, and our fortune-seekers all returned to England, carrying with them for 3,000 miles 500 tons more of the "precious ore," all of which was now found to be but "worthless stone."

Ten years later, the greatly chagrined Frobisher redeemed his name from a probably obloquy by his signal service in the contest with the Spanish Armada, in 1588.

Once more was the long-coveted northwest passage sought for, this time from the Pacific side. Having sailed

through the Straits of Magellan on his voyage round the world,

SIR FRANCIS DRAKE

turned northward, plundering the coasts of Chili and Peru en voyage, hoping to discover the looked-for passage, sailed to latitude 48° north, or to the Strait of Juan de Fuca, now on the northwestern boundary of the United States. Failing in the realization of his hopes, he proceeded southward to the present location of San Francisco, named the country New Albion, and returned to England in 1580 by the way of the Cape of Good Hope, thus being the first Englishman to circumnavigate the globe.

Next on the list of Arctic heroes, comes Davis, who, in 1585, with two vessels christened the "Sunshine" and "Moonshine," of fifty and thirty-five tons respectively, sailed to Greenland, which he very appropriately called the

LAND OF DESOLATION.

On August 6th he arrived at a point called Sukkertoppen, sailing whence farther northwest to latitude 66° 40' he found the land free from "the pesters of ice, and ankered in a very fair rode."

After exploring the region of Cumberland Sound and the entrance to Frobisher and Hudson's Straits he returned to England. He thought that he had discovered the entrance to a sea communicating with the Pacific Ocean.

Curiously enough, "to cheer and recreate the spirits of the natives," Davis took with him on this expedition a

BAND OF MUSIC,

the fame of which spread far and wide among the Eskimos, who in their kyacks surrounded the vessels listening to the strains of never-before-heard music and exchanged valuable furs for glass beads and other trinkets.

Well does the writer recollect, having been commissioned by Lieutenant Peary to obtain walrus meat from the Eskimos at Noxami, on Inglefield Gulf, in the spring of 1894, to have

been questioned by these same people concerning "the kind of music had in America."

Giving in explanation, by gesture and voice, a decidedly barbarous imitation of a "string band," ever thereafter and wherever met, these

#### FUN-LOVING CREATURES

would demand a re-performance of "Rup-pe, tup, tup, rup-pe tup tup, rup-pe tup, tup, tup, tup," "John Brown's Body," etc. These, at any rate, were the favorite "airs" of old Kio-gwee-toh, "mine host" at Nox-am-i and pretended nol-li-gock-soak, or chief of the tribe.

Davis' second voyage, undertaken in 1586, with two more vessels, the "Mermaid" and "North Star," resulted in the discovery of the strait which bears his name. Reaching Greenland, in latitude 64°, he sent two vessels northward on the east coast while he proceeded along the west coast as far as 69°. The ice was unusually massive and one field required thirteen days to pass. The cold winds froze the ropes and sails to such an extent that the sailors were led to complain that "by his boldness he might cause their widows and fatherless children to give him bitter curses."

After making additional exploration of the Cumberland Sound region and engaging in a

#### CONFLICT WITH THE ESKIMOS,

during which three of his men were slain and two wounded, he returned to England.

Davis, writing to a friend, stated that he had reduced the discovery of a northwest passage almost to a certainty. His third voyage, in 1587, was prosecuted as far north as Sander-son's Hope, in latitude 72° 12'. This point was within a half degree of Upernavik and was so called in honor of his chief patron.

The vessels of the expedition were four in number and fitted out with the express condition that expenses were to be lightened by stopping to fish wherever practicable. Two



of the ships were therefore detailed for this purpose upon arriving off Greenland.

The geographical results of the expedition were very important.

Once more the question of a northeast passage was propounded, this time by the Dutch. In 1594 a number of the leading merchants of Holland fitted out three vessels under command of Cornelizoon, Ysbrantz, and Barents. Previously they had established trading-posts at Kola, in Lapland, and at Archangel, in Russia. These would afford bases of supplies in case of retreat. Owing to the failure of the English to pass Kara Strait they determined to try also the passage north of Nova Zembla. This was partly due to the suggestions of Peter Plaucius, a distinguished theologian, astronomer, and nautical adept of the day. Arriving at Nova Zembla, the vessels parted company, one, under Barents, keeping west of the island, proceeded north, while the other two continued east and south until they arrived at the "Wind-hole," or Vaigat's Strait, the southernmost portion of Kara Strait, formed by a narrow but dangerous lane of water separating Vaigat's Island from the mainland. This, with great difficulty, they passed and thereupon entered with

#### UTMOST DELIGHT

a vast expanse of blue open sea. The land on their right receding rapidly to the southeast, they supposed themselves off the northeast extremity of Asia and not over 400 miles from Canton, China. Deluded men! They had but entered Kara Gulf, and one-third the circumference of the globe—the entire north coast of Siberia—lay yet before them to Bering Strait, which a century and a half of almost superhuman effort would be required to reveal. In their joy, and

#### FULL OF PATRIOTIC ENTHUSIASM,

they turned homeward, meeting with Barents on the way, the old ice-master being not a little chagrined at not being able to share in the exultant demonstrations of his companion officers.

He had, however, been quite as successful, for, having rounded Cape Nassau, Nova Zembla, on the 10th of July, he fought his way through the perilous ice to the Orange Islands, to the north of Nova Zembla, in latitude 77° early in August. The determinations of latitude made by him were very precise for those days.

The following year, 1595, witnessed the departure of a fleet of six vessels laden with

WARES FOR THE EASTERN MARKET,

a yacht accompanying as far as Kara Strait that tidings might be brought home announcing the successful arrival of the fleet in the recently-discovered "sea." But,

"The best laid schemes o' mice and men  
Gang aft a-gley,  
And lea'e us nought but grief and pain  
For promised joy."

Massive ice rendered Vaigat's Strait impassable and the expedition dejectedly returned home. In command was James Van Heemskerke, with Barents as pilot. Again, the next year, 1596, was a third expedition of two vessels sent out, Heemskerke commanding one, while Barents once more acted as pilot.

Passing the Shetland and Faroe Islands, they were met by the drifting ice on June 5th, but on the 11th made land, which they named

BEAR ISLAND,

because there they had killed a bear. On this voyage they killed two more of them, measuring, the one twelve feet, the other thirteen feet, in length, and weighing probably not less than 1,800 pounds each—the largest on record. Continuing northward, they on the 19th

DISCOVERED SPITZBERGEN,

supposing, however, it to be a part of Greenland. Of this island they explored a considerable of the west coast till stopped by the ice, whereupon they returned to Bear Island. Here the vessels separated, Heemskerke and Barents push-

ing on through the ice to the west coast of Nova Zembla, then known as Willoughby's Island, where they arrived July 16th.

Cape Nassau was doubled on August 6th and, some days later, the Orange Islands. Attaining the same latitude as made by Barents on his first voyage, the expedition was compelled, by reason of ice, to retreat southward along the east coast of Nova Zembla, where they finally became

#### ICE-LOCKED

in a small harbor, latitude  $75^{\circ} 43'$ . Says De Veer, mate of the vessel and historian of the voyage: "The cakes of ice began to pile up around the ship on all sides, and pressed against it so closely that it commenced to crack and give way, and it seemed as if the vessel would break into a thousand pieces; and when the ice moved it pushed and raised the ship as if some huge machine were elevating it in the air." This

#### PERILOUS SITUATION

compelled them to effect a landing and provide winter-quarters on shore. The ocean currents are not always cruel, for here they had deposited an abundance of drift-wood, doubtless brought from Siberia. More of this was discovered floating on a stream about nine miles in the interior, and altogether the seventeen men were able to provide for themselves a

#### WARM LOG CABIN

and an abundance of firewood. To the top of the structure was erected a chimney, while near the central fireplace was reserved a place for a sick comrade. Around the walls were arranged their bunks and from a large cask they took frequent baths.

Their food consisted of provisions transported from the ship. Although they had seen tracks of the bear and the saiga, a species of the antelope, they do not appear to have secured any of these animals for their larder. On the 23d of

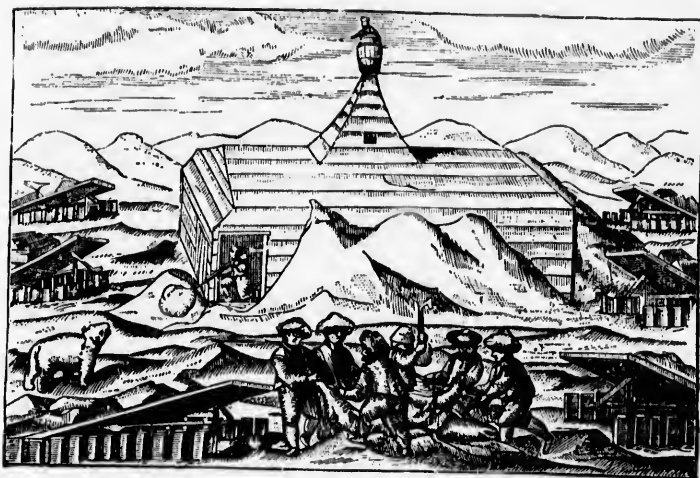
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BARENTS' HOUSE, NOVA ZEMBLA.  
(Exterior View.)



BARENTS' HOUSE, NOVA ZEMBLA.  
(Interior View.)

September, a month or more before the disappearance of the sun,

THE CARPENTER DIED,

being the first to succumb "to the rigors of the climate." The ground was frozen so hard at this time that they "could not dig a grave" and were compelled to bury him in the cleft of a rock.

De Veer writes: "We look pitifully one upon the other, being in great fear that if the extremity of cold grew to be more and more we should all die there of cold, for that what fire soever we made, would not warm us."

Their cabin was soon covered with snow several feet deep and they were obliged to tunnel their way out. During a wind storm the fire refused to burn for four days and the ice formed two inches in thickness upon their bunks, while their clothes were covered with frost.

BEARS AND FOXES,

too, annoyed them, threatening to tear the roof from the house. The foxes learned to descend the inside of the chimney and several were trapped, their flesh being used for food. Several bears also were shot and the furs of these and of the foxes afforded very acceptable clothing. In fact no other material could have been so servicable.

Through ignorance and prejudice they failed to use the wholesome bear's meat and consequently suffered from attacks of scurvy.

Early in December, during a storm which blew violently and with intense cold from the northeast, they made a rousing fire of coal brought from the vessel. Having closed every crevice—even the chimney—to retain the heat, they were soon seized with dizziness and must have suffocated had not one succeeded in opening the door and another the chimney.

On January 5, 1597, the eve of "Twelfth Night," long celebrated throughout Europe, they

MADE MERRY,

as says De Veer: "We prayed our Master that we might be

merry, and said that we were content to spend some of the wine that night which we had spared, and which was our share (half a pint) every second day, and whereof for certain days we had not drunk. And so that night we made merry, and drew lots for king. And thereof we had two pounds of meal, whereof we made pancakes with oil, and every man had a white biscuit which we sopt in the wine. And so supposing that we were in our own country, and amongst our friends, it comforted us as well as if we had made a great banquet in our own house. And we also made trinkets, and our gunner was made king of Novaya Zemlya, which is at least 800 miles long, and lyeth between two seas." On January 24th the

## SUN REAPPEARED

and there was accordingly bustle and stir in the little encampment. However, the death of one of their number on the same day caused them sadness. Fine weather came with the 28th and they played a game of ball in the open air. Early in March the sea ice began to move. On the 15th of April they inspected the ship and found it in better condition than was anticipated. On May 20th, however, the

## VESSEL WAS ABANDONED

and by the middle of June they took leave of their late residence, trusting themselves to the two ship's boats, and in a short time rowed to Orange Island. Before starting, Barents enclosed a record of their misfortune in a gun barrel and fastened it to the chimney of the house.

When but four days out their frail crafts were caught between enormous pans of ice and, abandoning all hope of saving either boat or life, they took leave of each other. De Veer, however, grasping a strong rope at one end, sprang from pan to pan until he had reached a very large one on which they finally succeeded in getting first the sick, then the provisions and last of all, the boats.

Here, on the 20th of June, while drifting northward with

the ice, on the west coast of Nova Zembla, the brave and worthy

#### BARENTS DIED,

together with one of the sailors, Nicholas Andrien. The death of Barents, although apparently not unexpected to himself, was so to his men. His remains were committed to the sea.

"The death of William Barents," says De Veer, "made us all feel very sad, seeing that he was our principal guide and pilot, and one in whom we had every confidence. But we could not resist the will of God, and this thought made us calm."

Proceeding in their greatly injured boats they kept them from sinking with the utmost difficulty. Upon reaching Cape Nassan, in hauling the larger boat ashore, she was upset and they lost nearly all their provisions. Again putting to sea on July 19th, they arrived at the southern point of the island on July 28th. Shortly afterwards the boats became separated in a fog and did not again meet till their arrival at the entrance to the White Sea. During this interval of separation their stock of provisions was generously increased by the Russian fishermen whom they occasionally met, and thus, by strict self-denial, they were enabled to reach Cape Kanine. They had been out 104 days since leaving their winter quarters. Fortunately they were here picked up by the other vessel from which they had been separated thirteen months previous, and conveyed thence to Kola, where Ryp, the commander of the vessel, had first been informed of the arrival of the shipwrecks at Cape Kanine. From this point the thirteen survivors were conveyed by the same vessel to Amsterdam, where they were received with great demonstration and entertained at the expense of the city till they received the money due them. Heemskerke was slain in a naval battle with the Spaniards ten years later.

In 1602 the English resumed the search for the northwest passage. The expedition safely reached the entrance to Hudson's Bay, but being driven back through the strait by a violent

storm, the commander, Captain Weymouth, returned to England without achieving further distinction.

The next year the English, under the patronage of "the worshipful Francis Cherie," sent a small vessel, the "God-speed," to the Arctic Ocean on a voyage of discovery. On the voyage northward the expedition disposed of a cargo of goods at Kola, the Dutch trading station in Lapland, and then proceeded to Bear Island, the name of which was changed to Cherry Island. The latitude was determined to be  $74^{\circ} 30'$ . It will be recollected that here nine years before Barents killed a bear. This time, the commander, Bennet, found foxes. In a second voyage made to the island in 1604, he found it covered with wild fowl and walruses. The ivory tusks of the walrus being very valuable, an attempt was made to secure a return cargo. This was done by cruelly blinding the creatures with small shot and then maiming them with hatchets. Out of a thousand thus tortured they killed but fifteen.

The third expedition, in 1605, was better equipped, and succeeded in getting a large quantity of blubber boiled into oil, in addition to a cargo of teeth. In 1606 Bennet collected in two weeks three hogsheads of teeth and twenty-two barrels of oil.

Again, in 1608, he was on this same island and in seven hours the crew

#### KILLED ONE THOUSAND WALRUSES.

A pair of these monstrous brutes was taken alive to England, the male being exhibited at court, "where the king and many honorable personages beheld it with admiration for the strangeness of the same, the like whereof had never before been seen in England. Not long after it fell sick and died. As the beast in shape is very strange, so it is of strange docility, and apt to be taught, as by good experience we often proved."

In 1609 five English ships were here at one time, all loading with furs, oil, and walrus teeth. When it is remembered that the walrus frequently weighs a ton and has tusks two feet in



length it will not seem incredible that they were able to secure such vast quantities of oil and ivory.

#### THREE LEAD MINES

were also discovered on the island. The weather during the latter part of June is described as being calm, clear, and about as warm as in England at the same period. This is owing to the influence of the Gulf Stream.

The dream of a northwest passage again disturbed the peaceful rest of England, and the Muscovy Company, in 1606, sent out a small vessel of forty tons burden under the command of the brave and competent John Knight. The middle of June found him in stormy weather with frightful north winds and huge masses of ice driving the ship upon the rocks of Labrador. With rudder carried away and hull much injured, he welcomed refuge in the first inlet. Here he made repairs and examined the stores and provisions.

On June 26th, Knight, in company with his brother and one of the seamen, crossed the inlet.

#### A SAD FATE

awaited them. When last seen they had climbed a hill, and just before passing down on the opposite side waved their hats in token of parting to those on board. In vain did the boatmen await their return. In vain through all the dark night did the crew fire off their muskets, call long and loudly, and blow the trumpets.

Unfortunately bad weather prevailed and the ice prevented searching parties from being sent out.

On the night of June 28th, however, knowledge of their fate came to hand. They were themselves attacked by about fifty savages who surrounded the ship in their canoes. Although but eight in number, the men were aided in their defense and ensuing offense by a large mastiff which had been the companion of their voyage.

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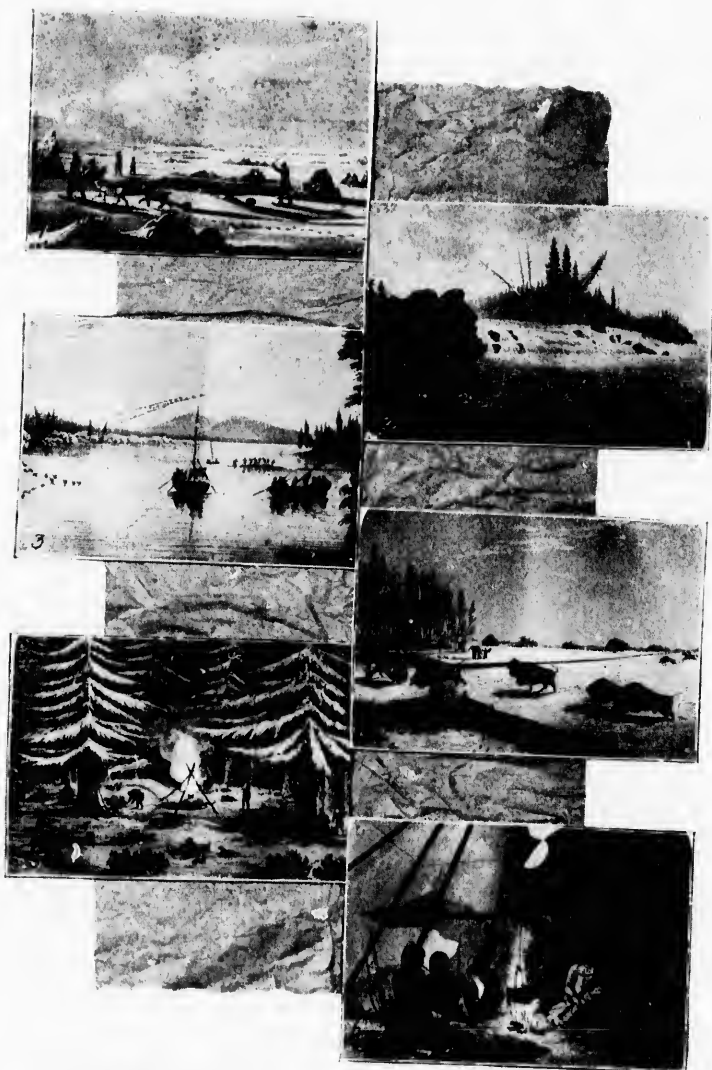
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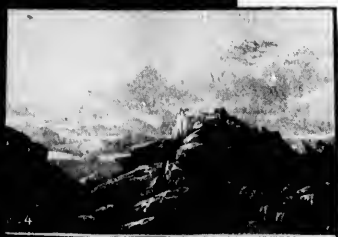
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(1.) Winter Traveling On Great Slave Lake—Lt. Back. (2.) Trout Fall, September, 1819—Lt. Hood. (3.) From Morgan's Rock, Hill River, September 19, 1819—Hood. (4.) Making Camp, March, 1820—Back. (5.) A Buffalo Pound, February, 1820—Back. (6.) Interior of a Cree Indian Tent, March, 1820. (See Chapter VI.)



(1.) Ah-kai-tcho and Son—Hood. (2.) Crossing Lake Prosperous, May 30, 1820—Hood. (3.) Marten Lake, 1820—Hood. (4.) Discovery of the Coppermine River, September 4, 1820—Hood. (5.) Fort Enterprise, May 13, 1821 (Snow Melting)—Back. (6.) Kas-kar-rah, Copper Indian Guide and His Daughter "Green Stockings"—Hood. (See Chapter VI.)

The natives became entangled in the ice and the volleys of musketry fired at them created havoc in their midst.

#### CRIES, GROANS, AND LAMENTATIONS

made the night hideous. These savages were small of stature, tawny, slightly built, quite beardless, and had flat noses.

Fearing another attack from increased numbers, the men, with rudderless ship and being compelled to keep constantly at the pumps, put to sea. Through favoring currents and hard work at the oars at the end of three weeks they arrived at the island of Fogo, off the northeast coast of Newfoundland—a rocky islet which the writer distinctly recollects as having been pointed out to him by the lamented Captain Bartlett, then commanding the "Falcon," on the way to St. John's, Newfoundland, from Anniversary Lodge, North Greenland, September 12, 1894.

Being assisted by the fishermen in repairing their vessel, they set sail for England, where they arrived September 24th of the same year.

Coutemporaneous with the first permanent English settlement in America, made at Jamestown, Virginia, in 1607, was also undertaken the first voyage "toward China" by way of the

#### NORTH POLE.

More than three-fourths of a century previous to this, Robert Thorne had indulged in dreams of attaining this point, but not until after commerce had first been established on more southern waters was this route attempted. Some merchants of London, being desirous of ascertaining a shorter and more direct way to the Pacific, secured a small vessel with ten sailors and placed in command

#### HENRY HUDSON,

who was not long in reaching latitude 73°, on the east coast of Greenland, and thence the northern point of Spitzbergen, in latitude 80°. With strenuous efforts this sage of the sea pushed his staunch little ship to 81° 30' of latitude—a record



ous, May 30,  
Coppermine  
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which remained unbroken for nearly two centuries and a quarter, or until Parry, the prince of polar ice, attained in the same region in 1827,  $83^{\circ} 45'$ . The next year on a

#### SECOND VOYAGE

he followed the course taken by Barents by way of Nova Zembla, but, in latitude  $72^{\circ} 25'$ , was compelled to turn back on account of the ice. His third voyage, made in 1609, was, first, an attempt to push through the ice by way of the famous northeast passage, failing in which he, secondly, immediately sailed for Greenland and Davis' Strait in search for the northwest passage; but, being driven southward, he touched the western world in the region of Nova Scotia and thence explored the coast as far as Chesapeake Bay, on the return voyage discovering and exploring nearly to the present site of Albany the noble stream modestly named by him North River, but now rightly called Hudson in his honor. It now remained for Hudson to make his fourth and last sad voyage.

On April 17, 1610, in a ship of but fifty-five tons burden and with but six months' provisions, he left London, and, passing the Shetland and Faroe Islands, on the 11th of May sighted Iceland. Here they witnessed old Hecla, the noted volcano, in the glory of an eruption. Landing, they bathed in one of the outflows of the great geyser, the water of which they found hot enough to boil a fowl. In four days they were in the great ice-barrier off Greenland. Says Hudson: "This day we saw Greenland perfectly, over the ice; and this night the

#### SUN WENT DOWN DUE NORTH,

and rose north-northeast, so plying the fifth day, we were in  $65^{\circ}$ ." Rounding Cape Farewell they met with large numbers of whales in the vicinity of Cape Desolation. From this point they pursued a west-northwest course, hitting upon, by the last of June, Resolution Island, discovered in 1576 by Fro-bisher, and thence continued through the strait now bearing his name to the vast inland sea, or bay, also called in his honor. Having discovered the great body of water on St. Michael's

Day, the 29th of September, Hudson named it Michaelmas Bay. It will be remembered that Sebastian Cabot had previously explored the bay in 1517.

The six months for which the ship was provisioned had now nearly elapsed, but in the three weeks which remained of the allotted period they might have reached England without inconvenience. The majority on board already believed that the South Sea had been reached and the coveted north-west passage found. They seem to have been desirous of making their escape before being completely hemmed in by the ice. Hudson, however, was of an adverse opinion and went into winter-quarters. By the 10th of November they were completely frozen in and about the same time the

#### GUNNER DIED.

The men quite naturally attributed his untimely end to the obstinacy of the commander and were growing in discontentment. Provisions were now so nearly exhausted that in spite of additions made by hunting they were reduced to very short rations. The hope—the fascination—of success—of finding an outlet to the Pacific and consequently to a more genial climate, probably induced Hudson to remain until escape became impossible. He

#### ERRED IN JUDGMENT

and brought upon himself the sad, sad fate which he hardly deserved. Had he known to a certainty and in season that there was no other passage to a better climate, as, for example, in going from the north of Greenland or Spitzbergen to the pole, no other avenue of escape than by retracing his course, the case might be viewed in a different light. Even had he returned to England by the end of the six months for which the expedition was provisioned no blame could have been attached to him. On the contrary, he would have been praised for great prudence.

In spite of persistent efforts to replenish their larder by

hunting and fishing and by bartering with the natives, spring found these poor men on the point of

#### ACTUAL STARVATION.

This, following an all winter's allowance of short rations, may in a measure exonerate the men for the mutinous feeling then generally prevalent among them. Had unforeseen accident and not deliberate calculation been the cause, the case would be different.

At last Hudson decided to leave James' Bay and return to England by the way he had come. Before starting he doled out what remained of the provisions, a loaf of bread to each man, and five cheeses to be divided equally among them. What with these and eighty fishes caught soon afterwards, they might have lived two weeks longer, on short rations. The boatswain, frenzied with hunger, consumed his allowance in one day, and was, in consequence, sick for some time.

On the 21st of June, Hudson, as he came on deck, was seized and securely bound by three of the disaffected ones and, with his son John, the six invalids, and the carpenter, John King,

#### INHUMANLY PLACED ADRIFT

in the ship's boat, and was never again seen or heard of. Standing to sea, the mutineers in a few days were driven upon the ice by a storm and held prisoners for two weeks.

By the last of July they were in Hudson's Strait. On one occasion, six of the men having landed for the purpose of shooting fowl, they were unexpectedly attacked by the Eskimos and four of the six either killed outright or died of their wounds shortly afterwards. Others died on the voyage, and all suffered great privations. Finally reaching Bantry Bay, on the southwest coast of Ireland, they were enabled, by the assistance of fresh seamen, to reach England.

Robert Billet, or Bylot, mate and acting master of the vessel on her arrival, and Habbakuk Pricket, historian of the voyage, were the only two to present themselves before the authorities, the others concealing themselves in obscurity.

While Hudson and companions were thus starving in the northwest, the English were pushing their vessels

## DIRECTLY POLEWARD

by way of Spitzbergen. The command of an expedition in this direction, in 1610, was entrusted to Jonas Poole, with these instructions: "Inasmuch as it hath pleased Almighty God, through the industry of yourself and others, to discover unto our nation a land lying in eighty degrees toward the North Pole, we are desirous not only to discover farther to the northward along the said land, to find whether the same be an island or a main, and which way the same doth trend, either to the eastward or to the westward of the pole; as also whether the same be inhabited by any people, or whether there be an open sea farther north than hath been already discovered."

In this voyage Poole attained latitude 78°. The following is an interesting part of his report: "A passage may be as soon attained this way by the pole as any unknown way whatsoever, by reason the sun doth give a great heat in this climate, and the ice that freezeth here is nothing so huge as I have seen in 73°."

In 1611 Poole again went northward, being accompanied by the first English ship ever intended expressly for whaling. Leaving this on the "whaling-grounds," he advanced northward to 80° and then steered westward, exploring the east coast of Greenland, two degrees farther north than had ever been charted. Upon returning to the vessel he found that the crew had caught thirteen whales, and they then joined company to England.

Once more, in 1612-13, Poole made a voyage to the

## "SEA OF SPITZBERGEN."

Here he found at least twenty whaling-vessels, Dutch, French, Spanish, Biscayan, and English, one of them being in command of William Baffin, soon to be noted as an able Arctic navigator.



In 1613 the crown of England quietly and peaceably took possession of the island and contiguous sea.

#### THE SEARCH FOR HUDSON,

undertaken in the year 1612, led to further geographical knowledge of Hudson Bay, but to no new information concerning the abandoned navigator and his invalid companions. Pricket and Dylot, of Hudson's unfortunate party, accompanied the expedition, which was placed under command of Sir Thomas Button, then a leader of thought in England, but who, though well-versed in the history of northern research, lacked the practical experience and insight of Bylot.

Entering Hudson's Bay, Button reached Southampton Island, sailing thence westward to the west coast, in latitude  $60^{\circ} 40'$ , named by him "Hopes Checked"—doubtless because the unbroken shore-line quite dispelled his ambitious faith in the existence of the northwest passage in that region. Proceeding southward, he discovered the bay now known by his name, and, on August 15th, Nelson River, near the mouth of which he spent the winter, during which period some of the crew died from the effects of intense cold. In the spring

#### GAME ABOUNDING,

and more than 21,000 "white partridges," or ptarmigans, were secured by the crews of both vessels. Had hunting parties been despatched early in the fall an ample supply of fresh meat and warm furs would doubtless have been obtained and no deaths occurred. To this day even, game is "unimaginably abundant" in those regions. In 1894, the late Professor Tyrrell, of the Canadian Geological Survey, explored a large portion of the unknown lands lying to the west of Hudson's Bay. In this treeless region he found that "over an area of three square miles or more, the reindeer were so thick as almost completely to shut out from view the ground."

In April, 1613, Button left winter quarters and, sailing northward, discovered Mansfield's Islands, in  $65^{\circ}$ . He then sailed to England, crossing the Atlantic in thirteen days from

Cape Chidley, the northernmost point in Labrador. He was still of the opinion that the Northwest Passage led from Hudson's Bay, seeming to cling to the conviction with as much pertinacity as did Hudson himself, and "ravished the public with the whistling of his name," notwithstanding the wiser counter-belief of the less influential Bylot. But it required "generations" for the public mind to accept this.

In 1605 the Danish Government sent out an exploring expedition to search for the old Norse colonists, but when in latitude 69°, near the present site of Christianshaab, the crews of the three vessels rebelled, necessitating the return of the expedition. The next year the government sent out another squadron of four ships to search for gold and silver mines in Greenland. On both of these voyages the celebrated Captain James Hall served as pilot. Of the second expedition he wrote that they "landed to see the silver mine, where it was decreed we should take in as much as we could." When in latitude 66° 25', or almost on the Arctic Circle, they kidnapped five Eskimos and carried them to Denmark.

In 1607, when on another cruise to Greenland, still under Danish auspices, he was compelled to return owing to the mutiny of his crew.

Six years later, in 1612, Hall, accompanied by Baffin, in the employ of the Muscovy Company, revisited the place whence he had stolen the natives in 1606. Neither his appearance nor his treachery had been forgotten. Attacking him suddenly, one of the Eskimos dealt him such a thrust with his spear that

#### HALL DIED

shortly afterward, and the expedition returned to England under command of Baffin, a man well versed in the nautical science of the day and who, by observing the heavenly bodies during this voyage, was the first to indicate a new method of determining the position of a vessel at sea.

As stated in considering Poole's voyage to the "sea of Spitzbergen," Baffin was in command of one of the whaling-vessels. Here again he gives evidence of his wonderful pow-

ers of observation in noting the extraordinary refraction of the atmosphere in high latitudes and the quality of which he determined to be twenty-six minutes at the horizon. "I suppose," he characteristically remarks, "the refraction is more or less according as the air is thick or clear, which I leave for better scholars to discuss."

The notion of a northwest passage leading from Hudson's Bay seems to have fallen as an inheritance from Sir Thomas Button directly unto his kinsman, Captain Gibbons, a member also of the search-voyage of 1612.

Arriving at Hudson's Bay in 1614, Captain Gibbons was harassed by violent winds, dense fogs, and treacherous ice, compelling him to return without accomplishing anything of note.

In 1614 also, Fotherby and Baffin pushed northward but were compelled to return after reaching  $80^{\circ}$ . In 1615 Fotherby again tried the route directly poleward, but was unable to get beyond Spitzbergen. During the same year the northwest passage was essayed by way of Hudson's Bay, then supposed by some to be a gulf or inland sea communicating directly with the great South Sea. So confident of success were the promoters of this voyage that instructions were given to bring back a Japanese. The expedition was led by Bylot and Baffin, and resulted in Captain Bylot's report antagonizing the theory of Button, and the opinion of the public generally.

Again, in 1616, these careful and skillful navigators, with a crew of but fourteen men and two boys, pushed through Davis' Strait, meeting with icebergs whose height above the surface of the water they computed to be 240 feet and length below at nearly 1,500 feet, and, entering a vast expanse of water,

#### DISCOVERED BAFFIN'S BAY,

which, owing to the peculiar trend of the western coast of Greenland, they judged to be land-locked on the north. Smith, Jones, and Lancaster Sounds, which they entered on the north and west of the bay, they thought to be mere smaller bays, or inlets, opening into the large one just discovered, instead

of being straits leading to larger bodies of water farther north and west.

And now, in 1619, were the Dutch, under the liberal patronage of the broad-minded Christian IV. of Denmark and Norway, to try for the famous northwest passage. By the 7th of September, two vessels and sixty-five men had safely passed through Hudson's Strait and were in winter-quarters in Chesterfield Inlet, off the northwest coast of Hudson's Bay. An able navigator, Jens Munk, was in command. Bears, hares, foxes, partridges, and other wild game were secured in great abundance during the fore part of the winter. The men, however, were superstitious and attributed every unusual occurrence as an omen of evil. The intense cold caused such an expansion of the brandy, wine and beer as to cause the casks to burst. To prevent the loss of the liquor they drank to excess, and this, with the low state of their supplies at this period, brought on disease.

Wild fowl still abounded, but the men were unfitted for obtaining any. Before the end of May, 1620,

#### WINE, BEER, AND SCURVY

had killed sixty-two of the sixty-five men. Munk and two seamen alone survived. Removing the snow, they obtained roots, grasses and other herbs with which they relieved the scurvy. Gaining strength they dragged their bodies to a stream, where they obtained a wholesome supply of fish. No longer soaked with alcohol, they were able to kill birds and larger animals and in time to refit the smaller vessel. They then set sail and arrived in Norway by the last of September.

This inordinate use of spilt liquor reminds the writer of an occurrence and resulting conversation had with an Irishman during our travels in the western portion of Ireland in 1885.

Though perhaps foreign to the matter of Arctic narrative, we give it as a truthful illustration of "history repeating itself," in part at any rate, and what might be the consequence to Limerick were she to send her indulgent sons to winter in Arctic regions.

Here is the incident: One day in passing a large brewery located on the Shannon, at Limerick, an Irishman called our attention to a portion of wall forming a large whisky vat that had recently bursted. Said he:

"The liquor rin al' over; it filled al' the sthrates an' the Shannon; but, be gorry, it loike to filled the cimiturry, too." Asked to explain, he continued: "Yer honour, sur, the liquor what sthood in holes an' pools

#### "HUNDREDS O' POOR DIVILS

sucked up wid quills; it was too sthrang fur 'em entoirely, sur, an' they loike to doid. The poison o' the sthuff, sur, wouldn't o' got out o' it in siven yairs."

For a quarter of a century Captain Luke Fox had, as he quaintly puts it, been "itching after northern discovery ever since 1606, when he wished to have gone as mate to John Knight." The sorrowful fate of that brave man did not cure the "itching" and so, in 1631, he was given command of an English ship and sent to search for a northwest passage. Before sailing, the King provided him with a letter of instructions, a chart of the regions previously discovered, and a

#### LETTER OF INTRODUCTION

to the Emperor of Japan, for that principality was considered to be near the also-supposed-unremote "New Albion" (California) and South Sea of Drake.

Reaching Salisbury Island, latitude 63° 27', in Hudson's Strait, he noted the sluggishness of the needle and ascribes it to "the sharpness of the air interposed between the needle and the attractive point." On an island which he discovered in the northwest part of Hudson's Bay he found a burial-ground of the Eskimos. With their dead they had deposited bows, arrows, and darts, many with iron heads, and a single one with copper.

Later, he found the cross erected by Sir James Button on the Nelson River. Here he fell in with the vessel of Captain James, also on a search for the mysterious highway. Fox

shortly afterwards set sail for England, where he arrived October 31st. Having noticed that the flow of the tide in Roe's Welcome, in the northwest portion of Hudson's Bay, sets in from the north, and that there are also found many whales, he maintained that he had been near to the oft-searched-for passage to Japan.

Fox wrote an account of his voyage and makes grateful acknowledgment that he had "not lost one man or boy, nor any manner of tackling, having been forth nearly six months; all glory be to God." Apologetically of his book, he writes: "Gentle reader, expect not here any flourishing phrases or eloquent terms; for this child of mine, begot in the northwest's cold clime, where they breed no scholars, is not able to digest the sweet milk of rhetoric."

Rivaling London in her efforts to solve the location of the northwest passage through the agency of Fox, the city of Bristol had likewise equipped a vessel of seventy tons under command of Captain Thomas James. He, too, was furnished with a letter of introduction to the Emperor of Japan.

The crew consisted of twenty-two active, sober, and unmarried young men who had never before made a voyage to those regions. The wise forethought of Captain James had provided the vessel with everything needful, the supply of provisions being for eighteen months. At the entrance to Hudson's Strait they battled incessantly for five days to keep the huge icebergs from crushing the ship. In gratitude for their narrow escape they named a place of refuge which they at last found, "Harbor of God's Providence." More than once again the

#### TERRIBLE ICEPACK

crunched against the sides of the vessel and made her tremble from prow to stern. At another time during a gale the anchor slipped and, in again catching, the sudden shock hurled eight of the men from the capstan with such violence that all were injured, the gunner having a leg so badly crushed that it was necessary to amputate it in order to save his life.

Proceeding down the western shore of the bay, meeting

with Fox in the vicinity of Nelson River, they entered the water since called in honor of the navigator, James' Bay. Here they discovered and named Weston and Roe islands, in latitudes  $52^{\circ} 45'$  and  $52^{\circ} 10'$  respectively. On another island, named by them Charlton, nearer the head of the bay, they established winter-quarters.

Here they cut a large supply of wood for fuel and erected a hut. The island was thoroughly explored to ascertain if there were any savages. None were found, although traces of their former habitation existed. On October 14th a deer was shot and carried twelve miles to camp. A few days later, one of the men, while out on a hunting and exploring trip, broke through the ice and was drowned. November 12th

#### THE HUT TOOK FIRE,

but they were able to save it, and afterwards kept regular fire-watch. The gunner, whose leg had been amputated in consequence of the fall from the capstan, died on the 22d. A week later they scuttled and sunk the ship near the shore. They saved most of the provisions but lost their clothes and the medicine chest. In their extremity they

#### PLEGGED THEMSELVES

to be faithful to one another, to do their utmost for the common welfare, and to be obedient to their commander, even unto death.

During the first three weeks of December the crew were engaged in rescuing goods from the hold of the sunken ship. Three more huts were constructed, and being covered with snow, they were made more comfortable. By the end of January the ground was frozen to the depth of ten feet. Knowing nothing of the influence of the Gulf Stream at that time, or of isothermal lines, they could not understand why it was so much colder than on a corresponding latitude in England.

Frost-bitten and without shoes, their feet being wrapped in rags, they went into the forest to gather their daily supply

of fuel. Disease, sores, and swellings placed two-thirds of them under the surgeon's care. Among these

NOBLE FELLOWS

none deserve greater praise than the carpenter, William Cole, a hero among heroes. After the scuttling and sinking of the ship it was deemed advisable to build a new boat, that, in case the vessel could not be recovered or should be found unseaworthy, they might effect their escape in a smaller craft. From the 10th of December to the 18th of May the ill and dying carpenter kept at his work till the last moment, leaving it in such shape that the men could have finished it.

Four days later, however, they pumped the ship almost dry, and within three weeks entirely so and she again floated.

Now followed busy preparations for departure. Ballast and provisions were again placed on board; memorial cairns, raised over the graves of their dead; a cross was erected; the one lost at sea recovered and interred with his silent comrades; a last visit paid to these lonely sepulchers, where morning and evening prayers were said; and, finally, a record of past events and future intentions left by the Captain at the cross, upon which was inscribed the names of the King and Queen of England, with the added titles of New Foundland, and of "these territories to New Albion."

It may be here remarked that Captain James had entertained an idea of finding a passage leading from the head of the bay to the "River of Canada"—the St. Lawrence.

Before leaving, this noble commander composed the following memorial lines:

"I were unkind, unless that I did shed  
 Before I part, some tears upon our dead;  
 And when my eyes be dry, I will not cease  
 In heart to pray their bones may rest in peace.  
 Their better parts, good souls, I know were given,  
 With the intent that they return to Heaven.  
 Their lives they spent to the last drop of blood,  
 Seeking God's glory and their country's good;  
 And as a valiant soldier rather dies



"Than yield his courage to his enemies,  
 And stops their way with his hew'd flesh when death  
 Hath quite deprived him of his strength and breath;  
 So have they spent themselves, and here they lie,  
 A famous mark of our discovery.  
 We that survive, perchance may end our days  
 In some employment meriting no praise;  
 They have outlived this fear, and their brave ends  
 Will ever be an honor to their friends.  
 Why drop you so, mine eyes? Nay, rather pour  
 My sad departure in a solemn shower.  
 The winter's cold that lately froze our blood,  
 Now, were it so extreme, might do this good,  
 As make these tears bright pearls, which I would lay  
 Tomb'd safely with you, till doom's fatal day;  
 That in this solitary place, where none  
 Will ever come to breathe a sigh or groan,  
 Some remnant might be extant of the true  
 And faithful love I ever tender'd you.  
 Oh! rest in peace, dear friends, and—let it be  
 No pride to say—the sometime part of me.  
 What pain and anguish doth afflict the head,  
 The heart and stomach, when the limbs are dead.  
 So, grieved I kiss your graves, and vow to die  
 A foster-father to your memory."

During the entire month of July these heroic souls were tossed and driven about by wind and ice within James' Bay, and it was not till the close of August, after repeated escapes from storm and ice, that they were beyond the perils of Hudson's Bay, nor till the 22d of October, 1632, having been harassed by adverse winds to the very last, after an absence of seventeen months and five days, or very nearly the period for which Captain James had at the first provisioned his expedition, that they once more dropped anchor in Bristol Harbor.

Nearly midway between Spitzbergen and Iceland is the

#### LONELY ISLE OF JAN MAYEN,

discovered in 1611 by the sturdy captain of a Dutch whaler, Jan Mayen by name, and for whom it was named. In about the same latitude as Hammerfest and within the tempering influences of the Gulf Stream, its winters are comparatively mild for the Arctic regions, and spring there returns at an

early date. This, too, was early found to be a nursery for whales and was accordingly made the headquarters for the capture of those mammals.

With August 26, 1633, seven men began a voluntary sojourn there till the return of the whaling fleet the following summer. It does not appear that the cold was great until the 19th of November, by which time the sea became frozen as far as could be seen. Three weeks of mild weather followed, when, on the 8th of December, the cold again increased, and for the next four months they shut themselves within their hut,

#### IDLE AND INACTIVE,

meanwhile living—dying rather—upon beer, brandy, and salt meat. Notwithstanding that bear flesh was to be had, they allowed the scurvy to secure such a hold upon them that by the 3d of April but two of the seven could stand. In the latter part of the month this record appears:

"We are now reduced to so sad a state that none of my comrades can help themselves, and the whole burden, therefore, lies upon my shoulders. I shall perform my duty as long as I am able, and it pleases God to give me strength. I am now about to assist our commander out of his cabin; he thinks it will relieve his pain; he is struggling with death.

"The night is dark, and the wind blows from the south." April 23d he died. Three days later the survivors killed their dog for food. By the last of the month the bay was clear of ice and the sun shone brilliantly.

The record of April 30th was the last made. Here ends the history of seven men who sacrificed their lives, not through the severity of climate, but through ignorance and lack of energy and forethought.

#### IN BRIGHT CONTRAST

with the foregoing events on Jan Mayen Island is the story of another little company of volunteers who spent nearly nine months during the same year on North Bay, latitude 80°, Spitz-

bergen, and therefore nine degrees farther north than the preceding party. They were

#### SEVEN OTHER DUTCHMEN,

who, no sooner than the whaling vessels had left them, began to gather herbs, hunt the reindeer, whales, norwhales, and wild fowls, and thus provide not only food but also healthful exercise.

When, on May 27, 1634, the fleet again arrived, every man was taken on board, not one having even been ill during their sojourn.

Again were seven men left at North Bay before the return of the fleet homeward in 1634. With them was left an abundance of liquors and salt meat. But, lacking the energy and common sense of their immediate predecessors, they failed to exercise and to lay in a supply of fresh meats. And so, beginning with January 14th, one by one they died, until, at the arrival of the fleet in 1635, none survived.

Less than thirty-five years later, a Frenchman, Grosselier by name, had penetrated through the wilds of Canada until he arrived upon the shores of Hudson's Bay. He believed that he had made a remarkable discovery, and at once hastened to report the same to his sovereign, Louis XIV. of France. Deaf ears rewarded his pains.

He then went to England, where his story resulted in the formation of the

#### HUDSON'S BAY COMPANY,

in 1670, with liberal charter privileges from King Charles II.

It was believed that Grosselier and two English companions had discovered the northwest passage, and accordingly an expedition was once more sent to search for it in the name of the English monarch.

#### CAPTAIN ZACHARIAH GILLAM

was placed in command, and, sailing to the head of James' Bay, built, at the mouth of Rupert River, a small stone fort, thus establishing the first English settlement in the territory

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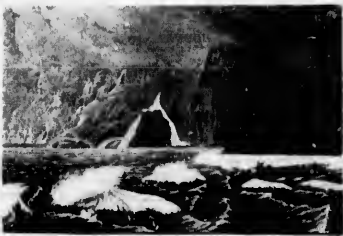
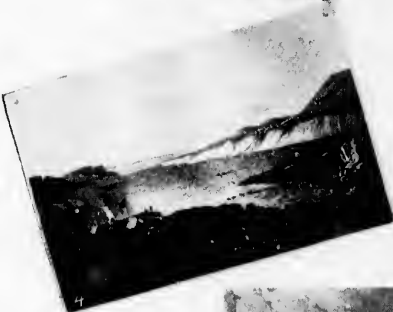
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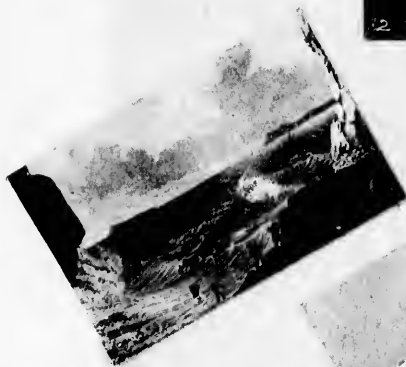
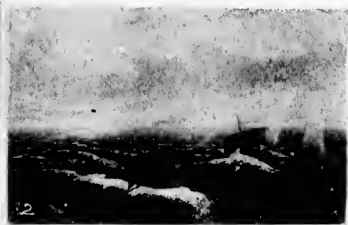
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(1.) Eskimo Interpreters, "Junius" and "Augustus"—Back. (2.) White Wolf (Hood), and View of "Dog-rib Rock"—Back. (3.) Passing Through Port Lata on the Ice, June 25, 1821—Back. (4.) Bloody Fall, July 17, 1821—Back. (5.) Midnight View of Arctic Ocean from Mouth of Coppermine River—Back. (6.) Doubling Cape Barrow, July 25, 1821—Back. (See Chapter VI.)



(1.) Point Turn Again, August 21, 1821—Back. (2.) Canoe Broaching to Gale at Sunrise, August 23, 1821—Hood. (3.) Landing in a Storm, August 23, 1821. (4.) Encamping and Gathering Tripe-de-roche, Barren Grounds, September 16, 1821. (5.) Falls of Wilberforce, 250 feet high. (6.) Eskimos Pillaging the Boats—Back. (See Chapter VI.)

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of the Hudson Bay Company. Passing an uneventful winter on Charlton Island, he returned to England without having made the great discovery that was expected from the reports of Grosselier, who accompanied him as sub-ordinate officer.

#### A SAILOR'S YARN

spun into the ears of the King's hydrographer led not only that theorist but many of the foremost men of England into renewed belief that there could yet be discovered a northeast passage to Japan and the Malay Archipelago. Charles II. and his brother, the Duke of York, afterwards James II., were among the converts.

The story, related to Moxon, the hydrographer, by the pilot of a Greenland whaling vessel, is as follows:

"Whereupon, his relation being novel to me, I entered into discourse with him, and seemed to question the truth of what he said; but he did assure me that it was true, and that the ship was then at Amsterdam, and many of the men belonging to her could justify the truth of it; and told me, moreover, that they had sailed two degrees beyond the pole. I asked him if they found no land or islands about the pole. He replied, 'No; it was a free, open sea.' I asked him if they did not meet with a great deal of ice. He said, 'No; they saw no ice.' I asked him what weather they had there. He told me, 'Fine, warm weather, such as was at Amsterdam in the summer time, and as hot.'"

Captain John Wood, a naval hero under Marlborough, easily persuaded the King and his brother the Duke to fit out two vessels, the "Speedwell," with sixty-eight men, and the "Prosperous," eighteen men, for a voyage, following the old course of Barents, between Nova Zembla and Spitzbergen. The ships, under command of Wood, were provisioned for sixteen months, and loaded with merchandise for the Japanese market.

Rounding North Cape, on June 22d, Wood sailed northeast till stopped by the ice in latitude 76°. He also concluded that Barents and all other navigators before him were mistaken in supposing land to extend beyond 80°.

Abandoning his cherished idea, he turned his vessels westward, when, suddenly, while enveloped in dense fog, the "Speedwell"

WENT TO PIECES ON A ROCK,

the men, however, with one exception, making good their escape to the shore—on the westernmost promontory of Nova Zembla. From the wreckage washed ashore they obtained provisions and wood for huts and fuel. Fortunately, a week later, July 8th, the "Prosperous," having escaped damage on the rocks, returned in search of her companion vessel, and, taking on board the shipwrecked men, returned to England August 23, 1676.

Forty-three years later, the Hudson Bay Company instituted another search for copper and the northwest passage.

The existence of a rich mine of this metal on the banks of a navigable river north of the company's headquarters, on the Nelson River, had been reported by the natives, and at length James Knight, eighty years of age, then at the head of the company's affairs, persuaded them to send him, "by God's permission to find out the Straits of Anian, in order to discover gold and other valuable commodities to the northward." This old man, with two vessels in immediate command of George Barlow and David Vaughan, sailed in either the summer or autumn of 1719. But they never returned. All that has since been learned of their fate will be found in considering the expedition of Hearne, a half century later.

In 1722 a rescuing party under Captain Scroggs was sent to search for the missing ships. Sailing northward from Churchill River, in Button Bay, they returned with no information save a confirmation of the report concerning the existence of a copper mine "somewhere in that country."

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## CHAPTER III.

## RUSSIAN ARCTIC VOYAGES.

Notwithstanding the early and repeated efforts of the English and Dutch to discover a northeast passage, nothing was known of the Arctic regions of Siberia east of the Yen-i-sei even as late as the beginning of the seventeenth century. Doubtless before this time, adventurers in search of furs and game had penetrated far within the interior, but the accounts of the journeys thus made do not appear to be of authentic natures.

As previously shown, it was not until the efforts of Chancellor, in 1554, to traverse that sought-for passage, that Russia was induced to take an interest in maritime enterprises by showing her a way of obtaining goods from West Europe and beyond, without having to receive them through her rivals and enemies, the Poles.

## THE FIRST ARCTIC VOYAGE

made by the Russians was in 1646. This was by private adventurers, who coasted for two days eastward from the mouth of the Kolyma River. The main body of ice had grounded on a shelving ledge of the coast, thus leaving a narrow channel of water between it and the land, in which they plied their small craft. Having met a tribe of Chook-chee Eskimos, articles of barter were exchanged, after the manner of the tribes of Africa and as described by Herodotus. The Russians first placed their wares upon the beach and then withdrew, whereupon the natives selected such as they desired, leaving instead



a quantity of walrus tusks, which the adventurers gathered and carried home. Two years later, in 1648,

DESHNEFF,

a Cossack, left the Kolyma in command of seven vessels, four of which were soon lost. Beginning his account with the great cape of the Chook-chees, undoubtedly Cape East, Deshneff says: "It is situated between the north and northeast, and turns circularly toward the river Anadir. Over against the cape are two islands, upon which were seen some men of the Chook-chee nation, who had holes pierced in their lips, through which were stuck pieces of the teeth of the sea horse." These were evidently Alaskan Eskimos.

Only one of the three remaining vessels succeeded in reaching the mouth of the Anadyr, which empties into the gulf of the same name, the other two having been either lost or left behind. It has been conjectured that an attempt was made to carry them across the promontory, a circumstance that would recall the transportation across the Isthmus of Panama of the first vessel launched upon the Pacific. Be this as it may, it is clear that Deshneff was the first to sail through Bering's Strait. His last vessel was wrecked, however, a little south of the mouth of the Anadyr, and the crew, consisting of twenty-five men, set out to return overland. Having wandered ten weeks through an uninhabited waste, they arrived upon the bank of a stream occupied by a small tribe of Au-au-li, whom they at once exterminated. Their cruelty, however, resulted somewhat later in increasing their own suffering.

Deshneff's discovery led to extensive traffic with the tribes north of Kam-chat-ka, but this was carried on mostly through the interior. A half century later, in 1696, the Russian and Cossack merchant-adventurers plundered, under pretext of taxation, the native villages farther south and along the course of the Kamchatka River. In the following year Vla-di-mir At-las-soff, a Cossack officer, bent upon the con-

quest of Kam-chat-ka, traversed the region between the Irkutsk and Anadyr rivers.

He states, but upon what authority is unknown, that between the Kolyma and the Anadyr are two great capes, the more western of which—probably Cape North—could not be rounded by any vessel by reason of great quantities of ice to be found there at all times.

The Kam-cha-dales were easily conquered. They are described as being smaller than the Chook-chees, with small faces and great beards, living, during winter, underground, but, during the summer, in cabins raised from the ground on posts, the entrances being reached by means of ladders. A few years later,

#### STAD-U-CHIN

left the Ko-ly-ma in order to explore by sea the great Cape of the Chook-chees. Before arriving there, however, he abandoned his ship and proceeded to cross the isthmus at its narrowest part, leaving unexplored all that region lying next to Bering's Strait.

Russia now being determined to complete the subjugation of the tribes in that section of Siberia, an embassy, the chief of which was

#### PETER SIN POPOFF,

was sent, in 1711, to require hostages of the Chook-chees. The demand was refused, and not until after a resistance of seven years did they formally submit at the Russian fort which had been erected at the mouth of the Anadyr. Popoff wrote an account, not only of the people conquered, but also of the Alaskans, from which it appears that no trees grow at Chook-chee "Nos", or Cap; that on the shore near the cape were seen vast quantities of walrus teeth; that the Chook-chees invoke the sun to guarantee the performance of engagements made by them; that some of them owned flocks of reindeer, thus compelling them to change their places of residence; that others, not possessing reindeer, lived on the coast on each side of the cape and subsisted upon fish and walrus; that they

sometimes lived in "dug-outs," or habitations hollowed from the earth; that opposite to the cape was to be seen a large island, known to them as the "Great Country"—undoubtedly Alaska—whose inhabitants spoke a different language from theirs and wore in their cheeks, by way of ornamentation, pieces of walrus teeth, and who, like the Chook-chees, used the bow-and-arrow. Popoff saw among the Chook-chees ten prisoners from "the Great Country" thus decorated. He also learned that in winter this country may be reached in one day, traveling with reindeer and sledge over the sea ice, and in summer, in the same time with canoes, which are made of whalebone covered with seal skins. Half way between the cape and the Great Country was an island, either Clark's or St. Lawrence, from which, on a clear day, the Great Country could be seen. In making the journey from the cape to the Anadyr, ten weeks, without storm or accident, were required by reindeer if made to draw a loaded sledge. At the cape, the only wild animals were wolves and red foxes; in the Great Country, there were to be found bears, sables, martens, otters, wolves, and many kinds of foxes. Popoff estimated the male adults of both coast and inland Chook-chees at 2,000; those of the Great Country, 6,000. He also learned that some of the latter possessed herds of tame reindeer.

#### PETER THE GREAT'S INTEREST IN ARCTIC RESEARCH

will be seen from his having, just prior to his death, specifically planned two expeditions for northern research. The first of these was to proceed from Archangel eastward through the ice of the Arctic Sea and explore the north coast of Siberia. This, however, came to naught, owing to the besetment of the vessels. The second was to proceed overland to Kam-chat-ka and, having there built a vessel, to sail northward and ascertain the position of the American coast. Peter himself did not believe that there was a strait separating the two continents. Ignorant of the vast eastern extension of Siberia and of the width of the Pacific Ocean, he was desirous of opening a way, through northeastern Siberia, to the rich European col-

onies of Central America. The person selected by the Czar as chief of the expedition was

VITUS BERING,

a Dane, born of Christian parents, at Horsens, in 1681. His father, Jonas Svendsen, held, for a series of years, several positions of trust, while his mother, the second wife of Svendsen and whose maiden name was Anna Bering, was of a family who, in the seventeenth and eighteenth centuries, included a number of ministers and judicial officers. In worldly possessions, however, the parents were poor, as may be judged from the following extract of probate record of their estate: "We are old, miserable, and decrepit people, in no way able to help ourselves. Our property consists of the old dilapidated home and the furniture thereto belonging, which is of but little value." The share of this small property, which fell somewhat later to Vitus, amounting to but 140 rigsdaler, its legal possessor transferred to his native town to be distributed among its poor.

Inclination and force of circumstances urged young Bering to the sea. Upon his return from an East India expedition, in 1703, he met, at Amsterdam, the celebrated Cornelius Cruys, a Norwegian by birth, but at that time admiral of the Russian fleet. He had previously been assistant master of ordnance in the Dutch navy. Through him, Bering now, at the early age of twenty-two, entered the Russian fleet as a sub-lieutenant. His advancement there was steady and meritorious, until at length we find him, after twenty-one years of faithful service in the Czar's navy, at the head of the first of his great expeditions, each of which is unique in the history of Arctic explorations.

Peter the Great died January 28, 1725. Only four days before this event, one division of Bering's expedition had left St. Petersburg on its long journey.

Bering followed on the 5th of February. His chief associates were: Another Dane, Martin Spangberg, lieutenant and second in command; Lieutenant Alexei Chirikoff, second

lieutenant; Peter Chaplin, Messrs. Luskin and Patiloff, the cartographers; Messrs. Engel and Morison, the mates; Dr. Niemann, and Rev. Mr. Harion. Sailors, carpenters, sail-makers, blacksmiths, etc., composed the principal subordinates.

On March 16th the expedition arrived at Tobolsk, whence the journey continued with rafts and boats on the rivers Irtysh, Obi, Ket, Yenisei, Tunguska and Ilim, between which it was necessary to make tedious portages. Arriving at Ilimsk—on the Ilim—on September 29th, the expedition there spent the winter of 1725-6. Meanwhile, Chaplin was sent to Ya-kutsk, the capital of East Siberia, in order to make ready for the more rapid transportation of the expedition thence to Okhotsk, whither he was to send a small party of ship-builders, who were to fell trees and begin the construction of a vessel; Spangberg, with a body of mechanics, was despatched to the Kut, where were constructed fifteen barges, each forty-five feet long and twelve wide, and fourteen boats, for river transportation in the spring; while Bering himself sought information from the governor at Irkutsk concerning the climate and physical features of East Siberia, the modes of travel, the people, etc., of that comparatively unknown country.

Not until the middle of June, 1726, did the expedition reach Ya-kutsk, which at that time contained 300 houses. Thence to Okhotsk was 685 miles of rough, mountainous country, intersected by numerous deep streams without bridges. Tundras, swamps, and dense forests likewise hindered rapid progress. Deep snows and temperatures of from 40° to 70° F. below zero exhausted horses, dogs, and reindeer. Scores of them perished.

From Ya-kutsk the expedition advanced over the rough course in separate divisions: Spangberg, with thirteen rafts and 204 workmen, started on the 7th of July for Yu-domska-aya Krest via tributaries Aldan, Maya and Yudoma, and thence across the ridge, for the Urak, which empties into the sea of Okhotsk; Bering himself started on August 16th, with

200 of the 800 horses belonging to the expedition, and made the journey overland in forty-five days.

Ok-hot'sk at this time contained only eleven huts and ten Russian families, who supported themselves by fishing. The entire month of November was therefore spent in felling trees and providing winter quarters for the expedition. At the same time Bering pushed forward vigorously the construction of the ship.

Still, not all of the expedition had arrived. Spangberg, having been overtaken by winter on the Yu-do-ma, 275 miles southwest of Yu-dom'sk-ay-a Krest, there left the boats and the bulk of the provisions in charge of seven men, and was proceeding on foot with his command with what provisions they could carry on hand-sleds, toward Ok-hot'sk, while Chi-ri-koff was somewhere far in the rear.

Of the belated forces, Spangberg's fared the worst. The temperature was so low that mercury remained congealed, and the snow soon attained a depth of six feet. This compelled them to abandon the sledges, and for eight weeks, beginning with November 4th, cold and famine followed constantly in their tracks. Straps, leather bags and shoes became their only food. Every man must have perished had they not providentially hit upon Bering's route, where were found a small quantity of flour and some dead horses, upon which they lived till relieved by parties despatched for their assistance. It was the middle of January, 1727, before Spangberg's half-starved command arrived. Eighteen were on the sick list. The rear, under Chi-ri-koff, did not appear till mid-summer.

From Ok-hot'sk the entire party was transported across the sea of Ok-hot'sk to the mouth of the River Bol-sho-ya, in the southwestern part of Kam-chat-ka. This was distant 650 miles and was not reached till the entire command till the 4th of September. In the course of the month, a further advance of twenty miles was made to Bol-she-ret'sk ostrog, or "stockaded post," on the Bol-sho-ya. It consisted of a simple log fortress, with seventeen Russian dwellings and a chapel.

From this point the natives were summoned far and wide to assist in transporting the supplies during the winter the remaining 585 miles across the peninsula to the lower fort on the Kamchatka, twenty miles from its mouth, on the east coast. At that time the extent of the peninsula was unknown, and therefore no attempt was made to sail around its southern extremity. Upon arriving on the east coast, March 11, 1728, Bering found a settlement scattered along the banks of the stream, consisting of the fort, a church, and forty huts. A few Cossacks dwelt here, occupying huts built above ground, and while they did not always eat their fish raw, they were much like the natives in other respects.

Fortunately, here were forests of larch, which afforded excellent material for ship-building, and which Bering proceeded at once to use, the timber being drawn to the ship-yard by the dogs. The tar used was also prepared from the forests, but the cable, anchors, and rigging had been dragged nearly 2,000 miles.

On the 9th of July, the

"GABRIEL,"

as the new ship was called, started down the river, and four days later her sails were hoisted. With "fish oil for butter, and dried fish for beef and pork, and salt obtained from the sea," the undaunted Bering, with his gallant crew of forty-four men, followed a course nearly all the time along the coast northward. On July 27th, at Cape Thaddens, the sea was alive with dolphins, seals, sea-lions, and spotted whales.

On August 8th, when in latitude  $64^{\circ} 41'$ , eight native men were seen rowing toward the "Gabriel," but feared to draw near. One of them, however, sprang into the sea, and, resting upon two inflated bladders, swam to the ship. By aid of the Koriak interpreters on board it was learned that the natives were Chook-chees; that they knew the Russians well; that the River Anadyr lay far to the west; that the coast extended

in the same direction, and that the "Gabriel" would soon come in sight of an island.

Bering gave the strangers some small presents and endeavored to persuade them to come on board. Approaching the vessel they, however, suddenly turned and disappeared.

Proceeding in a south-southeasterly direction, Cape Chukot-skoi was doubled on the 9th. Two days later (11th, ship's time; 10th, calendar's) an island was discovered, which Bering, in honor of the day, called St. Lawrence. At noon the latitude was  $64^{\circ} 20'$ , and they were therefore in the strait separating Asia and America. By noon of the 14th the latitude was  $66^{\circ} 41'$ , or just above the Arctic Circle. High land appeared astern and by three o'clock high mountains were visible to the west. The "Gabriel" had passed the easternmost extremity of Asia—East Cape—in latitude  $66^{\circ} 6'$ , and longitude  $190^{\circ} 21'$  East of Greenwich. When, finally, Bering's bearings on the same day were  $67^{\circ} 18'$  north latitude by  $193^{\circ} 7'$  east longitude, he turned back, in obedience to the instructions given him at the beginning of the expedition. He could no longer see land extending toward the north in the same direction and had therefore accomplished his mission. The next morning, in latitude  $66^{\circ} 2'$ , another island was discovered, and, in honor of the day, named Diomedé. It was one of the two between which passes the boundary line between Russia and Alaska, the Russian being called Rat-man-off, or Im-ak-lit; the American, Kru-sen-ster-n, or In-gal-i-sek.

After encountering a frightful storm, on August 31st, during which the cable broke and an anchor was lost, the vessel again reached the mouth of the Kamchatka, September 2, 1728. This was more than three and a half years since the expedition first left St. Petersburg, and it was a round five years before its leading members again arrived there.

Only two months after his return from the first expedition, viz., on April 30, 1730, Bering laid before the admiralty a scheme which embraced (1st) the charting of, and the establishing of commercial relations with, the American and Japanese coasts, and (2d) the charting, either by sea or land, of the



Arctic Coast of Siberia, from the Obi to the Lena. These propositions formed a basis of

THE GREATEST GEOGRAPHICAL ENTERPRISE EVER UNDERTAKEN.

Among the suggestions relating thereto, Bering urged the importance of missionary work among the Ya-kuts, more integrity among the tax-gatherers, better discipline among the Cossacks of East Siberia, the opening of iron mines at Okhotsk, U-diak, etc.

Two years elapsed, however, before the Russian Court, busy meantime with political intrigues, began the execution of these proposals. Bering was promoted to be Captain-Commander of the Russian fleet, a position ranking next below that of Rear-Admiral, and was also, in view of the hardships endured during his five years' absence, voted by the Senate an award of \$750. This august body, the Academy, and the Admiralty each responding to the insatiable greed of the Empress Anna for the splendor and exterior lustre of culture, exerted themselves to make the undertaking as large and sensational as possible. Russia seemed to want the earth, and proceeded to transform her Bering into an Atlas. He was made the chief of the triple expeditions east of the Ural Mountains—of the American, Japanese and Arctic—for all of which he was to provide provisions, transportation, and ships. Decree after decree riveted the burden more firmly upon his shoulders. He was directed to establish a dock-yard in an out-of-the-way port, to supply Ok-hotok with more inhabitants, and to establish there schools for elementary and nautical instruction; to establish ironworks at Ya-kutsk, Udiak, etc.; to transport men and horses to Udomsk-aya Krest, and to introduce cattle-raising on the Pacific Coast.

Not to be outdone by the Senate, the Academy, through the zeal of its young German members, Johann Georg Gmelin, the chemist, and Gerhard Friedrich Müller, the historian, aged respectively twenty-eight and twenty-four, imposed additional tasks. Besides the elder Gmelin, physicist; Müller, historian, and La Croyère, astronomer, there accompanied this depart-

ment one surgeon, one interpreter, one instrument-maker, five surveyors, six scientific assistants, two landscape painters, and fourteen body-guards. For La Croyère's use there were transported nine wagon-loads of instruments, which included telescopes thirteen, and fifteen feet in length. This "Itinerant Academy" also carried a library of several hundred volumes, including scientific, historical and classical works, and others of light reading, such as "Gulliver's Travels" and "Robinson Crusoe," seventy reams of writing paper, an enormous supply of artists' colors, draughting material and apparatus. These gentlemen had not less than thirty-six horses, and on large rivers could demand boats with cabins.

To move this "learned republic" from St. Petersburg to Kamchatka became one of the many duties assigned to Bering. Yet he had no authority over its members; they were willing to recognize it only when they needed his assistance. "If," says the historian Lauridsen, "it had been the purpose of the government to exhibit a human parallel to the 'happy families' of menageries, it could hardly have acted differently. In all his movements Bering was hampered by this academical dead-weight. The professors not only lacked appreciation of Bering's efforts in their behalf, but they also besieged him with complaints, made record of them and wound up—characteristically enough—with a resolution to prefer formal charges against him before the Senate."

All told, the Academists of the expedition numbered between thirty and forty men; the expeditionary force proper, about 570, consisting of Vitas Bering, commander; Spangberg and Chirikoff, captains; eight lieutenants, sixteen mates, twelve physicians, seven priests, stewards, sailors, ship-carpenters, workmen, etc. Of these, 160 were assigned to duty in the Arctic division; the rest, in the Pacific. More than half of the officers, many mates, and all of the physicians were foreigners. Most of the officers were accompanied by their wives and children. An absence of six years was intended.

In order to expedite the movements of this almost ungovernable body, the Siberian authorities, many of whom were suf-

fering official exile, received instructions to make great preparations. They were to purchase fish, cod-liver oil, and venison, construct magazines and light-houses along the shore of the Arctic, and despatch large transports to the Pacific. They were also to prepare for the founding of salt and iron works at Ok-hotsk, a smaller furnace at Yakutsk, and even a distillery on Kamchatka Peninsula. All these directions, however, received no attention from the unwilling exiles, some of whom indeed constantly opposed, by hatred and falsehood, the advance of the expedition.

On February 1, 1733, the first start was made. Spangberg, with laborers and heavy marine stores, set out for Ok-hotsk. On the 18th of March Bering proceeded to Tobolsk, where he supervised the construction of the vessel for the Arctic expedition. Meanwhile, the Academists lingered at St. Petersburg, and, in spite of Bering's requests for them to make haste, did not reach Tobolsk until January of the following year. From this point, on the 14th of May, 1734, the first Arctic division, numbering fifty-six men, under the efficient Lieutenant Ofzyn and First Mate Sterlegoff, stood up the Irtish for the Polar Sea. Four rafts with thirty men accompanied them as far as Obdorsk.

On the 19th, Bering took his departure with the main command and the Academists for Yakutsk, where, from October of that year till the last of June, 1735, he was busily engaged in building and equipping two vessels for the second Arctic division. These began the descent of the Lena on June 30th. One of them, the sloop "Yakutsk," Lieutenant Pront-chi-sheff, First Mate Chel-yus-kin, Surveyor Chekin, and about fifty men, was to proceed westwardly round the Taimur Peninsula to the mouth of the Yen-i-se-i; the other, the decked boat "Irkutsk," Lieutenant Peter Lassenius, also a Dane and the oldest of Bering's lieutenants, with more than fifty men, was to follow the coast in the opposite direction to "Bering" (Chook-chee) Peninsula, and ascertain the relative position of Asia and America, and thence to sail southward to the peninsula

of Kamchatka. Lassenius was also to find the Bear Islands, off the mouth of the Kolyma.

After the departure of these vessels, Bering applied his energies to the Pacific division. Wharves, magazines, barracks, winter huts, and scores of water crafts were constructed along the river route to Ok-hotok. At Yakutsk were established a furnace and an iron foundry, where the vessels were supplied with anchors and other iron, and here were received those other heavy supplies brought from West Siberia in 1735-36, and which were later sent to Ok-hotok.

To this port, as already noted, Lieutenant Spangberg had gone. Here the banished Major-General Pis-sar-jeff, then reduced to a sort of harbor-master of the place, became his implacable persecutor. The Dane, however, was not easily overawed, and in the autumn of 1736 declared that he would rid himself of the

"OLD SCOUNDREL"

and compelled him to flee to Yakutsk. Here he, with others, continued to obstruct the progress of the expedition.

Notwithstanding all difficulties, Bering continued during the next three years to advance the enormous stores—enough for six or eight vessels—toward the sea. First, down the Lena, then up the Aldan, Maya and Yudoma rivers, across the Stan-ovoi Mountains, and, finally, down the Urak to Ok-hotok. In this work more than 1,000 men were employed.

Meantime, in 1736, news reached Bering of the misfortunes attending the second Arctic division which had descended the Lena the year previous. Pron-ehi-sheff had been obliged to go into winter quarters at Ol-nek, while Lassenius, after reaching the mouth of the river, was likewise obliged to seek shelter a little eastward, in latitude  $71^{\circ} 28'$ . Here, during the winter, Lassenius, most of his officers, and thirty-one of the crew died of scurvy. A relief party despatched by Bering found only eight men alive. To take their places Bering despatched Lieutenant Dmitri Laptjef, Second Mate Planting, and twenty-three men. Besides, he sent two boats with provisions to the mouth of the Léna and a ship-load to supply the magazines on

the Arctic Coast. To this he gave his personal attention. The survivors from the Irtysh were taken to Yakutsk, where, says Bering, "by the help of God they were saved."

In the summer of 1737 Bering took up his headquarters in Ok-hotsk, which he and Spangberg built, at the junction of the Okhota and Kukhita rivers. Here they built a church for the expedition, barracks, magazines, a large dock-yard, and other structures. It grew to be the Russian metropolis on the Pacific. "The place," writes Bering, "is new and desolate. We have sand and pebbles, no vegetation whatever, and no timber, in the vicinity. Firewood must be obtained at a distance of four or five miles, drinking water from one or two miles, while timber and joints for shipping must be floated down the river twenty-five miles."

In this swampy place Bering lost his health. Concerning his position here the historian Sokoloff, likewise an officer in the Russian Navy, says: "Bering stayed three years in Ok-hotsk, exerting himself to the utmost in equipping expeditions, enduring continual vexations from the Siberian government—especially on account of Pissarjeff—and conducting frequent examinations and investigations into the quarrels and complaints of his subordinates."

With respect to Pissarjeff, Bering writes: "For a correspondence with him alone I might use three good secretaries. I find his foul-tongued criticism extremely offensive."

Meantime, in 1738, Spangberg, with three ships and 150 men, discovered and partially charted the Kurile Islands, and in the summer of the following year, with four vessels, continued the work to Japan, thus making known for his country a route to that commercially important region.

Meanwhile, too, the Arctic divisions were continuing their explorations. In the summer of 1737, Ma-ly-gin and Sku-ratoff crossed Kara Sea and sailed up the Gulf of Obi; while Ofzyn charted the coast between the Obi and Yenisei. The greatest results, however, were obtained by the two cousins, Dmitri and Chariton Laptjef, between the years 1738 and 1743. They, being newly equipped, attacked the task of doubling the

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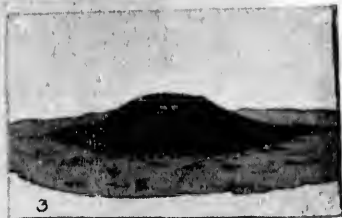
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(1.) Interior of Eskimo Snow Hut, Winter Island, 1822—Lyon. (2.) Eskimos, 1822—Lyon. (3.) Eskimo Watching for Seal—Lyon. (4.) Holding Line When Walrus is Wounded—Lyon. (5.) Watching Seal—Lyon. (6.) Listening at Seal-Hole, also Striking at Seal—Lyon. (See Chapter VIII.)



(1.) Entering Passage to Snow Hut—Lyon. (2.) Ar-na-nee-ia, Winter Island, 1822—Lyon. (3.) Swan's Nest, June, 1822, 5 feet 10 inches long, 4 feet 9 inches wide, 2 feet deep, and built of moss-peat. Hole 18 inches wide, containing 2 eggs, each 8 ounces in weight, eggs of cream or brownish-white color and somewhat clouded by darker tinge—Lyon. (4.) Fall of the Barrow—Lyon. (5.) Summer Tents (of seal-skins) of Eskimos, Ig-loo-lik, 1822—Lyon. (6.) Eskimo of Ig-loo-lik, in Bird-skin Jacket—Lyon. (7.) Eskimos Sledging; the Leader of the Team being the "King" Dog—Lyon. (See Chapter VIII.)

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Taimur and Chook-chee peninsulas. Chariton, by extensive sledging trips, connected the coast westward from the Lena to that explored eastward from the Yenisei by Minin and Sterlegoff, while his mate, Chel-yus-kin, in 1742, attained the most northerly point on the mainland of the old world, a headland since called in his honor. Concerning this event, says Middendorf: "He is the only one who, a century ago, had succeeded in reaching and doubling this promontory. The fact that among many he alone was successful in this enterprise, must be attributed to his great ability. On account of his perseverance, as well as his careful and exact measurements, he stands pre-eminent among seamen who have labored in the Taimyr country."

Dmitri Laptjeff, as the immediate successor of Lassenius, charted the coast from the mouth of the Lena eastward beyond the mouth of the Kolyma as far as the Great Baranoff Rocks, through a distance of more than thirty-seven degrees of longitude. But Cape Che-lag-skoi, whither Deshneff, a century previous had shown the way, he did not succeed in doubling.

Returning now to the movements of Bering, the summer of 1740 found him in command of a respectable fleet of eight or nine vessels, all built by himself, in the harbor and on the sea of Okhotsk.

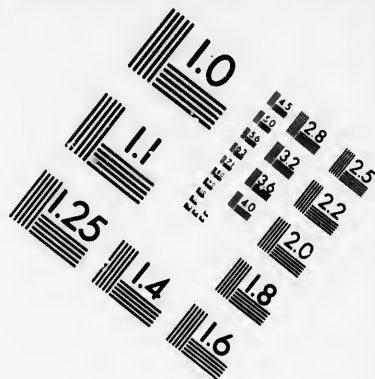
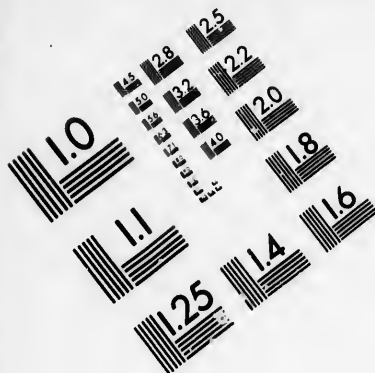
Weighing anchor on the 8th of September, 1740, Bering sailed to Avacha Bay, on the southeast coast of Kamchatka. Here a fort and a church were erected in the course of the winter, the pious Bering consecrating the house of worship to St. Peter and St. Paul, thus founding the town of Petro-paul-ovsk.

Finally, from this port, after a prayer service, the ships again weighed anchor on June 4th, 1741. Of these, Bering was in immediate command of the "St. Peter," with seventy-seven men. Chirikoff was placed in charge of the "St. Paul," with seventy-six men. First taking a southeasterly course in search for the erroneously-supposed Gamaland, the vessels became separated on the 20th, never again to meet.

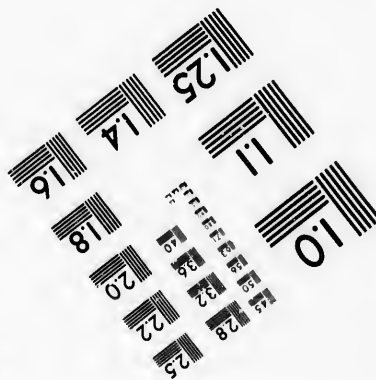
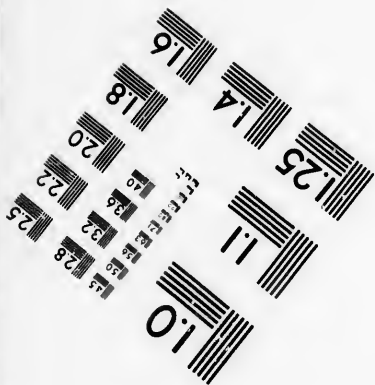
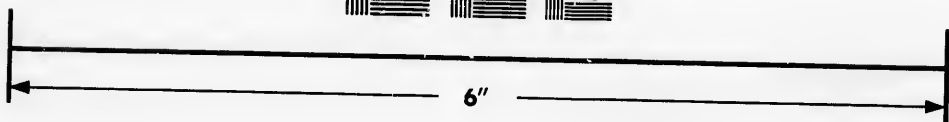
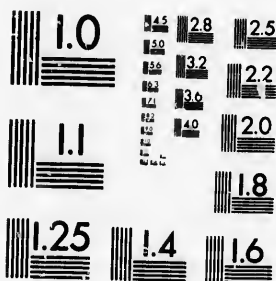
For the next four weeks the "St. Peter" sailed northeasterly.







**IMAGE EVALUATION  
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Bering's health was shattered and he was confined much of the time to his bunk.

At length, at noon on the 16th of July, land was sighted. It was an elevated, jagged, snow-covered coast, behind which a peak towered so high into the clouds that it was visible at a distance of seventy miles. It was the great St. Elias, which Bering named in honor of the patron saint of the day, July 20th, on which anchor was cast off the west coast of an island also called St. Elias. The towering peak ever stands as a monumental witness that it was Bering, who, from the west and traveling to the east, discovered America.

A landing was made upon St. Elias Island—now called Kyak—and a supply of fresh water obtained. Here were also found human habitations, food, utensils, etc. In place of articles brought on board, Bering caused to be deposited an iron kettle, tobacco, a Chinese pipe, and a piece of silk cloth.

Taking thence a southwesterly course along the Alaskan Peninsula, on the 30th of August, Shu-mag-in, one of the sailors, died in the hands of his mates, who were taking him ashore. The group of islands where they then were was named in his honor.

The condition of all on board was most deplorable. Bering was too ill to stand. Others sick were carried ashore. The subordinate officers, Waxel and Khitroff, quarreled bitterly, and nearly involved the entire expedition in ruin. Steller, the naturalist, alone remained composed, and, gathering anti-scorbutics, he fed them to the scurvy-stricken crew. In consequence, they grew better, Bering's health also greatly improving.

Sailing again on September 6th, adverse winds and storms almost constantly checked their progress. Half the crew became sick and no cooking was done for many days. Their only food was burnt ship biscuits.

On the 6th of October, when in a frightful gale of hail and snow, Bering exhorted his men to make an offering to the church: the Russians, to the church at Petropaulovsk; the Lutherans, to the church in Viborg, Finland, where Bering

had formerly resided. Among the men, death followed death, and the helmsmen were so feeble as scarcely to be able to walk to the wheel when conducted there by other sick companions.

At length, on November 6, 1741, the vessel, without helmsman and with commander at death's door in his cabin, stranded on the most western of the two largest of the Commander Islands and which has been appropriately called in Bering's honor, for with its soil are mingled the ashes of the illustrious explorer.

Shortly before the stranding of the "St. Peter," twelve of the men had perished, and soon thereafter nine more died. Horrible starvation stared them in the face.

Having with painful difficulty effected a landing, those who were at all able to work began to collect drift-wood, to dig and to roof pits in which to live. In these efforts, Steller, the immortal German naturalist, was the very soul of the entire party. For the sick and dying he was both cook and physician. The sick became so afflicted with scurvy that the gums, like a dark-brown sponge, slowly protruded and covered the teeth of the victims; while the dead were quickly devoured by foxes before they could be buried.

It was December before the entire party were quartered for the winter in the miserable dug-outs. Bering sought in every way to inspire his companions with fresh courage and to place implicit trust in Providence for the future. He gave thanks to God for having directed his course from youth, and for having made his life successful.

Nevertheless, his sixty years of age, the malignant ague contracted at Okhotsk, cold, hunger, scurvy, and grief at the fate of the expedition, bore heavily upon the brave old heart as it slowly pined away in the cheerless sand-pit.

"He was, so to speak, buried alive. The sand kept continually rolling down upon him from the sides of the pit and covered his feet. At first this was removed, but finally he asked that it might remain, as it furnished him with a little of the warmth he so sorely needed. Soon half of his body was under the sand, so that after his death, his comrades had to ex-

hume him to give him a decent burial." He died on the 8th of December, 1741.

Says Steller: "Sad as his death was, that intrepidity and seriousness with which he prepared to meet death was most worthy of admiration." And, again, Steller writes: "Bering was a true and honest Christian, noble, kind, and unassuming in conduct, universally loved by his subordinates—high as well as low. Every reasonable person must admit that he always sought to perform the work entrusted to him to the best of his ability, although he himself confessed and often regretted that his strength was no longer sufficient for so difficult an expedition. He deplored the fact that the plans for the expedition had been made on a much larger and more extensive scale than he had proposed."

The last death occurred January 6, 1742. In all, thirty-one of the seventy-seven men had died. The others were saved only through the abundance of sea and land life in which the region then abounded.

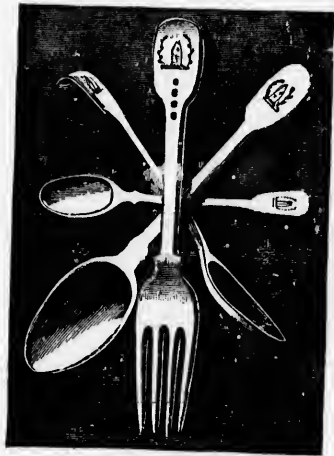
To the faithful Steller, theologian and naturalist, is humanity obliged—not only for his persistent efforts in drawing upon this life for his helpless comrades, but also for the scholarly descriptions of it, which have rendered the history of the second expedition immortal. In those classic pages one is made to pursue with wonder, among those desolate isles, the thousands of fur-seals, sea-lions, sea-otters, and eared seals; the hundreds of Arctic foxes, of which from sixty to eighty could be struck down in the space of two hours; and last, and probably most interesting, the now-extinct sea cow, a ponderous animal, from twenty-five to thirty feet in length, weighing about three tons, and which fed in large droves upon the algae strewn along the strand.

A quarter of a century later, Russian rapacity had utterly exterminated this valuable animal.

In the ensuing summer, the surviving members of the ill-starred expedition effected their escape to Petropaulovsk in a boat, made from the timber of the stranded "St. Peter." There they learned of the return of the "St. Paul," under Chirikoff,

who had succeeded in reaching the American coast, probably about 200 miles southward of the point reached by Bering. His men had also experienced great hardships, and twenty-one of them died. Among these was the astronomer La Croyère.

The survivors finally, in 1745, returned to St. Petersburg, thus terminating the Great Northern Expedition, a pioneer venture for knowledge, science, and commerce.



FRANKLIN RELICS.

## CHAPTER IV.

ARCTIC VOYAGES OF CAPTAIN COOK, THE SCORESBYS,  
SIR JOHN ROSS, AND OTHERS.

Contemporaneous with the French and Indian War, the northwest passage was again sought for. In the spring of 1754, Captain Charles Swaine, leaving Philadelphia, Pennsylvania, in the American schooner "Argo," in vain sought the waters of Hudson's Bay. The previous winter had been an unusually severe one, and other vessels bound for the northern whale fisheries were also turned back on account of the ice. Swaine then directed his attention to a perfect exploration of the west coast of Labrador from its northern point, latitude about 60°, southward to latitude 54°. He found six important inlets, but not a passage leading westward to Hudson's Bay as he had anticipated. He also collected information concerning the soil, produce, and people of the country, and noted that a high mountain range, one hundred fifty miles inland, traversed the interior from north to south. On one of the inlets he found a deserted wooden house with a brick chimney. Shortly afterwards he met with a bark, Captain Goff, from London, who informed him that the house was built there the year previous by some Moravian missionaries who had been landed there from the vessel which he was then commanding. But the captain and six of his men having been kidnapped by the natives, it became necessary, after more than two weeks' delay vainly awaiting the return of the men, for the missionaries to return with the remainder of the crew in order to work the vessel. Goff was then seeking information concerning the fate of the men. Swaine also dis-



covered an excellent fishing-bank, extending three degrees southward from the fifty-seventh parallel and about twenty miles off shore.

Concerning this expedition the following extract from a letter written by the versatile and philosophic Franklin will be of interest:

"Philadelphia, February 28, 1753.

\* \* \* "I believe I have not before told you that I have provided a subscription here of £1,500 to fit out a vessel in search of a Northwest passage. She sails in a few days, and is called the "Argo," commanded by Mr. Swaine, who was in the last expedition in the "California," and author of a Journal of that voyage in two volumes. We think the attempt laudable, whatever may be the success. If she fails, 'Magnis tamen excidit ausis.' With great esteem,

"Benj. Franklin."

"Mr. Cadwalader Colden, N. Y."

Again, in 1772, notwithstanding the troublous times in the American colonies, the northwest passage was looked for by Captain Wilder, commanding the brig "Diligence." The promoters of the enterprise were a company of private gentlemen of Virginia. The brig, after scouring the northern and western shores of Hudson's Bay, was driven back by the ice, and after ascending Davis' Strait to latitude 69° 11' returned to Virginia.

A gallant young quartermaster of the Hudson Bay Company at Fort Churchill, having explored the northern portion of Hudson Bay and made valuable improvements of the fisheries in the same region, was thereupon despatched, in November, 1769, to search for the reputed copper mines and the northwest passage. Rich specimens of the copper ore had been brought to Fort Churchill by some of the Indian traders and therefore this young officer, Hearne by name, with two white companions and some of the Indians set out upon the journey with great expectations. He had not proceeded more than two hundred miles when supplies began

to fail and the Indian assistants to leave him. Returning to the fort he again started on his journey in February, 1770, with five Indians alone. At the end of five hundred miles they began to suffer great privations. Hearne writes: "It was either "all feasting or all famine. \* \* \* We have fasted, many times, two whole days and nights; twice, upward of three days, and once, near seven days, during which we tasted not a mouthful of anything except a few cranberries, water, scraps of old leather, and burnt bones."

Finally arriving in latitude  $63^{\circ} 10'$ , and about eleven degrees west of Fort Churchill, he proposed to winter among a friendly tribe of Indians. Unfortunately breaking his quadrant and notwithstanding the terrible sufferings already undergone, he retraced his weary course to the fort, refitted, and once more set out on the 7th of December. Arriving on the banks of one of the Great Slave Lake series, he constructed a canoe and descended what is now known as the Coppermine River to its outlet, Coronation Gulf, into the Arctic Ocean, latitude  $68^{\circ} 30'$ . "The Ocean," Hearne says, "was full of islands and shoals as far as I could observe with a good telescope."

A sad scene in connection with this brilliant journey was the

#### TORTURE AND MASSACRE

of about twenty unsuspecting Eskimos by his Indian allies, and for whom the Indians of those regions cherish an inveterate hatred. Says Hearne: "Finding all the Esquimaux quiet in their tents, they rushed forth from their ambuscade and fell on the poor unsuspecting creatures, unperceived till close to the eaves of their tents, when they soon began the bloody massacre, while I stood neuter in the rear." Hearne was even unable to save the life of a young girl who had fled to him for protection, while an old woman was painfully mutilated by having her eyes plucked out before she was killed.

Hearne was absent on this trip almost a year and seven months, arriving at Fort Churchill June 30, 1772. Three years later he was made Governor of the place.

Among the noteworthy discoveries made by Hearne was information, obtained from the Eskimos of Marble Island, in 1769, concerning the

#### FATE OF THE OLD GOVERNOR,

James Knight, whose expedition we have previously mentioned. From Hearne's account we glean the following:

"When the vessels arrived at this place it was very late in the fall (of 1719), and in getting them into the harbor the largest received much damage; but on being fairly in, the English began to build a house, their number at that time seeming to be about fifty. As soon as the ice permitted in the following summer (1720), the Esquimaux paid them another visit, by which time the number of the English was greatly reduced, and those that were living seemed very unhealthy. According to the account given by the Esquimaux they were very busily employed, but about what they could not easily describe; probably in lengthening the long boat, for at a little distance from the house there was now (1769) lying a great quantity of oak chips, which most assuredly had been made by carpenters." The account goes on to relate that

#### SICKNESS AND FAMINE

made such havoc among the English that by the summer of 1721 but five remained alive. Meanwhile, the Eskimos had supplied them, as they were able, with seal meat and whale's blubber. Finally, of the five who remained alive, three ate so ravenously of raw whale's blubber after a prolonged fast during the absence of the Eskimos on the mainland, that they died. The other two lived a long time after this and frequently ascended a high rock and looked long and earnestly southward and eastward as if expecting the arrival of a ship. They would then sit down together and weep bitterly. At length one of the two died and his companion, in digging a grave for him, fell down exhausted and died also. The skulls and other bones of these two men were then (1769) lying above ground, close to the house.

The last to die was, according to the Eskimos, always working iron into implements for them. He was probably the armorer, or smith.

Lying just beneath the Arctic Circle in the territory contiguous to the northwestern portion of Hudson's Bay, is a river-like indentation. With its discovery, in 1742, by Captain Middleton, the problem of the northwest passage was doubtless supposed to be settled. Its termination in an unpopulated district was soon determined, however, and although but a bay opening into Roe's Welcome, as the channel separating Southampton Island from the mainland is called, it bears the name of Wager River.

Four years later, Messrs. Moore and Smith, having also indulged in a "search" for the northwest passage, pronounced it "as chimerical as one of Don Quixote's projects."

In June, 1773, Captain C. J. Phipps, known later as Lord Mulgrave, with instructions to proceed to the North Pole, or as near to it as possible, on a meridian, found himself bound for Spitzbergen, where he arrived July 4th. Five days later he had attained  $80^{\circ} 36'$ , but on the 31st was stopped by the ice. By August 6th he had retreated to the Seven Islands, off the northwest coast of Spitzbergen, whence he returned to England in the following month.

What schoolboy has not read of Captain John Cook and his tragic death while endeavoring to circumnavigate the globe? But how few, even among the best informed persons of mature years, are acquainted with the fact that it was the object of the great navigator to perform that voyage by way of the northwest passage?

With explicit instructions to sail immediately to latitude  $65^{\circ}$  in the North Pacific, which would bring him well into Bering Strait, he was to endeavor to complete the circuit through some channel leading eastward from the Arctic to the Atlantic Ocean.

Finely equipped, he sailed from Plymouth in July, 1776, and, a few weeks later, was joined at the Cape of Good Hope by Captain Clerke. December 12th he passed Prince Edward's

Island, arriving at Kerguelen Land twelve days later. Having determined this to be an island and not a continent, as had been supposed by Kerguelen, he renamed it the Island of Desolation. From this point the vessels continued eastward

#### THROUGH NINE HUNDRED MILES OF DENSE FOG,

and separation was avoided only through the incessant sounding of signals. January 26, 1777, found them in Tasmania, then called Van Dieman's Land, and on February 12, in New Zealand. March 29th they were among the Cook Islands. The season was now so far advanced that Captain Cook now decided not to hasten farther north that year, and accordingly spent three months among the peaceful inhabitants of the Feejee and neighboring islands. The groups he collectively denominated the Friendly Islands.

On August 12th he arrived among the Society Islands, lying about two degrees north of the Tropic of Capricorn, from which group he voyaged almost due north, until, at a point two degrees south of the Tropic of Cancer, on January 18, 1778, he discovered the

#### WORLD-RENOWNED HAWAIIAN ARCHIPELAGO.

These, in honor of John Montague, Earl of Sandwich, the chief promoter of the expedition, he named the Sandwich Islands.

Sailing thence he arrived, March 7th, off the coast of the New Albion of Drake, in latitude  $44^{\circ} 33'$ , a point on the coast of Oregon, nearly opposite Salem, the capital of the State. On Van Couver's Island, latitude  $49^{\circ} 35'$ , he found the inhabitants clad in furs. They were friendly, and shrewd in barter, were acquainted with iron, but esteemed brass more highly and readily exchanged furs for the brass buttons on the men's garments.

Ten degrees farther north Cook found the inhabitants to resemble, both in language and physical appearance, the Eskimos of Hudson Bay.

A narrow bay, now known as Cook Inlet, was discovered,

and supposed to lead to the "Northern" (Arctic) Ocean, but, upon exploration, was found to terminate about two hundred miles within the interior.

August 19th Cook arrived at and named the northwesternmost point in America, Cape Prince of Wales, and measured the distance thence to the northeasternmost point in Asia, Cape East. This distance he ascertained to be thirty-nine geographical miles, or somewhat more than forty-three statute miles.

He landed, but did not long remain among the Chook-chees.

Proceeding northward, he reached latitude  $70^{\circ} 44'$ , where he was stopped at the edge of the impenetrable and expansive ice field, forty feet in thickness, and covered with

#### A BLACK MASS OF WALRUSES

as far as the eye could reach.

Captain Cook then returned to the Sandwich Islands, arriving at Hawaii November 30th. Seven weeks now followed in circumnavigating and surveying this island, after which the vessels came to anchor and were visited by large crowds of natives. During the more than six months which the English spent here increasingly friendly relations existed between the men of the expedition and the islanders. Captain Cook congratulated himself that the failure to penetrate within the Arctic Ocean had nevertheless given him an opportunity of becoming fully acquainted with these, the most important islands of the Mid-Pacific.

An additional supply of fresh provisions having been laid in, on the 4th of September the vessels weighed anchor for a survey of the entire group. Unfortunately a storm arose and compelled their return in order to repair damage done to the "Resolution."

Incidents now occurred which led to the

#### HORRIBLE DEATH OF CAPTAIN COOK.

A pair of tongs having been stolen from the smith's forge, a party of men were sent to recover the stolen property, but

were roughly handled by a mob of the natives. Soon one of the ship's boats was stolen.

Cook now took Te-ree-o-boo, the King, prisoner, as a hostage, for the good conduct of his people and the return of the missing property. The King, accompanied by his two sons, peaceably submitted and accompanied Captain Cook to the shore. Here the natives endeavored to prevent the embarkation. Now it was that a most untimely accident

PRECIPITATED A CONFLICT.

A shot fired in order to prevent the embarkation of a native canoe killed Ka-ree-moo, one of the chiefs. The frenzied populace, putting on their war-mats and brandishing their knives, at once led to the attack. Cook restrained his men from firing until it was too late. Closely pressed by one of the savages, Captain Cook himself fired a musket charged with small shot, which only served to render his assailants more furious. The crew and marines now fired upon the mob, who crowded each other on so closely to the men that firearms were useless. In the turmoil four of the English were killed.

Just as Captain Cook was endeavoring to reach the boat a native was seen to deal him a blow with a club and then to retreat precipitately. Dropping his musket and falling upon one knee, the Captain was in the act of again rising when one of his assailants stabbed him in the back of the neck. Falling into the water, the savage crowd endeavored to hold him down. Bravely he struggled and got his head above the crimson-colored surface, but was immediately pushed into deeper water. Once more he fought his way to the top only to be struck down for the third and last time. The unequal conflict over, the natives dragged his body ashore and mutilated it in a most fiendish manner.

Some time after this, Captain Clerke, then in command, recovered the body, which was committed to the sea with the customary naval honors and amid the heartfelt grief of the crews. Captain Cook

KNEW HOW TO COMMAND

men; he cared for them and elicited their esteem and confi-

dence. His unselfishness secured in return the generous love of those whom he commanded.

Leaving Hawaii, Captain Clerke passed northward through Bering Strait to latitude  $70^{\circ} 33'$ , where ice was encountered twenty miles lower down than on the year previous. Coasting southward along Kamchatka, Captain Clerke died and was buried on shore.

Captain Gore then assumed command and sailed to Canton, China, where the furs obtained from the Eskimos on the northwest coast of America two years before, were sold at great profit, some \$10,000 being realized. This was the beginning of the fur trade of the Pacific. Captain Gore then sailed to England, arriving there October, 1780, after an absence of over four years.

Step by step, that is, lake by lake and stream by stream, was the vast territory of the Hudson Bay Company explored by various trappers and traders. One of these, Alexander Mackenzie, setting out from Lake Athabaska in June, 1789, with a party of Canadians and Indians

#### DISCOVERED THE MACKENZIE RIVER

and followed it to its outlet into the Arctic Ocean, latitude  $68^{\circ} 50'$ . From having seen several whales sporting on the ice they named the island on which they were encamped Whale Island.

When, on July 3, 1721, with forty Danish families, Hans Egede, a zealous missionary, arrived off the west coast of Greenland and established the settlement of Godthaab, in latitude  $64^{\circ}$ , the

#### DANISH POSSESSION OF GREENLAND

may be said to have begun. Notwithstanding Egede had spent his entire fortune and King Ferdinand IV. had assisted him with an annual contribution of \$200 and the missionary board with \$300 more, in his efforts to propagate the

#### GOSPEL AMONG THE ESKIMOS,

the Government, shortly after the death of Ferdinand, in 1730,



took measures to break up the financially unprofitable colony. In 1733, however, largely through the efforts of the renowned Count Zinzendorf, founder of the religious community known as the Moravians, King Christian VI. was led to take a renewed interest in the colony and among other good deeds he gave to it an annuity of \$2,000, entrusting its proper disposal to three of the Moravian brethren. The noble Egede returned to Denmark in 1735, where he died in 1758, aged seventy-two. During his sojourn in Greenland he had found the ruins of houses and churches, bespeaking the earlier presence of the Norsemen, but he was unable to find among the Eskimos even a tradition of their former occupancy of the region.

Captain Loewenorn, who visited the east coast of Greenland in 1786, was not more successful.

#### THIRTY ARCTIC VOYAGES

would seem quite enough for one man to make, but for the same man to have a son of precisely the same name to continue the same perilous work in generally the same region, without startling accident to either, is quite "startling" in itself. It certainly bespeaks not only good seamanship but also good luck. Such is the history of

#### CAPTAINS WILLIAM SCORESBY,

Senior and Junior. The elder, at the age of thirty-one, made his first voyage to Greenland in 1791. In 1806 he made, in "Greenland Sea," latitude  $81^{\circ} 12'$ , while still stretching into the unknown north was "a great openness, or sea of water." This was the "farthest north" yet made at that time, and by improving the opportunity of pushing on through the great "sea of water," he might have become known as the discoverer of the North Pole. Being on a whaling-voyage merely he did not feel at liberty to do so. In 1817 he touched upon the east coast of Greenland, above  $70^{\circ}$ , but did not land, although it was easy to have done so. On one of his later voyages, however, he went ashore, and Scoresby Sound printed upon all

charts is in honor of the event. He was a very successful whaling-master. On one voyage alone he is said to have obtained thirty-six whales. He died in 1829, at the age of sixty-nine.

WILLIAM SCORESBY, JR.,

beginning a seafaring life at the age of ten under the experienced eye of his father, was in command of a whaler—the "Resolution"—just before attaining his majority. When off Spitzbergen on one occasion, near Cape Mitre, he made the perilous ascent of a mountain overlooking the sea at the giddy height of 3,000 feet. When near the summit, the ridge was so narrow and the sides so precipitous that he was

OBLIGED TO STRADDLE THE MOUNTAIN,

as it were, and advance by working his hands and legs.

On the east coast, he came upon large quantities of skulls and bones of foxes, seals, walruses, norwhales, and whales; also two Russian lodges, then recently inhabited, and the ruins of an older one. In the vast accumulation of rock debris at the base of the cliffs, the sea-birds, in great numbers, had built their nests. A species of green fly was seen. Shrimps and medusae were abundant in the water along the coast. He also found two species of one of the sub-orders of sea-weeds. From a

DEAD WHALE STRANDED

on the coast he obtained \$2,000 worth of oil and blubber, notwithstanding its decayed condition. In its body was an harpoon which Scoresby judged to have been driven into the huge creature by the fishermen at the mouth of the Elbe. Escaping, it had made its way through more than 1,500 miles of water before dying.

In 1822, Scoresby made his eighteenth, last, and most important voyage. This was to the east coast of Greenland, north of the region explored by his father. The name of

SCORESBY'S LAND

commemorates his geographical services in that region, while

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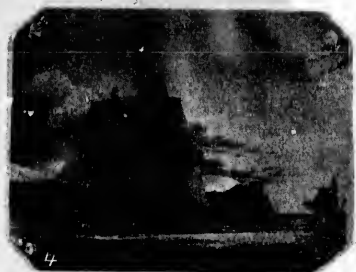
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(1.) West Outlet of Fury and Hecla Strait, from West End of Amherst Island. (2.) Eskimo Ice House, Ig-loo-lik, 1822—Lyon. (3.) Tak-koe-lik-kee-tah, Ig-loo-lik, 1823—Lyon. (4.) Eskimos of Ig-loo-lik—Lyon. (5.) Eskimos of Ig-loo-lik, 1823—Lyon. (6.) Nak-ka-hu and His Wife, Oom-na—Lyon. (See Chapter VIII.)



(1.) Eskimos Building an Igloo, or Snow Hut - Lyon. (2.) Children Dancing, Igloo-lik, 1823 - Lyon. (3.) "Hecla" and "Fury" August 1, 1825 - Head. (4.) Sailing Through Young Ice - Hoppner. (5.) Southeast End of Southernmost of Prince Leopold's Islands - Head. (6.) Heaving Down the "Fury," August 18, 1825 - Head. (See Chapter X.)



SIR WM. E. PARRY.



SIR JOHN ROSS.



WM. SCORESBY, JR.



FERDINAND VON WRANGELL.

EARLY ARCTIC EXPLORERS.

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Roscoe Mountains, and Capes Lister, Swainson and Hope, in honor of Roscoe, poet, historian, law-giver and banker; Lister, optician and merchant; Swainson, celebrated naturalist; and Hope, distinguished writer—names all bestowed upon localities discovered by himself, indicate the character of his home associates and the trend of his own mind. At each of these places he was able to see and describe much: mountains, majestic and grand, 3,000 feet high; a rich Arctic flora; recently-abandoned Eskimo huts with ashes and charred driftwood still upon the hearth, while flocks of the now-extinct (?) great auk and other sea-fowls, and

#### SWARMS OF MOSQUITOES, BUTTERFLIES, BEES,

and other insects, and bones of hare, reindeer and dog, all bore testimony to the abundance of life beyond the seventy-first degree of north latitude.

Scoresby also visited and studied the mist-enveloped Jan Mayen, with its seven great glaciers sweeping irresistibly down its sides to the water's edge, its volcano, and its Mount Beerenberg, more than a mile high, standing guard over its solitary isle as if warding it against the ceaseless attack of devouring ice. Returning to England, Scoresby

#### BECAME A CLERGYMAN

and was made a doctor of divinity in 1839. His interest in science led him to make valuable contributions concerning the hydrography, meteorology, and natural sciences of the Arctic regions. In the investigation of the application of terrestrial magnetism to navigation he

#### VISITED THE UNITED STATES

in 1847, and Australia in 1853. He was always a warm exponent of Arctic research and maintained that a voyage to the North Pole did not necessarily involve either great danger or difficulty. Every expedition, he urged, should go abundantly equipped, and be provided with sledges and boats to be

able to overcome the difficulty of traversing the alternation of fields of ice and lanes, or "seas," of water. His death occurred in England, in 1857.

## THE NINETEENTH CENTURY

opened with great interest in Arctic matters. The English ministry, encouraged by the success of the Scoresbys, early resolved upon two geographical and scientific voyages. These, composed of two vessels each, were fitted out in 1818. The first, under command of Captain David Buchan, was to search for a northeast passage.

After sailing due north to Spitzbergen, thence east along its north shore, both vessels, the "Dorothea" and "Trent," were caught in a terrible storm on July 30th, off the northwest coast. The "Dorothea" was so greatly damaged by the ice that the hope of reaching Bering Strait was abandoned and Buchan returned to England with both vessels. Lieutenant, afterwards Sir John Franklin, was in command of the "Trent."

The second expedition, consisting of the "Isabella" and the "Alexandria," under command of Captain John Ross, were instructed to sail direct to Baffin's Bay, and then, if possible, to penetrate the ice of the Arctic Ocean to Bering Strait. Thus would the northwest passage be made to connect with the northeast route and the earth be circumnavigated, as it were, in Arctic ice.

Having passed Upernavik, in latitude  $72^{\circ} 40'$ , the northernmost Danish settlement, on the west coast of Greenland, as indeed the northernmost permanent white settlement in the world, Captain Ross made a more accurate survey of the coast embracing Melville Bay, than had previously been made. When about 200 miles farther on, in latitude  $75^{\circ} 54'$ , and on the northern shore of Melville Bay, he

## DISCOVERED THE NORTHERNMOST PEOPLE IN THE WORLD,

the descendants of whom—children, grandchildren and great-grandchildren—now comprise the famous Etah Eskimos of

Kane and Hayes, and whom the writer of these pages came to know personally and by name while in their midst as a member of the Peary Expedition to North Greenland in 1893-4, but concerning whom accounts following will be given.

When first seen, this strange tribe became greatly alarmed at sight of the vessels and the English. For, although but a short distance from the Danish settlements, they had never before seen or heard of other people than themselves and supposed that they were the only inhabitants of the earth. Knowing nothing of wood, nor of the art of constructing canoes, they supposed both the ships and the people upon them to be supernatural beings, and,

ADDRESSING THE VESSELS AS THOUGH ALIVE,

inquired: "Who are you? and whence come you, from the sun (shuck-ah-nah), or from the moon (ah-ning-ah-nah)?"

Although these people knew nothing of wood, they employed iron in the manufacture of rude knives. The metal, they explained to Ross, was obtained from a mountain of the Melville Bay coast, and was secured by chipping or breaking off portions of a large slab or block. This is supposed to be of meteoric origin—a supposition quite probable since, as is well known to all meteorologists, bodies of such source frequently contain ninety-six per cent of iron in their composition. While at Anniversary Lodge the writer frequently discussed the location of the stone discovered by Ross, the natives cheerfully conveying all desired information concerning it and holding themselves ready to point it out upon request. We desired greatly to visit the locality, but the privilege was not accorded. Mr. Peary himself, however, made the coveted pilgrimage with another companion, and, with the assistance of the natives, saw the precious stone. Ross also noted the curious

CRIMSON-COLORED SNOW

covering the cliffs of the northern shore of Melville Bay and carried samples of it to England, which, upon careful and oft-



repeated tests was found to be ordinary snow filled with a vast aggregation of a peculiar red-colored fungus growth.

Whatever little Ross may have done in the way of exploring the shores of Melville Bay—the “Hell Gate” of Arctic navigation in the Baffin’s Bay region—it remained for Mr. Astrup, of Christiania, Norway, our talented young comrade and companion of the Peary Expedition of 1893-4, to survey and chart completely, with the assistance of a single native, Kool-e-ting-wah, who, although employed as dog-driver and hunter, was nevertheless treated as a companion and friend.

Leaving Melville Bay, Ross sailed past Wostenholm, Whale and Smith sounds, on the west and north sides of Baffin’s Bay, giving them scarcely a “passing notice,” and then, southward, along the unobstructed west side of the bay, to Lancaster Sound. This channel, fifty miles in width at its outlet, he ascended for about thirty miles, when, to the

#### ASTONISHMENT AND DISAPPOINTMENT

of officers and men, he turned back, although the way before him was clear for about twenty-five miles. Beyond this, a range of mountains seemed to terminate the sound—an appearance caused by atmospheric refraction and which probably led Ross to the erroneous conclusion. He then sailed farther southward along the coast without giving it attention and entered Cumberland Sound, where he exhibited the same censurable indifference. He then returned to England.

His failure lay in not taking advantage of the opportunities afforded by an unusually mild season.



KNIFE WHICH HAD BEEN USED IN SKULL-SCRAPING.

## CHAPTER V.

## PARRY'S FIRST VOYAGE.

Born in 1790, the same year that gave to the world the junior Scoresby, and in command of a vessel at about the same age, self-educated, and master of the nautical and astronomical sciences of the day, second in command of the Ross expedition in 1818 and among those who shared in the disappointments at its results, Lieutenant W. E. Parry, although but twenty-nine years of age, found himself at the head of another expedition in search of the

## NORTHWEST PASSAGE,

a route of ocean-travel which he believed to be feasible and not to be despaired of finding till after a thorough exploration of Lancaster Sound. Accordingly on the 3d of July, 1819, we find his two vessels, the "Hecla" and "Griper," within the Arctic Circle, and in almost constant struggle with the ice of Baffin's Bay till on the 29th they succeeded in getting into clear water on the west side. Here the line struck bottom at a depth of 1,860 feet and the whales were very numerous, eighty-two having been counted in one day. On the 31st they arrived in Possession Bay, near the mouth of

## LANCASTER SOUND,

where the flag-staff deposited by Ross in the previous year was visited. The men's tracks were still fresh in the sand and gravel and the flag-staff remained uninjured. An exploring party sent three or four miles into the interior to search for possible timber returned reporting the region treeless. The party saw, however, many ground-plants thriving in moist places, a fox, a raven, a bee, ring-plovers, and snow-buntings.

Proceeding, they were soon in the somewhat warmer waters of the sound. Says Parry: "It is more easy to imagine than describe the almost breathless anxiety, which was now visible in every countenance, while as the breeze increased to a fresh gale, we ran quickly up the sound. The mast-heads were crowded by the officers and men during the whole afternoon; and an unconcerned observer, if any could have been unconcerned on such an occasion, would have been amused by the eagerness with which the various reports from the crow's nest were received; all, however, hitherto favorable to our most sanguine hopes."

August 5th the vessels were off Leopold Island, at the northeast corner of North Somerset Island, and in the northwest angle of a long channel of water running southward and named by Parry

#### PRINCE REGENT'S INLET.

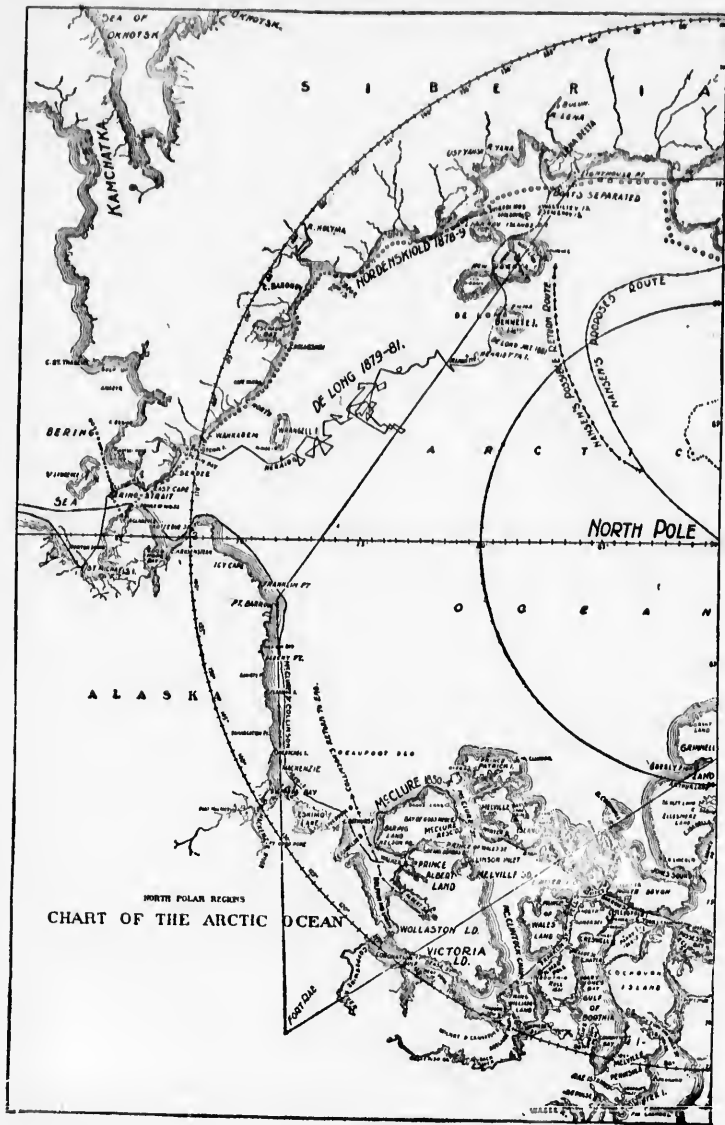
Having met the ice at Leopold Island, Parry turned south, sailing 120 miles, to the opening of the inlet into the wider expanse of water known as the Gulf of Boothia and extending 300 miles beyond in a southwesterly direction. Here he again met the ice and, at Cape Kater, longitude  $90^{\circ} 29'$  west and latitude  $72^{\circ} 13'$  north, on the east side of the inlet, located the farthest south point attained. In this region the compasses became sluggish and the great variations caused by local attractions rendered them useless. A quantity of iron-stone found on the shore attracted the magnet powerfully. Parry therefore decided to return to Lancaster Sound, and while sailing along the east coast of the inlet on the 13th, entered a natural harbor one mile wide and three deep, named by him Port Bowen. Here were seen ducks and dovekies and

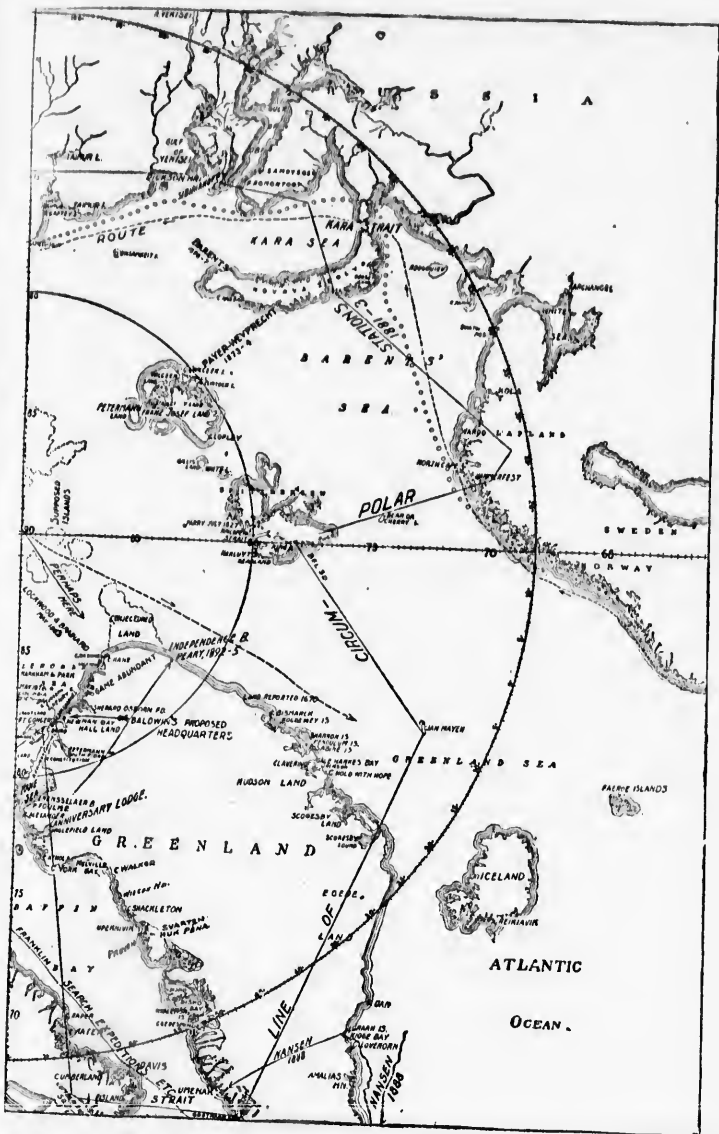
#### NORWALS IN GREAT NUMBERS.

A bottle containing a record of his proceedings was deposited and covered with a quantity of shaly limestone, which was found to be abundant in the locality.

August 17th the vessels were off the headland projecting into the northeast corner of the inlet at its junction with Lan-

THE SEARCH FOR THE NORTH POLE;





easter Sound. This headland Parry called Cape York. On the next day they were sailing westward on the north side of the sound and soon entered its continuation named by Parry

#### BARROW'S STRAIT,

opening on the north side of which he discovered on the 22d two remarkable channels, the largest of which, twenty-four miles wide at its outlet, he named

#### WELLINGTON CHANNEL.

Continuing westward, Cornwallis, Bathurst, and Byam Martin islands were soon discovered, the last-named being examined on the 28th by Captain Sabine, Mr. James C. Ross, nephew to Sir John Ross, afterwards celebrated, and by others. The party made various observations and a collection of natural history specimens. Moss in abundance was found in the moist valleys and on the banks of streams flowing from the hills. Tracks, skeletons, skulls, and horns of musk oxen, reindeer, and bears were observed. The ruins of six

#### ESKIMO HUTS DISCOVERED

are thus described by Captain Sabine: They were "on a level, sandy bank, at the side of a small ravine near the sea," and built "of stones rudely placed in a circular or elliptical form. They were from seven to ten feet in diameter; the broad, flat sides of the stones standing vertically, and the whole structure, if such it may be called, being exactly similar to that of the summer huts of the Esquimaux which we had seen at Hare Island the preceding year. Attached to each of them was a smaller circle, generally four or five feet in diameter, which had probably been the fireplace. The small circles were placed indifferently as to their direction from the huts to which they belonged; and from the moss and sand which covered some of the stones, particularly those which composed the flooring of the huts, the whole encampment appeared to have been deserted for several years."

September 1st a fine, large island was discovered and named

MELVILLE ISLAND.

Upon it were seen herds of reindeer and musk oxen, but, being frightened by a dog, they fled, and none were secured. It was very apparent that upon the island was an abundance of life, for there were the tracks of bears, the skulls, skins and horns of reindeer and musk oxen, burrows of

FOXES AND FIELD-MICE;

flocks of ducks, geese, and snow-buntings, while of ptarmigans, several were shot. At the beach there were various kinds of shells and an immense quantity of shrimps.

The magnetic observations made here and compared with those made in Prince Regent's Inlet, says Captain Sabine, the astronomer of the expedition, "led to the conclusion that we had, in sailing over the space included between the two meridians, crossed immediately to the northward of the magnetic pole, and had undoubtedly passed over one of those spots upon the globe where the needle would have been found to vary 180°, or, in other words, where its north pole would have pointed due south. This spot would, in all probability, at this time be somewhere not far from the meridian of 100 west of Greenwich."

On September 4th the vessels passed longitude 110° west, and therefore became entitled to the

BOUNTY OF £5,000

granted by Parliament as a stimulus for more effectively determining longitude at sea, discovering the northwest passage or approaching the North Pole, to any who should pass the 110th meridian west from Greenwich.

To the bold projection on the south shore of the island was applied, in honor of the event, the name of

BOUNTY CAPE.

Here, on the 5th, being stopped by ice, the anchor was let go

for the first time since leaving England, and that in longitude 110° west.

On the 6th a boat was sent ashore to procure turf, or peat, for fuel, and some small pieces of

#### GOOD COAL

were picked up in various places. About three-fourths of a mile from the shore two herds of musk oxen were seen—one of nine and the other of five; while, at a distance, were also observed two reindeer.

On the 8th several grouse and a white hare were killed. There were also seen field-mice, snow-buntings, a snowy-owl, a fox, four musk oxen, ducks, gulls, terns, and a seal. It was very evident that this island was visited if not inhabited by

#### MUSK OXEN IN GREAT NUMBERS,

for their bones and horns lay scattered in every direction and the carcass of one was found. The skulls of a wolf and a lynx were picked up and a half bushel of coal was gathered.

On September 10th, Mr. Fyfe, the master-pilot, and six other men from the "Griper" went ashore to explore the island, taking with them provisions for but one day. After being absent two days fears were entertained for their safety, and Messrs. Reid, Beverly and Wakeman having volunteered to search for them, went ashore for that purpose. They themselves, however,

#### BECAME LOST,

and, guided by fires, lights, and rockets from the ships returned without the missing ones. Accordingly on the 13th four search-parties were organized and before nightfall the lost men were found and returned to the ships in an exhausted condition. They had killed many grouse, however, and had not suffered greatly through lack of food.

In the center of the island they had found fertile valleys and level plains abounding with grass and moss; also a fresh-water lake two miles in length by one in width, in which were several species of trout.



They had also seen several herds of reindeer, many hares and two elks. The search-parties saw many herds of musk-oxen.

Lieutenant Parry now decided to go into winter-quarters, and accordingly on the 26th of September the anchors were dropped in thirty feet of water in a land-locked harbor at a cable's length from shore in longitude  $110^{\circ} 48' 2''$  west and latitude  $74^{\circ} 47'$  north. In order to get the ships into harbor it was first necessary to cut a channel nearly two and a half miles long through the "young" ice nearly eight and a half inches thick, and when the ships had reached their moorings the men cheered heartily. Their haven was called simply

#### WINTER HARBOR,

and Parry designated the group of islands which he had discovered, the North Georgian Islands, after George III., but they have since been named the Parry Islands.

During the month of October many reindeer were seen and several shot; a wolf was seen and a fox caught.

As cold weather was now upon them, the heating arrangements were looked after, and by utilizing the steam boilers and a system of tubing the ninety-four men were made as comfortable in their quarters, so far as heat and food are concerned, as could have been desired. In order to maintain a fraternal feeling among all on board, the young commander allowed no discrimination to be made, either as to quantity or quality of food, between the officers and men. Moreover, he himself joined heartily in various plans set on foot for the purpose of passing away the long, dark months. Among these were a series of theatrical exhibitions, given every two weeks, a school, and the publication of a daily (except Sunday) newspaper called the "Winter Chronicle, or North Georgia Gazette."

During the day portion of each twenty-four hours, the men were variously employed in scrubbing the decks, passing inspection, banking up the ships with snow, walking for exercise on shore, mending clothes, repairing sails or performing other ship work, etc.

On January 12th the thermometer sank to  $-51^{\circ}\text{F}$ . in the open air. This caused brandy to become

AS THICK AS HONEY.

Two days later the maximum cold was experienced, viz.,  $-52^{\circ}\text{F}$ .

On February 3d, from the top of the main-mast, fifty-one feet above the sea, the sun was seen for the first time in eighty-four days.

On the 24th the observatory was nearly destroyed by fire. John Smith, Parry's servant, in assisting Sergeant Martin to save the dipping-needle, had his hand so severely frozen that, when taken on board by Mr. Edwards and his hands placed in water, ice immediately formed on the surface of the water by the intense cold thus suddenly imparted to it. Later, it was made necessary to amputate four fingers of one hand and three of the other.

March 8th more than one hundred bucketsful of ice, each containing from four to five gallons, were removed from the ships' sides, this being the condensation of the vapor of the men's breaths and from the victuals in four weeks' time.

In order to assist in preventing the ravages of scurvy Parry grew in his own cabin a small garden of mustard and cress and distributed it among the men.

April 30th the thermometer again touched the melting-point, the first time since September 12th. On the next day the midnight sun, the

SUN THAT NEITHER SETS NOR RISES,

was seen. On this day also, the rations, as a matter of prudence, were reduced to two-thirds of the stated allowance except in the matter of meat and sugar. The expedition had now been absent a year—half the time for which it was provisioned. The men were now set to cutting the ice from around the vessels. It was seven feet thick and so heavy that when freed from it the ships immediately rose two feet in the

water. The men at this time suffered severely from the effect of

## SNOW BLINDNESS,

a sensation similar to that caused by sand or dust in the eyes. As a remedy sugar of lead or other cooling lotions were used. On May 24th all were surprised at two showers that fell, and those below hurried on deck to renew the sensation of seeing, and getting wet in, the rain.

About this time the scurvy made its appearance, having attacked one of the sailors, who, it appeared, had been in the habit of eating the fat skimmings, or "slush," from the water in which salt meat had been boiled.

June 1st Lieutenant Parry, Captain Sabine, Dr. Fisher, Messrs. Nias and Reid, midshipmen, two sergeants, and five seamen and marines set out to explore the island. On a cart drawn by the men were carried three weeks' provisions, wood for fuel, and two tents, altogether weighing about 800 pounds. They traveled by night—when the sun was circling low on the northern arc of the horizon—and slept during the warmer period of the day. On the 2d at a lake one-half mile long eider ducks and ptarmigans were met with and seven of the ptarmigans killed. From the tops of the hills could be seen the masts of the "Hecla" and the "Griper" eleven or twelve miles in the distance. To the north and west of them extended a great plain. They now breakfasted on bisenit and a pint of gruel made of salep powder for each man.

Reindeer and fawns were frequently seen as they journeyed.

Captain Sabine became affected with a bowel complaint and was therefore drawn upon the cart. The men were greatly assisted in the work of pulling the vehicle by the use of a tent-blanket used as a sail.

On the 7th the party arrived at the head of a long inlet which was named the Hecla and Griper Bay. Cutting through the ice, which was fourteen and a half feet thick, the water was found to be brackish and therefore it was concluded that the bay was an arm of the ocean. An island seen in the dis-

tance was named after Captain Sabine, while other features were named after various members of the party. That there had been periods of open water was proven by the

#### DISCOVERY OF FIR-WOOD,

consisting of a pole seven and a half feet long and three or four inches thick. It was found eighty yards inland and thirty feet above the level of the sea. It had probably journeyed from the opposite coast of Russia or Siberia.

Before leaving the bay a stone cairn twelve feet high and as many feet in diameter was erected. In it was deposited a tin cylinder containing a record of their proceedings, besides several coins and naval buttons.

Leaving the bay, the party traveled southward, bearing to the west. Many ptarmigans were shot and afforded excellent additions to their daily rations. The tracks and horns of reindeer were very numerous. Finally, a very long inlet was reached and named Liddon Gulf in honor of the commander of the "Griper," while the two capes at its extremity were called Beechey and Hoppner, after lieutenants of the "Hecla" and the "Griper" respectively. The shores of the gulf were high and precipitous. The cart was broken and the wheels were abandoned there, the other parts being carried along for fuel. In the center of the gulf and rising abruptly on its western side to a height of seven hundred feet was discovered a barren island of sandstone three-fourths of a mile in length. It was named in honor of Mr. Hooper, the purser of the "Hecla." Here were killed

#### FOUR FAT GEESE

and a great many animals seen. A fine valley was discovered and in it were many tracks of reindeer and musk oxen. The pasturage was excellent. On the 13th several ptarmigans and golden plovers were killed. A herd of not less than thirteen reindeer, and a musk-ox, were seen. On this same day

#### SIX ESKIMO HUTS

were also discovered and are thus described: "They consisted of rude circles, about six feet in diameter, constructed irregu-

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(1.) Vale of Clearwater River, from the Methye Portage, descent 1,000 feet in 36 miles—Back. (2.) Mackenzie River—Kendall. (3.) Rapids, Mackenzie River, Kendall, 1826—Back. (4.) Fort Franklin, Great Bear Lake, October 18, 1826—Kendall. (5.) Winter View of Fort Franklin—Back. (6.) Eskimos Approaching Boats, Shoalwater Bay, July 7, 1826—Back. (See Chapter XI.)



(1.) Boats Getting Afloat—Back. (2.) Again Aground in Shoalwater Bay at Midnight, July 7, 1826—Back. (3.) First Detention by Ice—Back. (4.) Young Eskimo Woman of Tribe West of Mackenzie River, July 9, 1826—Back. (5.) Eskimos West of the Mackenzie, July 9, 1826—Back. (6.) Winter House of Eskimo, Drawn July 12, 1826—Back. (See Chapter XI.)

larly of stones of all sizes and shapes, and raised to the height of two feet from the ground. They were paved with large slabs of white schistose-sandstone, which is here abundant. The moss had spread over this floor, and appeared to be the growth of three or four years. In each of the huts on one side was a small separate compartment forming a recess, projecting outward, which had probably been their storeroom; and at a few feet from one of the huts was a smaller circle of stones, which had composed the fireplace, the marks of fire being still perceptible upon them."

Vegetation on the island now began to flourish. The saxifrage was in blossom, while the sorrel was far advanced. Of this the men gathered and ate large quantities as a preventive of the scurvy.

On the 15th Parry and his party returned to the ships after a journey of about 180 miles. Meanwhile the ships' crews had been busily employed in reloading ballast and re-stowing the holds.

Hunting parties were now sent out in every direction. Dr. Fisher and two men constituted one of these. His party, in the course of ten days, saw thirty deer, of which they killed but two, these being small and weighing when dressed about fifty or sixty pounds. They saw two wolves, several foxes, and many hares. Of the hares they killed but four, these averaging about seven and a half pounds in weight. They also saw brent geese, king ducks, long-tailed ducks, Arctic and glaucous gulls, ptarmigans, plovers, sanderlings, and snow-buntings. Although very wary, about a dozen geese were shot. Fifteen ptarmigans were also killed.

About the 25th of June the grass was from two to three inches high, while the sorrel was so abundant that it required but a few minutes for the men to obtain enough for their dinner-salads twice a week. The sorrel was eaten with vinegar, and, as we have already remarked, as a preventive of the scurvy.

On June 30th, however, the death of William Scott, a boatswain's mate, occurred. He died of scurvy and a complica-

tion of other difficulties. On the 2d of July he was buried on shore with great respect and solemnity. Over his

#### LONELY GRAVE

was erected a sandstone slab which had been suitably inscribed and engraved by Dr. Fisher.

A funeral, however, was not the only occasion for religious observance among the officers and men of this expedition, for regularly every Sunday divine services were held and a sermon was read on both vessels.

From the series of tidal observations made while at Winter Harbor it was found that the maximum of rise and fall of the tides was four feet and four inches.

On July 14th a large cairn was erected on the most conspicuous hill overlooking the sea and in it were deposited the usual notices, coins, etc., and on a large stone was engraved a notice of the wintering of the ships in the harbor. On the 30th the ice began to move from the bay in a body.

August 1st the ships were clear of ice and sailing westward. On the 6th a landing was made, and during the following night fourteen hares were killed, together with a number of glaucous gulls, which were found with their young on a precipitous, isolated rock.

The ice was very thick in this part of the sea and violent collisions took place among the huge floes. Great ice-cakes fifty and

#### SIXTY FEET IN THICKNESS

lay stranded in vast heaps upon the beach. On the 9th a musk ox weighing over 700 pounds was killed. From it was obtained 421 pounds of fresh meat quite free from any taint of musk.

The ships now moved on, making but slow progress through the ice-floes everywhere from forty to fifty feet thick. On the 15th and 16th they were off a precipitous headland on the southwest portion of the island which was named Cape Dundas. In this locality Parry made his farthest west, longitude  $113^{\circ} 46' 43''$ , latitude  $74^{\circ} 26' 25''$ . To the southwest there ap-



peared a bold rock-bound coast rising abruptly through an otherwise unbroken expanse of ice and to it Parry gave the name of

BANKS' LAND.

On August 23d the ships fought their way through six miles of the most difficult ice navigation which Parry says he had ever known.

On the 24th a landing was made and four out of a herd of seven musk bulls were killed. They averaged when weighed about 360 pounds. From the number of skulls and skeletons of these animals found in every direction it was inferred that they do not migrate from the island during the winter.

The ice now compelled the ships to turn eastward and on the 26th they were off their old quarters in Winter Harbor. On August 30th Parry publicly announced his intention of returning to England. In the course of the first week in September he met with some whaling-vessels in the west waters of Baffin's Bay and from them the home news was learned, among the information gained being that of the death of George III.

After visiting a small band of Eskimos at the mouth of the River Clyde, longitude  $69^{\circ}$  west, latitude  $70^{\circ} 30'$  north; and in whose praise Parry writes enthusiastically, the expedition proceeded homeward, arriving at Peterhead, Scotland, October 30th, and a fortnight later at London.



ARROWTAR, SNOW-BEATER.

## CHAPTER VI.

## FRANKLIN'S FIRST EXPEDITION.

"Of obscure but respectable parentage?" Such is the earliest account of Sir John Franklin.

Born in Lincolnshire, England, in 1786, but four years before Scoresby, Jr. and William E. Parry, he, like them, made the most of his time and rose rapidly to distinction. At first intended for the church, his father thought to cure him of a desire for a seafaring life by sending him on distant voyages. The experiences, instead, confirmed him in his inclinations toward a "life on the ocean wave," and he accordingly entered the Royal Navy. Like Parry, he was among those whom Great Britain sent to be thrashed by the Americans in the war of 1812 and was wounded in the fatal

## ATTACK ON NEW ORLEANS

in 1815. Four years later we hear of him leading an expedition for the purpose of "determining latitudes and longitudes, and exploring the continent eastward from the Coppermine River."

Sailing from London, in May, 1819, in a course of a few weeks the three ships under his command were off the coast of Greenland. Here the "Prince of Wales," in his immediate command, struck upon a reef and in spite of the utmost exertions of all on board and the constant working of the pumps, the vessel, now separated from her consorts in a gale, seemed doomed.

Some women bound for the Hudson Bay's colonies gave heroic assistance during this trying period and merited the praise of the gallant Franklin, who says that their example

did much to stimulate the efforts of the men in the unequal struggle. By the timely use of oakum and canvas the hole was so greatly reduced in size that the pumps gained on the incoming water and the vessel overtook her companions and the damage was repaired.

August 30th Franklin arrived at

#### YORK FACTORY,

now known as Fort York. Among his party were Dr. Richardson and Messrs. Back and Hood, midshipmen in the navy. All three men were experienced navigators, but were also well adapted to the difficult work of exploration by land.

From York Factory Franklin and party made the journey to Fort Chipewyan by way of the streams and lakes in the great depression leading to the Great Slave Lake. While ascending one of the streams Franklin, who was standing on one of the banks, was precipitated into the current and his life was saved with difficulty. In another of these rivers was found a small island on which was a quantity of iron-stone of such power as to render useless the compasses when brought within range of its influence.

The 13th of July found the entire party at Fort Chipewyan. Here they engaged sixteen Canadian voyageurs as assistants, and before the close of the month others had joined them, so that the entire party consisted of thirty-two, including three children. This number embraced three Indian interpreters, and three women, the wives of three of the voyageurs, who had been taken along for the purpose of making clothes and shoes for the men at the winter quarters.

On August 2d the journey toward the Coppermine was begun. Great privations were endured and finally the Canadian

#### VOYAGEURS REBELLED

and refused to go farther unless provided with more food. Franklin, however, informed them that should any of them desert or otherwise hinder the progress of the expedition they would be severely dealt with. They "took the hint" and were ever afterwards faithful and performed excellent service.

Somewhat later, old A-kai-tcho, a shrewd yet friendly Chipewyan chief who with some of his tribe had joined Franklin at the fort, declared that, owing to the near approach of winter, it would be hazardous to proceed farther. In vain Franklin argued the case and stated his desire to observe an eclipsé that was about to occur nearer the sound of the Coppermine. The old chief, however, informed Franklin that, should he persist in advancing farther, he would send some of his young men to accompany them, that it might not be said of the Indians that they had guided the white men to those barren regions and there left them to die alone.

Hereupon Franklin decided to go into winter-quarters. This was on

#### WINTER LAKE,

situated between the source of the Yellow Knife River, the ascent of which from Great Slave Lake they had just completed, and the head of the Coppermine River, the descent of which they desired to begin that season.

On the 6th of October the officers took up their abode in a commodious log house which had been built. The roof and walls of the house were plastered with clay tempered before the fire with water, and frozen as it was daubed on. This rough plastering afterwards cracked, so as to admit the wind from every direction.

Nevertheless, a good fire of fagots built in the capacious clay-built chimney rendered the quarters quite comfortable.

By the end of the month the men had completed a house 34 feet by 18 for themselves. The encampment was named Fort Enterprise.

Before the 15th of October one hundred deer had been killed and placed in the store-house, together with dried meat and one thousand pounds of suet. Moreover, the carcasses of eighty deer had been cachéd, that is, buried beneath heavy stones or timbers and thus protected from the wolves and other destroyers.

In the meantime fishing was carried on with considerable success, about twelve hundred whitefish, each weighing from

two to three pounds, having been secured. They froze as they were taken from the ice, so that a blow or two with a hatchet or knife was sufficient to split them open, when the intestines might be removed in one solid lump. Even though frozen solid for nearly two days, upon being thawed before a fire the fish would "come to life again," that is, of course, simply recover their animation. The fishing season closed with the 5th of November, owing to the severity of the weather.

Shortly after going into winter-quarters Messrs. Back and Hood, with eight Canadians, an interpreter, and one Indian guide, made a journey to Point Lake, nearer the source of the Coppermine. They returned September 10th. About the same time Franklin and Richardson, with a seaman named J. Hepburn, and two Indians, one of them being old Kaskarra, the guide, set out in the same direction. A reindeer having been killed, the Indians extracted the marrow from the legs of the animal and ate of it raw with relish. They offered it to their white companions, of whom Franklin at least, could not eat. Later, however, his taste was not so fastidious and he declared such fare to be delicious. In the matter of sleeping, while the white men, in their thick suits and wrapped in blankets suffered from the cold, old Kaskarra, having first prepared his bed of rags and skins, would strip naked and then, curling himself up beneath the furs, would sleep with comfort. The party returned to the "Fort" on the 14th, having made a journey of about 150 miles.

On the 26th of October old A-kai-tcho, with his hunters and women and children, numbering in all about forty souls, came in from the chase and remained as an additional burden upon Franklin, who, however, got rid of them on the 10th of December by representing to them the impossibility of keeping them. The old chief, however, left his mother and two female attendants at the fort. Kaskarra, the guide, with his wife and daughter, also remained.

#### "GREEN STOCKINGS"

was the name of this beautiful girl of sixteen, of whom Mr. Hood secured a good likeness, although objected to by her

mother for fear that it might be the means of inducing the "Great Chief of England" to send for the original. This belle of the tribe had already been the wife of two successive husbands.

During the winter several parties were despatched to bring up supplies from the south, at Forts Providence and Chipewyan. Many of the caches of the reindeer meat were destroyed by the wolves, these ravenous creatures even venturing upon the roof of the house in their nocturnal prowlings. The rations were reduced from eight ounces of animal food a day to five ounces. On the 23d of March the last of the winter's supply of deer's meat was consumed, and the party were reduced to one meal a day, consisting of a little pounded meat, which had been saved for making pemmican, and a very scanty supply of fish.

Concerning the destitute Indian families, consisting principally of sick and infirm women and children, about the encampment, says Franklin: "When we beheld them gnawing the pieces of hide and pounding the bones for the purpose of extracting some nourishment from them by boiling we regretted our inability to relieve them, but little thought that we should ourselves be afterward driven to the necessity of eagerly collecting those same bones, a second time from the dung-hill."

On the 17th of March Mr. Back returned from his trip of eleven hundred miles to Fort Chipewyan after an absence of five months. He had traveled on snow-shoes, with no other shelter at night than a blanket and deer skin, the thermometer often being at 40° below zero and once at 57° below, while he often passed several days without food. His Indian companions were very generous, often giving up and not tasting of fish and birds caught by themselves, saying: "We are accustomed to starvation and you are not."

Says Back in his narrative: "One of our men caught a fish, which, with the assistance of some weeds scraped from the rocks (*tripe de roche*), which forms a glutinous substance, made us a tolerable supper; it was not of the most choice kind, yet

good enough for hungry men. While we were eating it, I perceived one of the women busily employed scraping an old skin, the contents of which her husband presented us with. They consisted of pounded meat, fat, and a greater proportion of Indian's and deer's hair than either; and, though such a mixture may not appear very alluring to an English stomach, it was thought a great luxury after three days' privation in these cheerless regions of America."

On the 22d of June the entire party, having left Fort Enterprise, were

#### DESCENDING THE COPPERMINE.

Fortunately, on the 25th, they succeeded in killing several musk oxen. As they journeyed the course of the stream became much contracted between precipitous banks from eighty to one hundred feet high. In this region the copper mines whence the Indians and Eskimos had obtained material for their spears and implements were visited.

On the 15th of July the mouth of the Coppermine was sighted from the top of a hill, and four days later the party arrived there. It was choked with ice and full of islands.

Meanwhile, constant watch was kept to discover the presence of any Eskimos in this region and to avoid any collision between them and their own Indian allies, who had, however, promised not to disturb their more defenseless, yet detested neighbors of the north. The officers gladly took turns in maintaining these watches and it was while Dr. Richardson was performing this duty that the following incident occurred: "One night, while on the first watch, he had seated himself on a hill overhanging the river; his thoughts were possibly occupied with far distant scenes, when he was aroused by an indistinct noise behind him, and on looking round, saw that

#### NINE WHITE WOLVES

had arranged themselves in the form of a crescent round him, and were advancing apparently with the intention of driving him into the river. He had his gun in his hand, but did not dare fire for fear of alarming any Esquimaux who might be

in the neighborhood. Upon his rising, they halted, and when he advanced toward them in a menacing manner, they at once made way for his passage, down to the tents."

They, however, fell in with small parties of Eskimos, with whom friendly relations were maintained.

Arriving at the sea, distant from Fort Enterprise 334 miles, Mr. Wentzel, an agent of the N. W. Fur Company, who had accompanied the party from Chipewyan, set out on his return to Great Slave Lake. He took with him dispatches for England and was accompanied by four Canadians. He was also to see that the Indians deposited a relay of provisions at Fort Enterprise for the party should they return that way.

Two conspicuous capes were named by Franklin in honor of Hearne and Mackenzie, while a river emptying into the sea farther eastward was called the

#### RICHARDSON RIVER.

after his companion, Dr. Richardson.

On July 21st the party embarked in two canoes with provisions for two weeks, and began their voyage eastward upon the Arctic Sea. On the 25th they doubled and named Cape Barrow, so called in compliment to Mr. Barrow of the admiralty, and in whose honor Parry had named the strait lying several hundred miles northwest of that point. Fortunately, Franklin's party secured a few deer and one or two bears about this time, and were enabled to continue their voyage till, on the 5th of August, they arrived at the shoal-blocked mouth of a stream which Franklin named in honor of his faithful friend and companion,

#### BACK'S RIVER.

Failing to meet with Eskimos from whom he could obtain food, Franklin abandoned the idea of proceeding to Repulse Bay, lying southeast of his position at that time and in the northwestern part of Hudson's Bay, and accordingly, on the 22d of August he began the return voyage. They had traced, from the mouth of the Coppermine to Point Turnagain, 600 geo-



graphical miles of sea coast, and had but one or two days' provisions left.

On the 5th of September, having eaten the last morsel of food, a little pemmican and arrow-root, they remained in bed two days during the prevalence of a snow-storm. They were without means of making a fire and suffered from cold as well as from hunger.

On the 7th they again set out in their frozen clothes, subsisting almost exclusively upon a species of lichen known as *tripe de roche*, when, on the 10th, "they got a good meal by killing a musk ox. To skin and cut up the animal was the work of a few minutes. The contents of its stomach were devoured upon the spot, and the raw intestines, which were next attacked, were pronounced by the most delicate amongst us to be excellent."

On they journeyed, wearied, worn, foot-sore, and nearly starved, endeavoring to allay the pangs of hunger with mosses, pieces of singed skins, burnt bones and even their old shoes.

On the 26th they unexpectedly discovered the putrid body of a deer that had fallen into the cleft of a rock and died. Building a fire they soon devoured nearly the entire creature.

October 1st the antlers and backbone of another deer were found, and although picked clean by the birds and beasts of prey, the putrid spinal marrow remained and was distributed equally among the party. Says Franklin: "After eating the marrow, which was so acrid as to excoriate the lips, we rendered the bones friable by burning, and ate them also."

The strength of the entire party now failed rapidly. Franklin was dreadfully debilitated and on one occasion fainted. Mr. Hood suffered from a severe bowel complaint caused by the *tripe-de-roche* and was little else than a skeleton. Mr. Back was so feeble as to require the use of a cane in walking, while Dr. Richardson was both lame and weak. Finally Mr. Hood and two or three others of the party broke down, and Dr. Richardson volunteered to remain with them, while the rest pushed on to Fort Enterprise for aid. Of these, others failed by the way until, at last, Franklin and five companions arrived at the

fort, only to find there no deposit of provisions, no trace of Indians, no letter from Mr. Wentzel pointing out where they might be found. Franklin writes: "It would be impossible to describe our sensations after entering this miserable abode and discovering how we had been neglected. The whole party

#### SHED TEARS.

not so much for our own fate as for that of our friends in the rear, whose lives depended entirely on our sending immediate relief from this place." Looking about for something to eat, they found several deer skins that had been thrown away during their former residence there, and these, with some bones picked from the ash-heap, and tripe-de-roche, afforded them a most miserable subsistence.

"We saw," says Franklin, "a herd of reindeer sporting on the river, about a half mile from the house; they remained there a long time, but none of the party felt themselves strong enough to go after them, nor was there one of us who could have fired a gun without resting it."

Although Franklin, with a few miserable companions, had arrived at the fort, he had been preceded there by the gallant Mr. Back, who, leaving a note for Franklin informing him of his intentions, pushed on toward the first trading establishment, distant about 130 miles, hoping thence to send back succor.

It was while talking over the prospects of receiving this assistance that Franklin and those with him heard voices, which, with great joy, they thought were of Indians coming to their relief. Bitter was their disappointment, however, when, instead, the emaciated frames of Dr. Richardson and Hepburn presented themselves. Of course they were gladly received, and the single partridge which the self-sacrificing Hepburn had shot that day and brought to the house was generously shared with Franklin and his three companions. The voices of all were noticed to be very sepulchral in tone, and Dr. Richardson requested the men to speak more cheerfully, and he tried to comfort them further by the prospect

of Hepburn's being able to kill a deer on the morrow, as they had fired at several near the house, and by reading from the Prayer Book and Testament portions appropriate to their situation.

The next day the Doctor and Hepburn succeeded in firing at several deer, but were unable to kill any on account of the unsteadiness with which they held their guns, owing to their great weakness.

Poor Mr. Hood, it will be noticed, did not arrive at the fort with Dr. Richardson, with whom, it will be remembered, the Doctor had volunteered to remain on account of his illness, while Franklin pushed on.

After Franklin had bidden them farewell, they went to bed and remained under their blankets during a snow storm all the next day. Here they comforted each other reading from a small collection of religious books that had been presented to the party while in London, by a very kind and thoughtful lady. "We read," says the good Doctor, "portions of them to each other as we lay in bed, in addition to the morning and evening service, and found that they inspired us on each perusal with so strong a sense of the omnipresence of a beneficent God that our situation, even in these wilds, appeared no longer destitute; and we conversed not only with calmness but with cheerfulness, detailing with unrestrained confidence the past events of our lives, and dwelling with hope on our future prospects."

Less than a week afterwards these two men were joined by Michel, the Iroquois guide. This was on October 9th. He was absent during the 10th and 11th, not again appearing till late on the 11th. It is now believed that he had previously killed two of the Canadians who had been with him, viz., Belanger and the generous Perrault, who were never afterward seen alive.

Upon overtaking Richardson and Hood on the 11th, he explained that he had brought with him a portion of a wolf which he had found dead, having been killed by the thrust of a deer's horn.

"We implicitly believed his story then," says Dr. Richardson, "but afterward became aware—from circumstances, the details of which may be spared—that it must have been a portion of the

BODY OF BELANGER

or Perrault. A question of moment here presents itself, namely, whether he actually murdered these men, or either of them, or whether he found the bodies in the snow. Captain Franklin, who is the best able to judge of this matter, from knowing their situation when he parted from them, suggested the former idea, and that both these men had been sacrificed; that Michel, having already destroyed Belanger, completed his crime by Perrault's death, in order to screen himself from detection."

Various circumstances pointed irresistibly to this conclusion, and after-occurrences would seem to confirm the suspicion as being true.

Toward Messrs. Richardson, Hood, and Hepburn, Michel behaved in a very surly, overbearing and independent manner, refusing either to cut wood or to hunt. In one of his angry moods he replied to Mr. Hood's request that he hunt, that there were no animals, and that they had better kill and eat him.

During these dark hours, the men endeavoring to be as cheerful as possible, and, realizing that as their bodies and minds decayed, incapacitating them to contemplate the horrors that surrounded them, they were calm and resigned to their fate. The Doctor continues: "Not a murmur escaped us, and we were punctual and fervent in our addresses to the Supreme Being."

At last, on the 20th, while Michel was alone in the tent with Mr. Hood, the report of a gun was heard, whereupon the Doctor and Hepburn rushing in found

POOR MR. HOOD DEAD,

having been shot through the back of the head, the charge coming out through the forehead. Michel persisted that Hood

had himself committed the terrible deed, but this, both the Doctor and Hepburn knew to be impossible. Moreover, the gun had been applied so close to the back of the head as to scorch the part of his cap over that portion of the wound. Still, neither the Doctor nor Hepburn dared to declare their suspicions, and decided to push forward to the fort with all possible haste. To this Michel objected, endeavoring to persuade them to go southward to the woods, where he said that he would maintain himself during the winter killing deer. The rest of the narrative is best told in the language of Dr. Richardson:

"In consequence of this behavior, and the expression of his countenance, I requested him to leave us, and to go to the southward by himself. This proposal increased his ill-nature; he threw out some obscure hints of freeing himself from all restraint on the morrow, and I overheard him muttering threats against Hepburn, whom he openly accused of having told stories against him. He also, for the first time, assumed such a tone of superiority in addressing me, as evinced that he considered us to be completely in his power; and he gave vent to several expressions of hatred toward the white people, some of whom, he said, had killed and eaten his uncle and two of his relatives. In short, taking every circumstance of his conduct into consideration, I came to the conclusion that he would attempt to destroy us on the first opportunity that offered, and that he had hitherto abstained from doing so from his ignorance of his way to the fort, but that he would never suffer us to go thither in company with him. Hepburn and I were not in a condition to resist even an open attack, nor could we by any device escape from him—our united strength was far inferior to his—and, besides his gun, he was armed with two pistols, an Indian bayonet and a knife.

"In the afternoon, coming to a rock on which there was some tripe-de-roche, he halted, and said he would gather it while we went on, and that he would soon overtake us.

"Hepburn and I were now left together for the first time since Mr. Hood's death, and he acquainted me with several

material circumstances which he had observed of Michel's behavior, and which confirmed me in the opinion that there was no safety for us except in his death, and he offered to be the instrument of it. I determined, however, as I was thoroughly convinced of the necessity of such a dreadful act, to take the whole responsibility upon myself; and immediately upon Michel's coming up, I put an

END TO HIS LIFE

by shooting him through the head with my pistol. Had my own life been threatened I would not have purchased it by such a measure, but I considered myself as entrusted also with the protection of Hepburn's, a man who, by his humane attention and devotedness, had so endeared himself to me that I felt more anxiety for his safety than for my own.

"Michel had gathered no tripe-de-roche, and it was evident to us that he had halted for the purpose of putting his gun in order with the intention of attacking us—perhaps while we were in the act of encamping."

Continuing wearily onward, Dr. Richardson and Hepburn at last reached Fort Enterprise on the 29th of October, where, as we have already stated, they found Franklin and his skeleton-like companions.

On the 1st of November two of the Canadians, Samandre and Peltier, died of exhaustion. On the 7th supplies of dried meat and fat arrived from old A-kai-teho's encampment, whence Back had despatched three Indians on the 5th. These Indians nursed and attended them with the greatest care, collected fuel, cleansed the house, and did everything in their power to render them more comfortable. Other supplies arrived, and before Christmas the survivors of the party were once more at Fort Chipewyan, where they remained until June of the following year, 1822.

It will be remembered that Mr. Back had preceded Franklin to Fort Enterprise, and had gone on thence in search of aid. Of his terrible journey we will give but an incident or two. On the 17th of October, he and one companion, St.

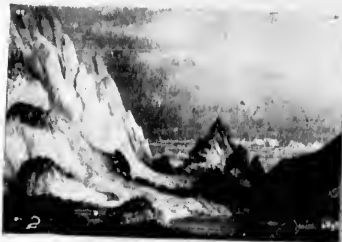
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(1.) Launching Bouts Across Reef, Opposite Mt. Conybeare, and Distant View of British Chain of Mountains, July 19, 1826—Back. (2.) Iceberg Adjoining Ice Reef, August 2, 1826—Back. (3.) Northern Termination of Rocky Mountains, August 5, 1826—Back. (4.) View From Flaxman's Island, August 7, 1826—Back. (5.) In a Swell Amongst Ice, August, 21, 1826—Back. (6.) Eskimo Encampment on Richards Island—Kendall. (See Chapter XI.)



(1.) E-kimo Winter Hut, Atkinson Island—Kendall. (2.) Encampment in Brownell Cove, July 15, 1826—Kendall. (3.) Wilmot Horton River—Kendall. (4.) Perforated Rocks, near Cape Parry, July 22, 1826—Kendall. (5.) Boat "Dolphin" Squeezed by Ice—Kendall. (6.) Crossing Back's Inlet—Kendall. (See Chapter XI.)

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Germain, seeing some crows perched high upon some pine trees, judged that carrion was in the vicinity, and upon search found the heads of several deer, without eyes or tongues, half-buried in the ice and snow. "Oh, merciful God, we are saved!" exclaimed both men involuntarily, as they shook hands, not knowing what they did or said, for very joy.

Another companion, Beauparlant, having lingered behind from extreme weakness, was now thought of, and Back sent St. Germain to bring him up. The poor fellow was found frozen to death.

That night was a sleepless one. Says Back: "From the pains of having eaten, we suffered the most

#### EXCRUCIATING TORMENTS.

though I, in particular, did not eat a quarter of what would have satisfied me; it might have been from having eaten a quantity of raw or frozen sinews of the legs of deer, which neither of us could avoid doing, so great was our hunger."

On the next day, Solomon Belanger, who had been sent with a note to Franklin, returned, reporting the dreadful state of affairs at Fort Enterprise, whereupon Back urged both Belanger and St. Germain to advance speedily with him for assistance. They, however, stubbornly persisted in loitering about the remnants of the deer till the 30th, at which time they set out again, and, coming upon the track of Indians on the 3d of November, were soon in the encampment of A-kai-tcho and his followers, whence supplies were sent to Franklin by the three Indian couriers.

This was brought to a close the great sufferings of Franklin and his courageous companions. After an absence of three years, during which time they had accomplished a journey of 5,550 miles, they arrived, in July, 1822, once more at York Factory. Nor was this great and important undertaking accomplished without a firm reliance upon the guiding hand of a Divine Providence.

## CHAPTER VII.

## RUSSIAN EXPEDITIONS.—WRANGELL'S GREAT JOURNEYS IN SIBERIA.

Following the efforts of the Laptjeff cousins in delineating a large part of the Arctic Coast according to Bering's plans,

## SCHALAROFF,

a merchant of Ya-kutsk, in 1758, sailed from the Yana river in a ship built at his own expense, and succeeded in advancing farther eastward than had Dmitri Laptjeff, viz., beyond the Baranoff Rocks, but short of Cape Chelagskoi. Making a second attempt, again he failed. In his third effort, in 1760, the crew refused to support him. Three years later,

## SERGEANT AN-DRE-JEFF,

a Cossack, who had been on the Indigirka, and had driven over the ice to and from the Bear Islands, reported that he had discovered in the estuary of the Kolyma, a group of inhabited islands, with the remains of a fort, and traces of a former large population. The next year,

## SCHALAROFF

for the fourth time endeavored in vain to double Cape Chelagskoi. On this journey he lost his life. Of him, says Wrangell, whose work in the same region we are about to consider, "His unfortunate death (from starvation, it is said) is the more to be lamented as he sacrificed his property and life to a dis-

interested aim, and united intelligence and energy in a remarkable degree." In this same year

ADMIRAL CHIT-CHA-GOFF

made a fruitless attempt to sail round the Spitzbergen group. In 1767, Leontjeff, Lyssoff, and Pushkaroff surveyed the coast near the Kolyma.

Meanwhile, between the years 1745 and 1768, the fur traders, in their commerce with China and Japan, had discovered the islands of the North Pacific. In April, 1770,

LIAKHOV, OR LACHOW,

a merchant, while gathering a cargo of fossil ivory in the vicinity of Sviatoi Nos, or Holy Cape, observed a large herd of reindeer advancing over the sea-ice from the north, and therefore concluded that they must come from land. Guided by the tracks of the migrating animals Liakhov journeyed by dog-sled northward till at distances of forty and fifty-two miles from the Cape he discovered the two southernmost of the

NEW SIBERIAN ISLANDS,

and found them both wonderfully rich in the ivory of the mammoth. Having been rewarded for his discovery by Czarina Catherine II. with the exclusive right to collect ivory from them, in 1773 he discovered the largest of the three, which still bear his name. In 1787,

JOSEPH BILLINGS,

who had accompanied Captain Cook in his last voyage, sailed down the Kolyma river with two vessels, and from its mouth eastward a short distance beyond Baranoff Rocks. Owing to the impassable condition of the ice he returned to the mouth of the Kolyma, whence, leaving the vessels aground, he proceeded to Ya-kutsk. In this, as well as in subsequent operations, he acted in the service of the Russian navy. In June, 1790, in command of a second expedition he visited the Aleutian Islands, where, observing the oppression of the natives by the Russian and Cossack traders, he strove to ameliorate

the sad condition of the defenseless tribes by governmental interposition. In August, he endeavored to survey the Chookchee peninsula, but, owing to the hostility of the natives, engendered, doubtless, by long years of oppression by the Cossack and Russian adventurers, the effort was abortive. Says Saner, the historian of the voyage: "We passed three villages, and halted at a fourth for the night. The huts were dug under ground, covered with earth, of a square form, with a fireplace in the middle, and four large stones made the hearth. We were obliged to treat with them for water, and for fuel to boil our food, and to pay for it immediately. Observing our good nature and want of power, they

#### TOOK A LIKING TO THE BUTTONS

on our coats and cut them off without ceremony. The men were tall and stout, and the warrior had his legs and arms punctured. The women were well-made, and above the middle size; healthy in appearance, and by no means disagreeable in their persons; their dress was a doe's skin with the hair on, and one garment covered their limbs and the whole body. They wore their hair parted, and in two plaits, and hanging over each shoulder, their arms and face being neatly punctured."

#### THE ARCHIPELAGO OF NEW SIBERIA,

discovered in 1806 by Sir-a-wat-sky, and explored by Hedenstrom three years later, lies almost due north from the mouth of the Yana, a short distance east of the Lena delta, between latitude 73° and 76° north, and longitude 135° and 150° east. According to San-ni-koff, who explored the group in 1811, "the whole soil of the first of the Liakhov Islands appears to consist of bones and tusks of mammals." On the hills of Kotelnoi, one of the group, he found the skulls and other bones of horses, buffaloes, oxen, and sheep; and although covered with snow and ice and not producing even a living shrub, fossilized trees were found in numerous localities. Concerning the celebrated "Wood Hills" of those islands, Hedenstrom, who visited them in 1811, says: "They are thirty fathoms high (180 feet),

and consist of horizontal strata of sandstone, alternating with strata of bituminous beams or trunks of trees. On ascending these hills, fossilized charcoal is everywhere met with, covered apparently with ashes, but on closer examination this ash is also found to be a petrification, and so hard that it can scarcely be scraped off with a knife. On the summit another curiosity is found, namely, a long row of beams resembling the former, but fixed perpendicularly in the sandstone. The ends, which project from seven to ten inches, are for the most part broken. The whole has the appearance of a ruinous dike." According to this same explorer the tusks of the mammoth are smaller and lighter but more numerous as one journeys towards the north on the islands, often weighing only from 108 to 144 pounds avoirdupois. On the mainland of Siberia they weighed from three to four times as much.

To these larger animals must have belonged

#### THE FROZEN MAMMOTH

discovered in 1799 by Schumachoff, a Tungusian ivory hunter. This occurred near Lake Ancoul. Four years later, the ice which enveloped it having melted away, the carcass fell upon the sand, where its well-preserved flesh afforded to the dogs and wild beasts food for at least three seasons. In 1804 Schumachoff carried away and sold the tusks for forty dollars. Two years later Mr. Adams found it in a mutilated condition, but with some of the flesh still adhering to the bones. The skeleton, excepting one fore-leg and some of the tail-bones, was complete. Three-fourths of the skin remained, and required the united efforts of ten men to remove it 150 feet to the shore. It was of a dark gray color, covered with short, curly, reddish wool, besides some black hairs or bristles from one to eighteen inches in length. It also possessed a long mane. While samples of its wool were distributed among the principal museums throughout Europe, the entire body remaining was taken to St. Petersburg and placed in the imperial museum. Its tusks were repurchased by the government and replaced in their original sockets. In sex, it was a male. Its chief measure-

ments were: from forehead to end of mutilated tail, sixteen feet four inches; height to top of dorsal spine, nine feet four inches; length of tusks along curvature, nine feet six inches.

Although the New Siberian Islands are now uninhabited, there were found upon them traces of former population. These were possibly of the traditional O-mo-ki now long ago vanished from even the mainland, and of whom legend has it that "there were once more hearths of the O-mo-ki on the shore of the Kolyma than there are stars in the clear sky."

Following the birth of the New Siberian Islands into the scientific and commercial worlds, the

#### RUSSIAN ARCTIC VOYAGE OF EXPLORATION

under Lieutenant Otto Von Kotze-bue, son of the great German dramatist, was undertaken in 1815. This was owing to the public spirit and scientific zeal of Count Nicholas Ro-man-zoff, who had been made the Russian Secretary of State in 1807. The talented Count selected as his companion the poet and naturalist, Chamisso, and the physician and naturalist, Escholtz.

In a vessel of only 180 tons burden and a crew of twenty-two men, the expedition sailed from Plymouth, England, in October, 1815, and, after rounding Cape Horn, arrived in the Bay of Avacha, Kam-chat-ka, on the 17th of June, 1816. Ten days later they landed on St. Lawrence Island. Here the inhabitants, who had never before had intercourse with Europeans, received them with amusing yet seriously meant hospitality. Says Kotzebue: "So long as the naturalists wandered about the hills I staid with my acquaintances, who, when they found that I was the commander, invited me into their tents. Here a dirty skin was spread on the floor, on which I had to sit, and then they came in, one after the other, embraced me, rubbed their noses hard against mine, and finished their caresses by spitting on their hands and then striking me several times over the face. Although these proofs of friendship gave me very little pleasure, I bore all patiently; the only thing I did to lighten their caresses somewhat, was

to distribute tobacco leaves. These the natives received with great pleasure, but they wished immediately to renew their proofs of friendship. Now I betook myself with speed to knives, scissors, and beads, and by distributing some, succeeded in averting a new attack.

"But a still greater calamity awaited, when, in order to refresh me bodily, they brought forward a wooden tray with whale blubber. Nauseous as this food is to a European stomach, I boldly attacked the dish. This, along with new presents which I distributed, impressed the seal on the friendly relations between us. After the meal our hosts made arrangements for dancing and singing, which was accompanied on a little tambourine." The Europeans took their departure two days later, whereupon the natives killed a dog in plain view of them, perhaps as a parting sacrifice.

Having passed through Bering Strait, the expedition arrived, on August 1st, within a broad bay, beginning in latitude  $66^{\circ} 42'$ , longitude  $164^{\circ} 14' 50''$ . It received the name of Kotzebue Sound, and two weeks were spent in surveying it. To an island and a bay that were also discovered at this time were applied the names of the naturalists, Chamisso and Eschholtz, respectively. The scientists also examined

#### A REMARKABLY UNIQUE ISLAND.

of about 100 feet in elevation and having the appearance of a chalk cliff. Upon close observation, however, it was found to be a mass of ice covered with a layer of blue clay and turf-earth only six inches thick, but covered with luxuriant vegetation. Speaking of this, Professor Nordenskiöld says: "The ice must have been several hundred thousand years old; for on its being melted a large number of bones and tusks of the mammoth appeared, from which we may draw the conclusion that the ice stratum was formed during the period in which the mammoth lived in these regions." Its latitude was  $66^{\circ} 15' 36''$ .

Leaving Kotzebue Sound on August 15th, the expedition sailed westward and beheld the Arctic Ocean, quite free from

ice as far as the eye could reach, and might have attained what is now known as Wrangell's Land had they but pushed that way. Instead, they directed their course southward and homeward, arriving in Europe in 1818.

Prompted by the results of the explorations of Andrejeff in 1767, and of Pshenizyn and Hedenstrom in the exploration of the Bear and the New Siberian Islands from 1809 to 1811, the Russian Naval Department resolved, in 1820, to send out an expedition under

LIEUT. FERDINAND VON WRANGELL.

It was made to consist of two divisions: the first, under Wrangell, with seven companions, was directed to survey the coast eastward from the Ko-ly-ma as far as Cape Schelagskoi, and thence to proceed northward to ascertain if an inhabited country existed there, as had been asserted by the Chookchees and others; the second, under Lieutenant Anjou, with two companions, was to proceed northward for the same purpose. This division succeeded in surveying the New Siberian Islands, but failed to find any "inhabited country." No reports of this division were published, owing to the accidental burning of the official papers. Of the celebrated "Wood Hill" of New Siberia, Lieutenant Anjou says: "They form a steep declivity twenty fathoms high, extending about five versts (three miles) along the coast. In this bank, which is exposed to the sea, beams or trunks of trees are found, generally in an horizontal position, but with great irregularity, fifty or more of them together, the largest being about ten inches in diameter. The wood is not very hard, is friable, has a black color, and a slight gloss. When laid on the fire it does not burn with a flame, but glimmers, and emits a resinous odor."

The expedition left St. Petersburg April 4, 1820, and traveled thence via Moscow, Irkutsk and Yakutsk, to its base of operations on the lower Kolyma, in latitude 68° 32', longitude 160° 35' east, a distance of 6,300 miles. The journey was

MADE ON HORSEBACK

in 224 days, thirty-six of which were spent at Irkutsk and



forty-nine at Yakutsk. Wrangell and two companions headed the cavalcade of ten pack-horses, of which only the first and last carried drivers.

Between Irkutsk—situate only a short distance from Lake Baikal—and Yakutsk, on the Upper Lena, the travelers met some Yakuts and Tunguses, of Tartar origin.

On the 15th of October, having crossed the Upper Yana, they met Dr. To-mas-chew-ski, on his return to civilization after a three years' sojourn at Nish-ni Ko-lymsk.

On the 22d the party crossed the Indigirka at Sa-chi-versk, and for two days enjoyed the hospitality of the

#### VENERABLE MISSIONARY,

Father Michel, eighty-seven years of age, and who had in his long missionary career of forty years baptized and instructed in the doctrines of Christianity 15,000 Yakuts, Tunguses, and Ya-ka-gires.

Continuing thence eastward, Wrangell crossed the Alasei Mountains, which separate the Indigirka from the Kolyma, and arrived at Sredne Kolymsk on or about the 6th of November. This place was the official headquarters of the region, and is situated on the Kolyma, quite on the Arctic Circle. Here heavy fur clothing was purchased, and then the march toward the Om-a-lon, a branch of the Kolyma, began. Arriving upon its banks on the 31st, a two days' sledge journey with dogs brought the explorers to Nishni Kolymsk, where the ensuing winter was spent, in latitude  $68^{\circ} 32'$ , longitude  $160^{\circ} 35'$ . The town was founded in 1644. Its inhabitants were of medium height, and strong and vigorous. Here the river remains frozen over from the middle of September till the following June, there being only three months of summer, during which time the sun remains constantly above the horizon for fifty-two days, but at so low an elevation as to give but comparatively little heat to the earth. Then it may be gazed upon with the naked eye without serious inconvenience.

With the inhabitants, spring begins when the returning sun is first seen at midday just above the southern horizon,

although at that time the thermometer is at  $-35^{\circ}$  Fahrenheit at night. Autumn begins with the first freezing of the river. In June the thermometer sometimes registers  $72^{\circ}$ , but before the close of July it sinks to about  $40^{\circ}$ . January gives a temperature of  $65^{\circ}$  below zero, thus showing a range of  $137^{\circ}$  in five months. The winters are foggy, catarrh and ophthalmia resulting. Scurvy and other dangerous diseases are rare; upon the whole, the climate is not unhealthful.

On March 3, 1821, Wrangell set out for Cape Schelagskoi, the party traversing the intervening uninhabited coast with nine dog sledges and drivers. Occasionally the Russian hunters descend upon it to the Baranoff Rocks, and the Chookchees, from the other side, to the Baranoff River. The intervening moss-covered plains were inhabited by the unsubdued Chookchees with their vast herds of reindeer.

The equipment of Wrangell's party consisted of the following principal articles: Reindeer-skin tent, with frame of ten poles and cooking utensils; a bear-skin apiece to lie on; double coverlet of reindeer skin for each pair; fur shirts; fur coats of double thickness; fur-lined boots; fur caps and gloves; some changes of linen; fire-arms; two chronometers; a seconds' watch; sextant and artificial horizon; spirit thermometer; three azimuth compasses, one having a prism; two telescopes and a measuring line.

On the 5th of March Su-char-noi Island was reached at the mouth of the east branch of the Kolyma, in latitude  $69^{\circ} 31'$ , longitude  $161^{\circ} 44'$ . On the next morning the start was made for Baranoff Rocks, twenty-four miles distant. On the way, the wooden tower, erected by Captain Billings in 1739, at the mouth of the Kolyma, was passed. Arriving at the hut erected by the same officer, it was found in a good state of preservation, but filled with snow and ice. The roof was accordingly removed and the hut cleared in half an hour. It was found to be large enough for but four men, and the other seven slept without, in the tent. On the 7th, having traveled about twenty-five miles, the Greater Baranoff Rock was reached. The temperature at noon was  $-20^{\circ}$ F. These rocks had the ap-

pearance of colossal figures of men, beasts, and the ruins of vast buildings. On the next day, twenty miles farther on, a depot of provisions for the return trip was erected on the banks of a stream. On the 9th, twenty miles more were covered in a severe snow-storm. On the next day the sea-ice was struck, and over it, at a short distance from the shore, the travelers passed with greater ease. In the afternoon of the 13th they came upon several Chook-chee huts of larch driftwood in the strait separating the Sabadei Island of Schalaroff from the mainland. This was in latitude  $69^{\circ} 49'$ , longitude  $168^{\circ} 43'$ . At noon of the next day Wrangell saw a stretch of open water, extending east and west as far as the eye could reach, and north of it a great accumulation of ice-hummocks, which at first he supposed to be land. Within two miles he recognized Laptjeff's Sand Cape, longitude  $168^{\circ}$ . At the end of twenty miles made on the 4th, the last depot was formed, in latitude  $69^{\circ} 58'$ , longitude  $168^{\circ} 41'$ . From this point, too, the sixth and last of the provision sledges was sent back, Wrangell, Mate Kosmin and three drivers proceeding on alone. On the 17th, the northwest point of Cape Schelagaskoi was reached. Ice-hummocks and icebergs were everywhere visible. Five miles beyond they found a quantity of driftwood, of which they built a rousing fire and refreshed themselves. Just west of them was the bold Schelagaskoi, towering to a height of 3,000 feet. From this point Wrangell and Kosmin, leaving one sledge behind to await their return, proceeded eastward in order to test the theory of the English Admiral, Burney, who had conjectured that a strait existed between the mainland of Siberia and some undiscovered land extending from Cape Schelagaskoi to Bering's Strait. Ten miles from their camp the latitude was found to be  $70^{\circ} 3'$ , and seven miles farther on the coast was seen for twenty-four miles trending in a southeasterly direction, therefore conflicting with Burney's views. The farthest point seen was named Cape Kosmin, after Wrangell's companion. The limit reached was marked by a cairn erected on a hill in latitude  $70^{\circ} 1'$ , longitude  $171^{\circ} 47'$ . They had traveled at an average rate of twenty miles a day—in all

241 miles—since leaving Sucharnoi Island. The day's journey was generally made in eight hours.

The gliding of the sledges was greatly facilitated by inverting the sledges at night and pouring water upon the runners so as to form an ice-coating upon them. This custom doubtless prevails among all polar tribes. In North Greenland the process is known as ki-o-thock-toh-ing, and is performed by rubbing upon the ivory-shod sledge runners quantities of semi-melted snow, thawed by being held in the mouth. The writer has observed the natives to use also the warm blood of recently-killed seals, walruses, or reindeer.

Having erected a memorial cross at Cape Kosmin, Wrangell set out upon the return on the 19th, and encamped at noon in latitude  $69^{\circ} 44'$ , longitude  $170^{\circ} 47'$ , giving to the name of a cape seen three miles in a southwesterly direction the name of the midshipman, Ma-tinch-kin, who had been sent on a mission of peace among the Chook-chees.

Crossing Chann Bay to Sab-a-dei Island on the next day, the party reached their fourth depot of provisions, and fortunately, too, for they had consumed all that they had taken with them.

Upon these alone the return trip was made to the Lower Kolymsk, after an absence of twenty-two days. The intervening depots had been destroyed by wolverines and foxes, and no provisions had been left at Su-char-noi Island, as Wrangell had ordered. The round trip of 647 miles was made at an average rate of thirty-one miles a day for twenty-one days actually consumed in traveling.

On March 31st Wrangell was rejoined by Ma-tinch-kin, who had learned from the Chook-chees, whom he had visited, that they had never seen or heard of land farther north. Thus again did Burney's theory fail of support. The Chook-chees had also promised to aid and receive in a friendly manner the expedition whenever it might see fit to visit them.

On his journey Ma-tinch-kin left Nishni Kolymsk on the 16th of March, and four days later arrived at Fort Os-troff-noi, latitude  $68^{\circ}$ , longitude  $166^{\circ} 10'$ . He was accompanied by Cap-

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tain John Dundas Cochrane (the "Pedestrian Traveler"—then on his famous trip round the world), by a Cossack servant and a Ya-kut interpreter.

On the day following Ma-tinch-kin's arrival at the fort, a caravan of Russian merchants, with 125 pack-horses loaded with commodities for the annual fair, arrived there. These goods consisted of tobacco, beads, hardware, and smuggled liquors, to be exchanged with the natives for the furs of animals killed not only in those regions but also on the opposite shores of North America, the Alaskans receiving in return for their articles the tobacco and trinkets obtained from the Russians.

During fair time, the fort was visited not only by the Chook-chees, but also by the Yu-ka-gires, Tun-gu-ses, Choo-van-chees, Ko-riaks, and a few scattered Russians, coming from a radius of 600 miles.

The value of goods exchanged annually was estimated at \$150,000, the Russians making about sixty per cent on the cost of their wares; the natives, 300 per cent. But, while the Russians were absent from home only a few weeks, the various tribes were often several months on the road.

During the three days of the fair, the Russians were very noisy in their manner of dealing, while the "barbarians," on the contrary, maintained great composure.

At this time Ma-tinch-kin introduced the object of his mission to the chiefs of the various tribes, explaining that the mighty Czar of all the Russians was desirous of sending ships, if possible, by the northern seas, to bring to them wares in greater abundance and at less cost than they then paid, and also that he wished to ascertain whether or not the servants of the Czar could rely upon a friendly reception by their various peoples. Each proposition was heartily assented to by the tribal heads.

Chief Leuth, from the Bay of St. Lawrence, on the Pacific coast, received Matinchkin into his tent, when the six nearly naked female inmates decorated themselves with colored beads in his honor, while Mak-o-mol invited him to witness a sledge race, in which the sledges were drawn by reindeer. The fleet-

ness of these animals and the dexterity of the drivers elicited the applause of the multitude. The prizes awarded were a beaver skin, a blue fox skin, and a pair of walrus tusks. A foot-race followed, during which, over a course of nearly nine miles, the contestants wore their usual suits of heavy fur. The populace, however, evinced greater liking for the reindeer races. At the close of the contests, the performers and spectators were banqueted upon boiled reindeer ant into pieces and served in large wood bowls, distributed around over the snow. Quietness and good order prevailed.

On the following day Ma-tinch-kin's visit was formally repaid by the Chook-chees, to the ladies of whom he presented red, white, and blue beads, with candy and tea for refreshments. The ladies, however, disliking the tea, partook only of the candy. A dance followed, in which feet and bodies were rigidly moved back and forth, the hands meanwhile beating the air.

At last, three competent persons performed the national dance of the Chook-chees. In this, grimaces, contortions, and jumpings formed the principal attraction, till the artists were completely exhausted. This over, etiquette compelled Ma-tinch-kin to present to each of the three performers a cup of brandy and some tobacco. The guests then took their departure, charging the Russian to return their call in their own country.

The chief also made him a formal visit of friendship to give renewed assurance of their desire to forward the proposed exploration of the northern sea. Ma-tinch-kin thereupon returned to Nishni Kolymsk, as has been stated.

Here Dr. Kyber, the remaining officer of the expedition, had also arrived from Irkutsk. He, however, was ill and unable to take part, not only in this first expedition, but also in the one following, which we now turn to consider as

#### WRANGELL'S SECOND SLEDGE JOURNEY,

undertaken less than two weeks after the return from the first trip. The start was made on the 7th of April, and, as

before, from Sucharnoi Island. The train consisted of twenty-two sledges drawn by two hundred forty dogs.

Of these, fourteen were provision sledges, each carrying 1,100 pounds; and two, the sledges of Be-resch-noi, a merchant who had been granted permission to accompany the expedition.

Besides Ma-tinch-kin, Wrangell's immediate companions were Ne-cho-roch-koff, the sailor who had accompanied him from St. Petersburg, and Re-chet-ni-koff, a retired sergeant who had joined him at Yakutsk, and who had accompanied Hedenstrom on his exploring expedition to the New Siberian Islands ten years before.

This time, a dipping needle, a sounding-line, some whale-bone shoeing for the sledge runners, a crow-bar for breaking through the ice, and a portable boat of skins for crossing open lanes in the ice, were taken along.

On the second day out, when on sea-ice, an enormous bear was killed, mainly through the courage of one of the Cossack drivers.

On the 10th, on what was judged to be the easternmost of the Bear Islands, Wrangell determined the latitude to be  $71^{\circ} 37'$ , longitude  $162^{\circ} 25'$ , and named it the

#### FOUR-PILLAR ISLAND,

from its remarkable granitic porphyry formation in the shape of pillars, the tallest of which was forty-eight feet high and ninety-one in circumference, and fashioned somewhat like a gigantic human body with turbaned head, but without limbs.

Here the party collected a supply of driftwood for fuel, and pushed on, the temperature keeping from seven to fourteen degrees above zero.

On the 12th the sledges dragged heavily on the salt-covering to the ice now encountered, and thick fog rendered the men's clothing wet. These circumstances indicated open water in that vicinity. Here a gale sprang up and forced them to take refuge upon an ice-hummock thirty feet high. From freshly-fallen snow on the summit was melted drinking and cooking water. By morning the storm ceased and the ther-

mometer rose to 23° Fahrenheit. Whalebone shoes were then fastened upon the runners and the sledges ran more easily.

On the 14th, three seals were seen, but escaped through holes in the ice. Several of the provision sledges had been sent back already, and now three more were despatched in the same direction.

On the next day the explorers began to travel by night, and left camp after sunset. They soon found themselves, however, in a deep salt moor on ice only five inches in thickness and so rotten as to be easily cut through with a common knife. Two miles to the southeast the ice became smooth and sound, and fourteen inches thick, and the sea twelve fathoms deep.

Upon again encamping, the night was spent in great alarm; the high wind so agitated the open water somewhere to the north as to cause the ice to vibrate beneath their feet. This was in longitude 163° 29'. Four miles northward, latitude 71° 43', the ice was found to be so greatly fissured and so unstable that Wrangell decided to go no farther. He was 124 miles in a straight line from the Lesser Baranoff Rock.

Proceeding now in a southeasterly direction, the travelers reached, by noon of the 17th, a large ice-hill in the vicinity of latitude 71° 30', longitude 163° 39'. Here were deposited surplus provisions, and eight of the sledges, with drivers, sent on to Nishni Kolymusk in charge of Sergeant Re-chet-ni-koff. There now remained, including Be-resh-noi, ten persons, with sledges and provisions for men and dogs for fourteen days. Still advancing over the now greatly fissured ice, they rested and religiously observed the 22d, which was

#### EASTER SUNDAY

in latitude 70° 46', longitude 165° 6', in sight of the Greater Baranoff Rock, sixty miles distant. Before an ice-block altar was burnt the only wax taper which they possessed. Be-resh-noi read the prescribed service, while the Cossacks and drivers sang the customary hymns. The next day was also spent in the same place owing to the temporary illness of one of the drivers. The time was employed in repairing the sledges, the

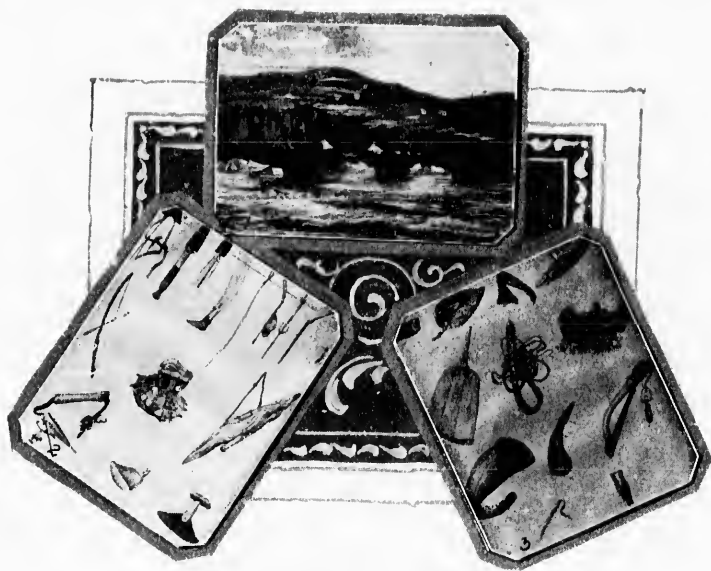


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The "Fury," Aug. 25, 1825. Hoppner.  
Eskimo Weapons, Implements, etc.  
(See Chapter X.)



One of Dr. Chamberlin's Pets.  
(See pages 458-9.)



Fur ("Baby") Seal. Mounted Specimen.

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death-like stillness of the day being relieved by the thunder-peals of crashing ice.

On the 26th they reached the depot left on the ice-hill. Numerous tracks of bears and other animals were seen all round it, but nothing had been disturbed. On the next day they again rested and found the latitude to be  $71^{\circ} 28'$ . As the party slept they were awakened by the barking of the dogs. Two bears were in the camp and these all the men save Wrangell followed till morning, but without capturing them. Meanwhile, a third bear appeared before the surprised and perplexed leader of the expedition, but, after eyeing him for a moment, scampered off and fell in with two of the returning hunters, who wounded but did not capture it.

On the 29th they again reached the scene of Hedenstrom's labors in 1810, in latitude  $71^{\circ} 26'$ , longitude  $162^{\circ} 27'$ , in the vicinity of the Bear Islands. Traveling in storm and darkness, guided by compass and with the teams tied in succession to the sledges preceding them, the party reached, on the 1st of May, the north side of Four-Pillar Island. Two fires of driftwood set blazing soon revived their spirits, and on the morning of the 2d, the

#### NOTES OF SOME LINNETS

regaled them as they approached the second island of the group. On the 5th they examined the most western of these and also found that they were six in number, including the Four-Pillar Island.

Provisions running low and the season being far advanced, Wrangell now proceeded direct to Nishni Kolymsk, arriving there on the 10th of May, having been absent thirty-four days. He had journeyed 700 miles without serious injury to man, dog or provisions.

Owing to the scarcity of provisions at Nishni Kolymsk, Wrangell made special efforts to secure supplies for his men and dogs during the season. Fishing and hunting parties were sent out; Ma-tinch-kin and Dr. Ky-ber explored the Aniuj; Kosmin traversed on horseback the desert region between the Chu-kot-chie and the In-di-gir-ka rivers; Re-chet-ni-

koff erected a small dwelling and a depot of provisions at the mouth of the Greater Bar-a-ni-cha River; Ne-cho-rosh-koff gave special attention to the securing of fish, while Wrangell occupied a portion of his time determining some positions on the river, it being still blocked by ice.

While in the middle of the stream on the 27th of July, his tent took fire and was destroyed before he could reach it, but fortunately the papers and instruments were not burned.

A little later, Wrangell, through the advice of Dr. Kyber, spent nearly seven weeks among the Ya-kuts living farther south along the Upper Kolyma. Here the repose as well as the kind treatment of the natives greatly invigorated him and he was relieved of his rheumatism.

About the middle of October the entire party were again gathered at Nishni Kolymsk, where they spent the winter of 1821-2.

Four-fifths of the dogs used by the expedition having perished of an epidemic during the winter, the preparations for

#### WRANGELL'S THIRD SLEDGE JOURNEY

were begun under very discouraging circumstances. Only forty-five of these indispensable animals of the ninety-six contemplated could be secured. The faithful Cossacks, however, owning the majority of the surviving dogs, came to the aid of the Russians, and, together with other inhabitants, fitted out twenty sledges, each with twelve dogs.

At length, on the 26th of March, with twenty-four sledges, nineteen of which were burdened with provisions, and with nearly three hundred dogs, the start was made once more from Sucharnoi Island. Wrangell's trusty companions were as before—Ma-tinch-kin, Kosmin and Ne-cho-roff-sky. Dr. Kyber again very reluctantly remained behind owing to ill health.

Eleven days later, on April 6th, the expedition arrived at a point about ninety miles north, near latitude  $71^{\circ} 30'$ , and eighteen miles east of Cape Schelagskoi. From this point, depots having been established, the last of the provision sledges were sent back.

After test journeys of three or four miles toward the north and northeast, in which no new land was discovered, the expedition again started north on the 12th. Two days later

## EASTER SUNDAY

was observed as a day of rest, the bright, mild weather adding to the enjoyment of the occasion. A few days later three men, one of them a sick driver, with one sledge and two dog teams, were sent back. The extra sledge thus released was used in repairing the others. Wrangell also gave to the three men returning the largest tent.

Pushing on, the remaining five men, with three sledges, reached, on April 21st, latitude  $71^{\circ} 52' - 3^{\circ} 23'$  east of the Greater Baranoff Rocks, and near the limit of the shore-ice of Siberia. Ma-tinch-kin, however, with a lightly equipped sledge advanced six miles farther north till he "beheld the icy sea breaking its fetters; enormous fields of ice, raised by the waves into an almost vertical position, driven against each other with a tremendous crash, pressed downward by the force of the foaming billows, and reappearing on the surface, covered with the torn-up green mud which everywhere here forms the bottom, and which we had so often seen on the highest hummocks. On his return, Mr. Ma-tinch-kin found a great part of the track he had passed over gone, and large spaces which he had just traversed now covered with water." He was absent but six hours.

Now directing their course to the west-northwest, on the 24th they reached latitude  $72^{\circ} 2' - 2^{\circ} 50'$  east of the longitude of the Greater Baranoff Rocks. This was the nearest land, from which they were distant 151 miles in a straight line. Here they were again stopped by breaking ice and open water.

The 4th of May found the party forty-six miles from Cape Schelagskoi. To the north and east for a distance of twenty-nine miles the sky appeared clear and the horizon open, with no land in sight. Wrangell therefore concluded that

## "THE INHABITED NORTH COUNTRY"

was not to be found in the region of either the Cape or Baranoff

Rock. Setting out, therefore, on the return, Po-chotsk was reached on the 16th. Here were met Lieutenant Anjou and party on their return to the Yana River, from the New Siberian Islands. On the next day Wrangell's party reached Nishni Kolymsk after an absence of fifty-three days and a journey of 782 miles.

The ensuing summer months were spent in

#### EXPLORING THE TUNDRAS

of the region, Wrangell making a trip through the Hill Tundra and Matinchkin across the Eastern Tundra.

By the term Tundras is meant those vast mossy flats which border the Arctic Ocean not only along the Siberian but also the European shores. Consisting of great swampy tracts covered in part with a thick layer of bog moss and in part with a layer of dry

#### SNOW-WHITE REINDEER MOSS,

lichens and similar Arctic vegetation, they are inhabited by hordes of aboriginal nomads with their packs of wolfish dogs and immense herds of reindeer. Owing to the soft nature of these plains great portions can be traversed only in winter, when the surface is frozen. Their northern sections, however, contain a covering of snow throughout the year.

In the plains of the Lower Kolyma the mosquitoes are so numerous that the reindeer are driven from the forests and made to fall victims to the hunters, who drive them into the river with dogs and then spear them.

The horses of the natives are protected from the attacks of the mosquitoes by means of dy-mo-ku-ries, or smoke heaps.

On the right bank of the river, near the sea, grass, wild-thyme, wormwood, the wild rose, and even the forgetmenot abound. Of fruits, the currant, black and white whortleberry, cloud-berry and the aromatic dwarf crimson bramble grow. These, together with roots, are gathered by the women and children.

Besides the reindeer, there are also found in the upland forests, the elk, black bear, fox, sable, gray squirrel, and, in the lowlands, the stone fox and the wolf.

The feathered tribe is represented by great flocks of swans, geese and ducks, which moult and nest in the moss deserts; by eagles, owls and gulls along the sea coast; by troops of ptarmigans in the bushes; by snipes along the brooks and in the morasses; by crows, living about the huts of the inhabitants; by the finch, the early visitor of the spring, and by the thrush, a late arrival in the autumn.

Great numbers of swans, ducks and geese are caught during the moulting-season by means of trained dogs, guns, horse-hair nooses, arrows and sticks. Some of these wild fowl are either smoked or frozen for food in the winter.

In the spring or summer the streams overflow, and then are caught quantities of salmon, trout, sturgeon and other varieties of fish. In September the herrings are very numerous, as many as 3,000 being taken at a single draught, and in three or four days 40,000 by a single good net. The reindeer and herring seasons are times of great rejoicing among the inhabitants.

In the winter some varieties of fish are caught by means of horse-hair nets, while foxes, wolves and other wild animals are captured in traps.

The native dog is about two feet seven and a half inches high, and three feet three-fourths of an inch long. Its coat is either smooth or curly and of a black, brown, reddish-brown, or white color, and is frequently spotted. Its bark is much like that of the wolf. Although trained when nine months of age, it is not used on long journeys till the third year. It is made to tow the boat in the river and from bank to bank at the master's call.

The diet of the natives is principally fish and reindeer meat served in train-oil. As delicacies, cakes of fish-roe and dried and finely-ground muksuns are eaten. The family guest is accorded smoked deer's tongue, melted deer's fat and frozen butter served on a table covered with several folds of an old fishing net. His napkin is simply a thin, rolled-up shaving of wood.

The holidays are observed with games and religious services.

On the 1st of September, when on the return to Nishni Kolymsk from the Eastern Tundra, Ma-tinch-kin, with Be-resh-noi, who had accompanied him, struck the trail of the Chook-chees, who were en route to the annual fair at Os-troff-noi. On the 3d the party were without food except a single duck which had been killed unknown to the rest of the party, by one of the Yakuts. This the generous fellow secretly offered to Matinchkin, saying: "There, take and eat it alone; it is too little to do good to all of us, and you are very tired."

Ma-tinch-kin, however, declined the offer and the duck was made into broth and served as a light repast for all.

Trudging on over snow-covered hills and through deeply-filled ravines for three days, they at length, on the 5th, placed a net in a stream. Great hunger drove Ma-tinch-kin to propose the killing of one of the horses for food; but the suggestion met with opposition by the Yakuts, who declared that in the heated state of the animal's blood injury would result to those who should eat of it. With fear, yet with hope, the net was drawn on the next morning, and to their great joy three large and several small fishes came with it. On the same day the Anuij was reached, and here were obtained more fish than could be consumed. A surplus of 5,000 was deposited for the use of future travelers. Some months later they learned with delight that these same fish were found by a party of distressed wanderers, who were thus supplied with food for a month. The bread which Ma-tinch-kin's party had thus cast upon the water returned to them ere many days; they themselves found a similar deposit of clothing, which was much needed in the daily increasing cold.

Devoting the remainder of the season to surveying the country from the Anuij to Nishni Kolymsk, a distance of 300 miles, Ma-tinch-kin finally returned to Nishni Kolymsk for the winter, on the 6th of October. He had been absent eighty-six days.



It was on the 10th of March, 1823, that the start was made on WRANGELL'S FOURTH AND LAST SLEDGE JOURNEY.

Having secured the coöperation of the inhabitants of the Yana, Chroma and Indigirka rivers, Wrangell was able to proceed with nineteen well-provisioned sledges to the buildings which had been previously erected on the Greater Bar-a-ni-cha. From this point he, on the 17th, made the final start on the journey over the ice of the Polar Sea, and in three days arrived at Cape Schelagskoi. Here was met a kai-ma-kai, or chief of a tribe of Chook-chees.

Once satisfied of the friendly intentions of the Europeans, this nomad ruler likewise evinced a spirit of amiability, and informed the explorers that the region of the cape was only temporarily occupied by his people while hunting the bear; that previously here dwelt the Che-la-gi and Che-wa-ni tribes, the names of which endure in Cape Chelagskoi and Chaun Bay, but who long ago migrated farther west.

Concerning the reputed "inhabited country to the north," he said: "There is a part of the coast between the capes, where from some cliffs near the mouth of a river one might, on a clear summer day, descry snow-covered mountains at a great distance to the north, but that it was impossible to see so far in winter." He also said that he thought those mountains belonged to an extensive country, to which, he had heard his own father say, a chief of his tribe had once migrated with his horde in boats, but what had become of them was never afterwards heard. He had himself seen reindeer coming across the ice to Siberia from that land, and attributed to the inhabitants of that distant country the wounding of a whale which had been found stranded on an island off the Siberian Coast, with a slate-pointed spear still in its body.

Wrangell, however, thought that the creature had been attacked by the natives of the Aleutian Islands, they being known to use just such spear-heads.

Proceeding eastward from Cape Chelagskoi on the 22d, the party soon arrived at Cape Kosmin, in latitude  $70^{\circ} 1'$ , longitude

171° 55', the coast thence eastward being irregular and hilly to the Werkon, the west headland of which Wrangell named in honor of Dr. Kyber. It measured 280 feet in height. To the small island two miles north he applied the name of Schalaroff, the merchant navigator who, as we have already observed, perished in that vicinity in 1765.

The mouth of the Werkon was found to be eleven and one-half miles wide. About three miles from the shore and in line with its low eastern bank a depot of provisions was established, and, on the 25th, the remaining empty sledges were sent back.

During the next two days, only thirteen miles were covered, owing to the great extent of ice-hummocks. Another deposit of provisions was therefore made and eight more of the sledges were despatched homeward.

From this point, while Ma-tinch-kin was advancing eastward along the coast toward the North Cape, Wrangell, with only four sledges and five men, journeyed northward, in search of the "undiscovered north land."

On the 29th the ice-floe upon which was Wrangell's party became separated from the main ice-field in a storm, but with the recurrence of better weather it again closed up. On the 31st the party advanced only six miles and were but ten miles from the coast. Finding the way to the north and northeast blocked by huge ice-hummocks, they turned toward the northwest on the 1st of April. After going about five miles they came to thin new ice. Over this they passed at full speed, the swiftness of the teams and the lightness of the sledges not, however, preventing them from repeatedly breaking through, the dogs as often and as quickly jerking them out as the keen sense of danger possessed by the animals incited them to greater speed. Having crossed this tract of thin ice, their position was determined to be in latitude 70° 20', and longitude 174° 13'.

On the next day, the 3d, they covered twenty miles. Again they became detached on the ice, but in the morning succeeded in reaching the main body by means of a pontoon-bridge of ice-blocks. From this point two sledges were sent back to the

depot, while Wrangell advanced northward with the remaining two. On this day, the 4th, in latitude  $70^{\circ} 5'$ , longitude  $175^{\circ} 27'$ , about sixty miles from land, an open channel, about 300 yards wide and extending east and west as far as the eye could reach, stopped farther progress. Says Wrangell: "We climbed one of the loftiest ice hills, affording an extensive view toward the north, and from thence we beheld the wide, immeasurable ocean spread out before our gaze. It was a fearful and magnificent spectacle, though to us a melancholy one. Fragments of ice of enormous size were floating on the surface of the agitated ocean, and were dashed by the waves with awful violence against the edge of the field on the farthest side of the channel before us. These collisions were so tremendous that large masses were every instant broken away, and it was evident that the portion of ice which still divided the channel from the open sea would soon be completely destroyed. Had we made the attempt to ferry ourselves across upon one of the detached pieces of ice there would have been no firm footing on reaching the opposite side. Even on our own side fresh lanes extended themselves in every direction in the field behind us. We could go no farther."

Setting out on the return, they arrived on the night of the 5th at the second depot of provisions, finding it and the two returned sledges in good condition. Three days later they became separated once more from the main ice field, on a floe about 450 feet wide. Wrangell thus describes their peril:

"Every moment huge masses of ice floating around us were dashed against each other and broken into a thousand fragments. Meanwhile we were tossed to and fro by the waves, and gazed, in helpless inactivity, on the wild conflict of the elements, expecting every moment to be swallowed up. We had been three long hours in this painful position, and still our island held together, when suddenly it was caught by the storm and hurled against a large field of ice. The crash was terrific, and we felt the mass beneath us giving way, and separating in every direction. At that dreadful moment, when destruction seemed inevitable, the impulse of self-preservation

implanted in every living being saved us. Instinctively, and with the quickness of thought, we sprang on the sledges and urged the dogs to their utmost speed. They flew across the yielding fragments of the field against which it had been stranded, and safely reached a part of it of firmer character, on which were several hummocks, and here the dogs immediately ceased running, apparently conscious that the danger was passed."

Hastening on to the first depot, they soon made way to shore and camped under a cliff near the mouth of the Werkon. This was in latitude  $69^{\circ} 51'$ , longitude  $173^{\circ} 34'$ .

While the other members were engaged in bringing away the supplies left at the depots, Wrangell examined and named Cape Ker-kur-noi, in latitude  $69^{\circ} 54'$ , longitude  $174^{\circ} 34'$ . Some of the provisions left at the second depot could not be recovered owing to the breaking up of the ice.

On the 14th of April, with provisions running low, the party started eastward, hoping to meet Ma-tinch-kin, who was absent in the tundra east of the Werkon. Having gone forty miles in that direction without meeting him, they were obliged to turn again to the west and make for the provisions cached at the Greater Ba-ran-i-cha, 200 miles distant. After traveling but six miles they joyfully met Ma-tinch-kin, with an abundance of supplies.

This energetic man had, in the course of his journey, found a hut on the coast east of the Werkon, which both he and Wrangell concluded had been erected by Schala-roff, in 1765, and who therefore evidently succeeded in the great object of his ambition, namely, the doubling of Cape Chelagskoi.

At this point, latitude  $69^{\circ} 48'$ , longitude  $176^{\circ} 10'$ , a depot was established and eight sledges were also sent back, three being retained for Ma-tinch-kin and four for Wrangell.

On the 20th Wrangell's party reached Cape Yakan, latitude  $69^{\circ} 42'$ , longitude  $176^{\circ} 32'$ , whence the "north country," according to some of the Chook-ch'es, was sometimes visible. Wrangell, however, failed to see it. Three miles beyond, the Yakan River was attained, and nine miles beyond it, the party was

compelled to halt by reason of the warmth of the weather. Here they observed the bones of a whale stuck upright, and these the Chook-chees informed them were the remains of a dwelling of a small tribe formerly residing there.

Forty miles farther east, in latitude  $69^{\circ} 28'$ , longitude  $177^{\circ} 44'$ , a lot of driftwood, mostly of fir and pine, was met with.

Meanwhile, Ma-tinch-kin made one more sally on the north, taking his departure on the 21st, with three sledges and provisions for fifteen days.

Having crossed Kny-e-gan River, Wrangell's party halted on the next morning seven and a half miles beyond, in latitude  $69^{\circ} 12'$ , longitude  $179^{\circ} 13'$ . Thirteen and a half miles farther along the coast and in a direct line a little south of east, they arrived at the headland discovered and named by Captain Cook, in 1778, namely,

#### CAPE NORTH.

Here they met a friendly tribe of Chook-chees. Its chief, E-tel, invited Wrangell to his tent, and said: "There, look well at all those things, take from them what you like, and give me in return a gun, and powder and shot, as I am very fond of hunting, and am sure I could use a gun better than the mountain Chook-chees, among whom I once saw one, and shot with it." An exchange was accordingly effected for thirteen seals and a supply of fire-wood.

On the 25th the party, with E-tel as guide, set out for Burney Island, as named by Cook, but Kol-yn-chin as called by the natives. Having traveled fifty miles they halted at the huts of two Chook-chee families who were known to E-tel. Thirty-one miles farther on, beyond the E-kech-ta and Am-gny-in rivers, their position was found to be in latitude  $68^{\circ} 10'$ , longitude  $182^{\circ} 6'$ . Here the tundra gave way to more elevated lands.

On the 26th the party traveled nearly fifty miles to a small settlement on the Wan-ka-rem River, near Cape Wan-ka-rem. Says Wrangell: "There is a remarkable similarity between the three promontories of Schelagskoi, Ir-kaipij (Cape North) and

Wankarem. They all consist of fine grained syenite, with greenish white feldspar, dark green hornblende and mica, and are united to the mainland by a narrow isthmus. The elevation of the headland and breadth of the isthmus are greatest at Cape Schelagskoi, and least at Cape Wankarem."

Cape On-man having been doubled on the 27th, Kol-yu-chin, looking like a circular mountain, was observed twenty miles to the southeast in a bay of the same name.

Pushing on to its southern shore, the party were soon surrounded by about seventy men of the village, who were eager to trade whale's flesh for tobacco and trinkets.

Not having the means of extended barter Wrangell was obliged to discontinue his journey farther east. During two days of rest spent on the island Wrangell ascertained the south point to be in latitude  $67^{\circ} 27'$  by  $184^{\circ} 24'$ . He had reached the point attained by Captain Billings a third of a century previous.

Setting out on the return trip of 600 miles on the evening of the 29th, a three days' journey brought them to E-tel's hut just back of Cape North.

On the 6th of May they arrived at the point whence Matinch-kin had started north, and found a cross erected by him, together with a note attached stating that the breaking-up of the ice had prevented him from advancing more than ten miles from the coast. He had therefore returned to Nishni Kolymsk.

On the 7th Wrangell's party slept at Schal-a-roff's hut. Six days later, with food for both men and dogs exhausted, they reached the village near Cape Chelagskoi.

As the natives had caught but little game during their absence they could give the travelers but little aid. Consequently, with dogs foot-sore and weary, they immediately pushed for the depot on the Greater Baranicha, arriving there on the 15th and at Nishni Kolymsk on the 22d. They had been absent seventy-eight days and had traveled 1,330 miles.

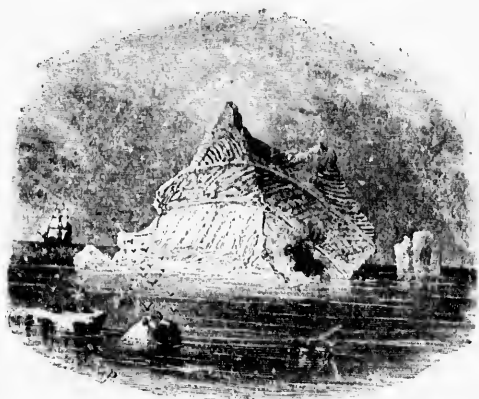
Matinch-kin had reached the place nearly a week previous. Upon the failure of his journey northward he had made a survey of Chaun Bay. About the middle of July he and Dr. Ky-

ber left for St. Petersburg, Wrangell and Kosmin following toward the close of August, 1823.

Thus terminated Wrangell's persistent efforts to reach that unknown "north country," his failure resulting, as he himself surmised, in not having made Cape Yakan the base of operations, beyond which, as has since been ascertained, there lies in a direct northeast line only 103 miles from that headland, the object of his long search, the island which is now so worthily called in his honor—Wrangell Land.

The work of Wrangell in Northern Siberia may well be associated with the heroic efforts of Franklin in North America during the same years.

Ever on the lookout for the best interests of his country, this scholarly German-Russian opposed the sale of Alaska to the United States in 1867. He died in 1870, aged seventy-six.



BELTED ICEBERG.

## CHAPTER VIII.

## PARRY'S SECOND VOYAGE.

Pleased with the remarkable success of Parry's first voyage by way of Lancaster Sound, the admiralty were not long in again fitting him out for a second time to search for the northwest passage. Parry's own plans were to look for this in the vicinity of Repulse Bay, the northwesternmost arm of Roe's Welcome, and his instructions were given accordingly. Lieutenant Lyon, distinguished for his travels in Northern Africa, was placed second in command of the expedition, which, with many of the officers who had accompanied Parry on the previous voyage, sailed in May, 1821, on board the "Fury" and the "Hecla," each of about 375 tons burden and carrying a total complement of 118 men.

On the 2d of July both vessels were in heavy ice and among huge icebergs off Resolution Island, at the entrance to Hudson's Strait. One of those mountains of the sea towered above the surface to a height of 258 feet, and, allowing one-seventh as the proportion visible, extended 1,548 feet beneath the water, thus having a total length of nearly one-third of a mile. Fifty-four of them were visible at one time from the mast-head.

On the 14th they sighted three strange vessels, which proved to belong to the Hudson's Bay Company. One of them was the "Lord Wellington," having on board 160 emigrant Hollanders, bound for Lord Selkirk's estate on the Red River. Says Commander Lyon, of the "Hecla": "While nearing these vessels we observed the

## SETTLERS WALTZING ON DECK.

for above two hours, the men in old-fashioned gray jackets, and the women wearing long-eared mobeaps, like those used by the



Swiss peasants. As we were surrounded by ice, and the thermometer was at the freezing-point, it may be supposed that this ball, *al vero fresco*, afforded us much amusement." Several marriages had already taken place on board and more were pending.

On July 21st a huge

BEAR WEIGHING SIXTEEN HUNDRED

pounds was killed. It measured, from tip of snout to insertion of tail, eight feet eight inches. Its flesh was found to be palatable, but, after taking from it a tub of blubber, the carcass was thrown overboard and soon attracted two walruses to it. On the same day the vessels were visited by more than a hundred Eskimos, the male portion of the tribe coming in their kyaks, or men's boats, to the number of thirty, and the women in oomiaks, or women's boats, to the number of five. A kyak holds but one male, while an oomiak is made to accommodate more than twenty women and children. The members of this tribe were found to be of a thieving disposition; they had evidently learned the vices of other and earlier voyagers. Nevertheless they were eager to barter, consummating the bargain by licking the acquired article all over, be it even a razor. They were also a merry set.

Says Commander Lyon: "It is quite out of my power to describe the shouts, yells, and laughter of the savages, or the confusion which existed for two or three hours. The females were at first very shy, and unwilling to come on the ice, but bartered everything from their boats. This timidity, however, soon wore off and they, in the end, became as noisy and boisterous as the men." And again: "It is scarcely possible to conceive anything more ugly or disgusting than the countenances of the old women, who had inflamed eyes, wrinkled skin, black teeth, and, in fact, such a forbidding set of features as scarcely could be called human; to which might be added their dress, which was such as gave them the appearance of aged ourang-outangs. Frobisher's crew may be pardoned for having, in such superstitious times as A. D. 1576, taken one of these ladies

for a witch, of whom it is said, 'The old wretch whom our sailors supposed to be a witch had her buskins pulled off to see if she was cloven-footed; and being very ugly and deformed, we let her go.'

Lyon continues: "The strangers were so well pleased in our society that they showed no wish to leave us, and when the market had quite ceased, they began dancing and playing with our people on the ice alongside. This exercise set many of their

#### NOSES BLEEDING,

and discovered to us a most nasty custom, which accounted for their gory faces, and which was, that as fast as the blood ran down, they scraped it with the fingers into their mouths, appearing to consider it as a refreshment, or dainty, if we might judge by the zest with which they smacked their lips at each supply."

"\* \* \* In order to amuse our new acquaintances as much as possible, the fiddler was set on the ice, when he instantly found a most delightful set of dancers, of whom some of the women kept pretty good time. Their only figure consisted in stamping and jumping with all their might. Our musician, who was a lively fellow, soon caught the infection, and began

#### CUTTING CAPERS

also. In a short time every one on the floe, officers, men and savages, were dancing together, and exhibited one of the most extraordinary sights I ever witnessed. One of our seamen, of a fresh, ruddy complexion, excited the admiration of all the young females, who patted his face and danced around him wherever he went.

"The exertion of dancing so exhilarated the Esquimaux that they had the appearance of being boisterously drunk, and played many extraordinary pranks. Among others, it was

#### A FAVORITE JOKE

to run slyly behind the seamen, and shouting loudly in one ear, to give them at the same time a very smart slap on the

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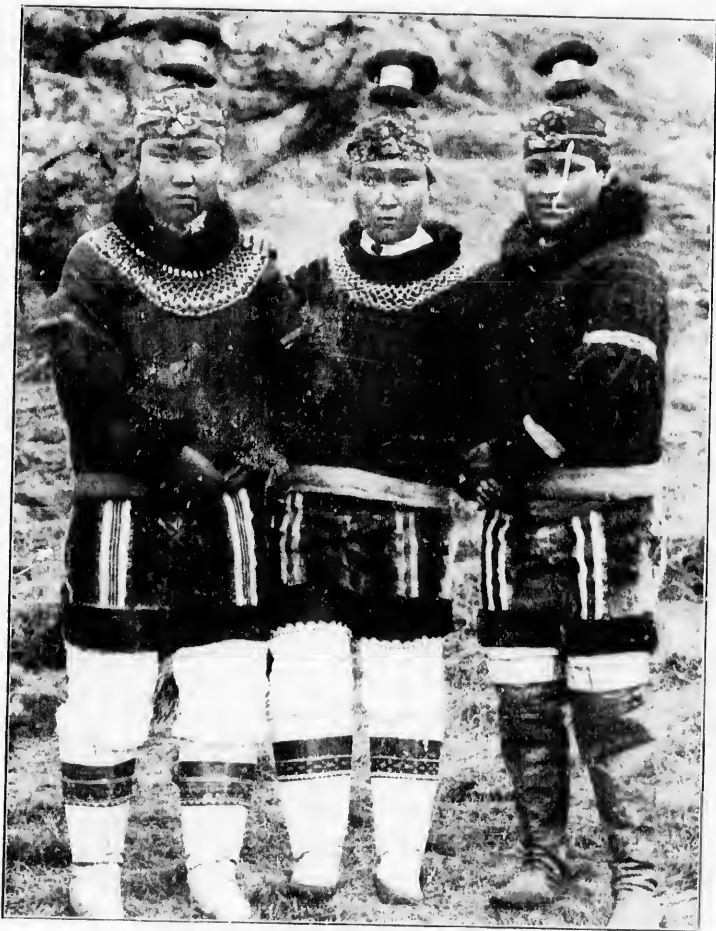
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Upernavik at Midnight.

Church and Pastor's House at Upernavik.  
(See pages 99, 100, etc.)



The Three Graces.—Upernavik.

(See pages 99, 100, etc.)

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other. While looking on, I was sharply saluted in this manner, and, of course, was quite startled, to the great amusement of the bystanders; our cook, who was a most active and unwearyed jumper, became so great a favorite that every one boxed his ears so soundly as to oblige the poor man to retire from such beisterous marks of approbation. Among other sports, some of the Esquimaux rather roughly, but with great good humor, challenged our people to wrestle. One man, in particular, who had thrown several of his countrymen,

#### ATTACKED AN OFFICER

of a very strong make, but the poor savage was instantly thrown, and with no very easy fall; yet, although every one was laughing at him, he bore it with exemplary good humor. The same officer afforded us much diversion by teaching a large party of women to bow, courtesy, shake hands, turn their toes out, and perform sundry other polite accomplishments; the whole party, master and pupils, preserving the strictest gravity.

"Toward midnight all our men, except the watch on deck, turned in to their beds, and the fatigued and hungry Esquimaux returned to their boats to take their supper, which consisted of lumps of raw flesh and blubber of seals, birds, entrails, etc., licking their fingers with great zest, and with knives or fingers scraping the blood and grease which ran down their chins into their mouths."

The next day the ships progressed with favoring winds. The ice-floes, Parry observed, were covered with small stones, sand, and shells, while on many of them were masses of rock weighing more than a hundred pounds and in the middle portion of floes a half mile square.

August 1st Southampton Island was reached. Proceeding along its northern shore more of the Eskimos were met with, of whom it was observed that they wore

#### BIRD-SKIN SHIRTS

with the feathers placed next to the body. Rugged cliffs 1,000

feet high and caves in great beds of gneiss were seen. In one of these caverns Parry and Mr. James C. Ross erected a tent and spent a night. Their boat's crew caught in the holes on the beach a sufficient quantity of sillocks, or young coal-fish, for two meals for the entire ship's company. During the night also

#### HUNDREDS OF WHITE WHALES

were seen close to the rocks, and were probably feeding on the sillocks. Previous to this, narwhales, or sea-unicorns, sometimes as many as twenty in a school, were seen about the ships. Fine weather afforded ample opportunity of observing them in a calm sea. They were about twenty feet in length including the spirally-twisted horn of ivory, five or six feet long.

The next day, Duke of York's Bay, "one of the most secure and extensive in the whole world," was discovered and named. It lies in the northwestern portion of the island and opens into the Frozen Strait, named by Captain Middleton in 1742 on his voyage of discovery to Roe's Welcome and Wager River in that year.

On the bay Parry discovered the ruins of an Eskimo settlement and nine or ten burial-cairns about three feet high and as many wide at the base. In these cairns were found a skull, an arrow-head, spear heads, and miniature canoes.

August 22d found the expedition in Repulse Bay, latitude  $66^{\circ} 30' 58''$ , or nearly a mile north of the Arctic Circle. A long cove of the bay is described by Captain Lyon as being at that time literally

#### COVERED WITH YOUNG EIDER DUCKS

who were taking their first lessons in swimming. On the day following was begun the careful examination of 600 miles of coast-line northward and including Ross' Bay. Much game was found and it was "enacted that for the purpose of economizing the ships' provisions, all deer or musk-oxen killed should be served out in lieu of the usual allowance of meat. Hares, ducks and other birds were not at this time to be included. As an encouragement to sportsmen, the head, legs

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and offal of the larger animals were to be perquisites of those who procured the carcasses for the general good."

Says Lyon: "In the animals of this day we were convinced that

#### OUR SPORTSMEN

had not forgotten the latitude to which their perquisites might legally extend, for the necks were made so long as to encroach considerably on the vertebrae of the back, a manner of amputating the heads which had been learned during the former voyage, and, no doubt, would be strictly acted up to in the present one."

A fine salmon trout was caught in one of the mountain lakes. The men on board the "Hecla" killed in two weeks four deer, forty hares, eighty-two ptarmigans, fifty ducks, three divers, three foxes, three ravens, four seals, mice, marmottes, ermines, etc. Two of the seals were of the bearded species (*phoca barbata*), and weighed eight or nine hundred pounds each.

Owing to the rapid growth of the young ice, which was now three and a half inches thick, on the 8th of October, headquarters were established on

#### WINTER ISLAND

near the mouth of Ross' Bay. Here the monotony of time and place was varied by various musical and theatrical performances. The usual antiscorbutics, mustard and cress, were grown in shallow boxes filled with mold and kept in each mess room. A "crop" was grown every eight or ten days. A surprise party consisting of numerous Eskimos put in an appearance on the first of February. They were cleanly, honest, and affectionate. In speaking of them, Parry grows enthusiastic. He was particularly impressed with the aptness of a young boy and a girl to learn and to comprehend the ways of the *kab-loo-nahs*, or white men. They were related as brother and sister, the girl's name being *Ig-loo-lik*. She was fond of music, and her intelligence made her a very desirable interpreter between the Europeans and her people. Observing that they

were acquainted with the four cardinal points of the compass, Parry placed in her hand a pencil and requested her to outline the coast as she understood it. Beginning with the region of Winter Island, she traced the coast northward as far as the afterwards discovered Fury and Hecla Strait, thence westward to its terminus in the Gulf of Boothia, and so on southeasterly to within a short distance of Repulse Bay. She had thus delineated the coast of her native Ak-koo-lee, the Melville Peninsula of the geographies.

This party of Eskimos numbered sixty souls, and were living in five huts recently erected entirely of snow and ice, not far from the ships. "After creeping through two low passages having each its arched doorway, we came to a small circular apartment, of which the roof was a perfect arched dome. From this three doorways, also arched, and of larger dimensions than the outer ones, led into as many inhabited apartments, one on each side, and the other facing us as we entered. The women were seated on the beds at the sides of the huts, each having her little fireplace or lamp, with all her domestic utensils about her. The children crept behind their mothers, and the dogs slunk past us in dismay. The construction of this inhabited part of the hut was similar to that of the outer apartment, being a dome formed by separate blocks of snow laid with great regularity, and no small art, each being cut into the shape required to form a substantial arch, from seven to eight feet high in the center, and having no support whatever except what this principle of building supplies. Sufficient light was admitted into these curious edifices by a circular window of ice, neatly fitted into the roof of each apartment." In rebuilding their huts they did so by erecting the new ones around and over the old ones, which they removed after the new walls were in position.

During the winter more than

#### ONE HUNDRED FOXES

were secured, and yet there seemed to be no lessening of their numbers about the ships, while a pack of wolves paid them

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frequent visits, on one occasion carrying off two Eskimo dogs confined in a snow hut alongside. A beautiful ermine one day walked on board the "Hecla" and was captured.

Sariumps, or "sea-lice" were so multitudinous in the fire-hole (an opening through the ice from which to draw water in case of fire) as to clean perfectly in a single night and day the skeletons of animals let down to them for that purpose.

In March the Eskimos removed to the sea-ice for the purpose of catching the seal and walrus.

In May Captain Lyon and Lieutenant Palmer, with eight men, explored the west coast of the peninsula to Fury and Hecla Strait. They returned on the 21st. On the 15th, while on the top-mast, James Pungle, a seaman, fell to the deck of the "Hecla" and was instantly killed.

On July 2d both vessels sailed northward, the coast being carefully examined as they progressed. On the 13th, a stream, named the Barrow River in honor of the secretary of the admiralty, an active promoter of Arctic voyages, was discovered. In it were seen two beautiful cascades, ninety and fifteen feet high, and, higher up, two impressive cataracts.

Battling constantly with heavy ice, the ships passed a prominent headland, which was named Cape Penrhyn. Beyond it were found large herds of walrus, some of which were killed and eaten.

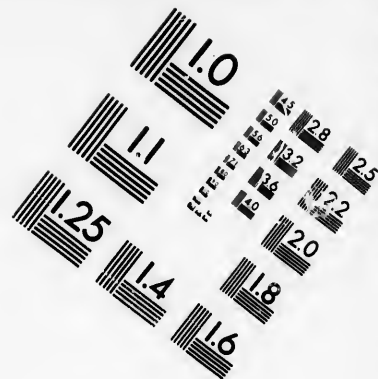
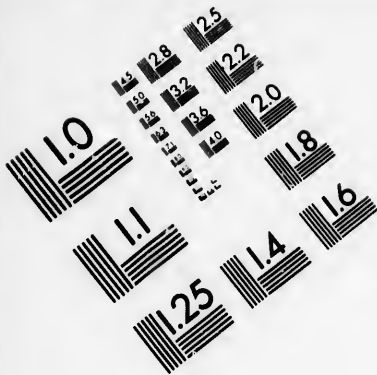
On July 16th, on

#### IGLOOLIK ISLAND,

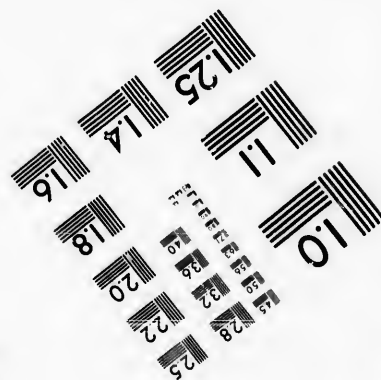
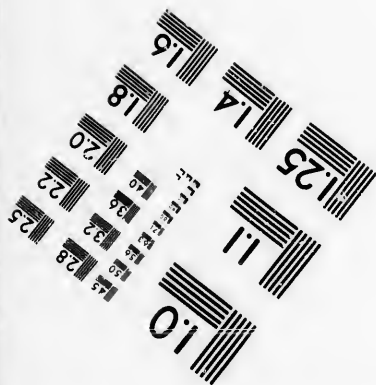
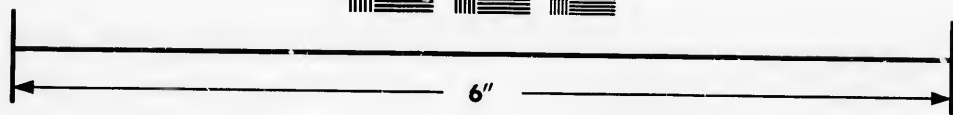
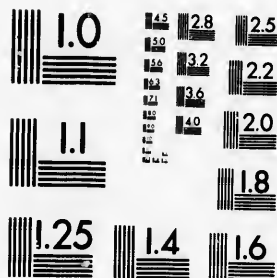
at the entrance to the channel described by Igloolik, an encampment of over one hundred Eskimos was met with.

The ice continued to press the vessels heavily, so that they could not advance faster than from a half to a mile or two in the space of several days. Accordingly, on the 18th, Parry, with five men, left the ships and followed the shore westward to a point overlooking the channel, which he named the Fury and Hecla Strait, and the sea, beyond which there being no land in sight, he supposed that he had arrived upon the Arctic Ocean. It was, however, the Gulf of Boothia





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The first half of September was spent in vain by Captains Parry and Lyon and Lieutenants Reid and Palmer, each in command of a party, endeavoring to find a passage to the west. The strait varied in width from eight to forty miles and was blocked with ice extending between the many islands which filled it from Ig-loo-lik on the east to Cape Inglefield on the west.

Abandoning further efforts for that year, Parry returned to the vicinity of Igloolik Island and established

#### WINTER QUARTERS,

where they were again greeted by their old friends, the Eskimos. Here an uneventful season was passed, although the weather was unusually severe. The sun was absent forty-two days.

The men took exercise on a space enclosed by high snow walls.

About the 1st of May heavy, well-defined clouds, gorgeously colored, put in an anomalous appearance, for those regions. On the 5th provisions for one year were removed from the "Hecla" to the "Fury," Parry having decided to send the "Hecla" to England with the opening of the season and to endeavor to find a passage northward in the "Fury" alone, to Lancaster Sound or Prince Regent's Inlet.

In June Captain Lyon endeavored to explore Ak-koo-lee and especially its western coast. He crossed the Fury and Hecla Strait and gained some slight information regarding Cockburn Island, as it is supposed to be from accounts derived from the natives.

In the course of the same month the vessels were visited by parties of Eskimos from Too-noonk, the Pond's Inlet region on the west coast of Baffin's Bay. Their sleds were made of portions of the

#### WRECKS OF TWO WHALING-VESSELS,

which they said had gone to pieces some time before. It was afterwards ascertained that they were ships from Leith and

Hull, which had been abandoned in August, 1821. Lieutenant Hoppner endeavored to reach the scene of the disaster by crossing over from Cockburn Island, but owing to the dilatoriness of the Eskimo guides he was obliged to return to the ships.

On July 19th a fishing party returned with 640 pounds of salmon and ninety-five pounds of deer meat. The largest fish, when dressed, weighed eight and one-half pounds. In length they measured from twenty to twenty-six inches.

After having been three hundred nineteen days in their winter-quarters, the ships got away on the 9th of August, Parry having determined to return to England with both vessels, owing to the appearance of scurvy among the men.

For the next thirty-five days they were beset by the ice and driven hopelessly about for 300 miles. Of that time, the first twelve days in September was a period of horrid suspense. Says Captain Lyon: "Ten of the twelve nights were passed on deck, in expectation, each tide, of some decided change in our affairs, either by being left on the rocks, or grounding in such shoal water that the whole body of the ice must have slid over us. But, as that good old seaman Baffin expresses himself, 'God, who is greater than either ice or tide, always delivered us!'"

On the 23d of September, 1823, the ships were once more tossing in the Atlantic, and arrived safely in the Thames in the latter part of the following month. Of the 118 officers and men, 113 of them returned in good health after having passed two winters in the ice, the average temperature of the air being several degrees below zero.



BAROMETER OF FRANKLIN'S EXPEDITION,  
Found by C. F. Hall, on King William Land, in 1869.

## CHAPTER IX.

## VOYAGES OF SABINE AND LYON.

The Spitzbergen route, essayed in 1823 by Captains Sabine and Clavering, may, in one sense, be said to have been an effort to reach the North Pole.

While the primary idea of the expedition was the investigation of the magnetic phenomena within the Arctic Circle, it combined geographical research as well.

Captain Edward Sabine having completed a series of observations to determine the configuration of the earth's surface by means of vibration of the pendulum in different latitudes from the equator to the Arctic Circle, and also investigations pertaining to terrestrial magnetism, was desirous of continuing the same in latitudes nearer the pole. His cause was espoused by that eminent scientist,

## SIR HUMPHREY DAVY,

of the Royal Society, and the government accordingly placed at his disposal the "Griper," Captain Clavering commanding. Sailing in May, 1823, Captain Sabine was landed with his instruments at Hammerfest, on Whale Island, where for three weeks he carried on his observations somewhat beyond the 70th degree of north latitude. Sailing thence on the 23d of June, the "Griper," a week later, arrived off the northwest coast of Spitzbergen, in about the 80th degree of latitude. Here, on the

## SEVEN SISTER ISLANDS,

Sabine carried on his pendulum observations, while Clavering proceeded northward. After reaching latitude  $80^{\circ} 20'$  he was stopped by the ice, and, returning to the Seven Sister Islands, picked up Captain Sabine and sailed thence to the east coast

of Greenland, where, in about latitude  $75^{\circ}$  were discovered a small group of islands which, by reason of Captain Sabine's there making a series of observations, were named the

#### PENDULUM ISLANDS.

A few miles farther north, in latitude  $75^{\circ}$ , Clavering discovered and named Shannon Islands. From this point, high land was seen to extend northward to the 76th parallel. To the west of Shannon Island was discovered a magnificent inlet about fifty miles in circumference, and surrounded by mountains from 4,000 to 5,000 feet high. It is known as the Ardencaple Fiord. For two weeks Captain Clavering remained on shore, exploring the coast, with three officers and sixteen men. On August 29th Captain Sabine was taken on board and the ensuing fortnight spent in examining the coast to the south.

A group of twelve Eskimos was met with, although but little information concerning them was acquired.

The ice along shore becoming threatening, Clavering sailed for Norway, where, near Christiansand, the "Griper" struck hard on a sunken rock, but got off without injury. She reached England December 19, 1823. It will be recalled that she had seen service with Captain Parry less than three years before on his first expedition, of which Captain Sabine was the astronomer, then but thirty-two years of age.

Scarcely was the "Griper" home with Captain Sabine than she was again put in readiness for Arctic ice; and, in June, 1824, sailed under command of Captain G. F. Lyon, who commanded the "Hecla" during the second Parry expedition, for the purpose of completing the survey of

#### MELVILLE PENINSULA,

the adjoining straits, and the shores of Arctic America as far as Franklin's turning-point in 1821.

So poor were the sailing qualities of this gun-brig, as had been demonstrated by Parry on his first voyage, that it was not till the close of August that Lyon arrived at the southern



entrance to Sir Thomas Roe's Welcome, where a terrific gale was encountered, before which the "Griper" was driven hopelessly until she was finally checked in her mad career by four anchors dropped in a bay of five and a half fathoms of water. It was momentarily expected that the vessel would go to pieces and the boats were therefore loaded with supplies. Two of these were almost sure to be destroyed as soon as lowered and

#### LOTS WERE CAST

for the purpose of insuring the safety of those who should draw the more reliable boats. The unfortunate ones accepted their fate with heroic magnanimity. Heavy seas swept the decks, while for three nights neither officers nor crew had slept. Each man brought his bag on deck and dressed in his warmest clothing. Says Lyon:

"And now that everything in our power had been done I called all hands aft, and to a merciful God offered prayers for our preservation. I thanked all for their excellent conduct, and cautioned them, as we should in all probability soon appear before our Maker, to enter His presence as men, resigned to their fate.

"We then all sat down in groups, and sheltered from the wash of the sea, by whatever we could find, many of us endeavored to obtain a little sleep.

"Never, perhaps, was witnessed a finer scene than on the deck of my little ship, when all hope of life had left us. Noble as the character of the British sailor is always allowed to be in cases of danger, yet I did not believe it to be possible that among forty-one persons not one repining word should have been uttered.

"The officers sat about wherever they could find shelter from the sea, and the men lay down conversing with each other with the most perfect calmness. Each was at peace with his neighbor and all the world; and I am firmly persuaded that the resignation which was then shown to the will of the Almighty was the means of obtaining His mercy. God was merciful to us, and the tide almost miraculously fell no lower."

When the storm abated, they found themselves in a small arm of Roe's Welcome, and gratefully named it the

## BAY OF GOD'S MERCY.

On September 12th a second gale was encountered at the mouth of Wager River. The night was intensely dark and sleet and frozen spray covered the decks to the depth of several inches. The men, working in their frozen clothes, were kept from being washed overboard by clinging to frozen ropes stretched across the deck. All the anchors gave way and the ship was turned on her broadside. The morning revealed appalling danger, but each man did his duty, and the gallant young Lyon, then only twenty-nine years of age, but fertile of resource and trained in the school of Parry, met every emergency and outrode the storm.

The season being now nearly spent and the anchors gone, it was decided to return to England, where, eight years later, the brave Lyon passed away.



THE CROW'S NEST.

## CHAPTER X.

## PARRY'S THIRD VOYAGE.

So highly was Parry esteemed both as a commander and Christian gentleman that he had only to hoist his pennant and his former associates again rallied round him in a noble spirit of emulation. Thus, in 1824, when he undertook a third voyage in search of the northwest passage, he was accompanied by Lieutenant Hoppner, promoted to the rank of commander, and second in command, by Messrs. James C. Ross and J. Sherer, promoted to be lieutenants, and by others of his veteran followers. Again, too, were the "Hecla" and the "Fury" employed, the "Hecla" being made the flagship as on the first voyage. With a total complement of 122 men, the two vessels sailed on the 19th of May, 1824, and, after battling with the ice, rain, snow, and sleet of Baffin's Bay during the months of July and August, arrived, on the 10th of September, at the entrance of Lancaster Sound.

On one occasion previous to this the "Hecla" was laid on her broadside by a strain in the ice which must have crushed an ordinary vessel.

With much difficulty Parry now made his way to Prince Regent's Inlet, on the eastern shore of which, in

## PORT BOWEN,

he resolved to spend his fourth winter in the Arctic regions. Arriving here on the 27th of September, the ships remained imprisoned till the following 20th of July. During the winter season the sun was absent 121 days, returning on the 22d of February, but from the tops of the encircling cliffs could be seen on the 2d, while the thermometer, for 131 days, remained below zero, rising above that point on the 11th of April.

Although schools, scientific observations, walking and exploring parties greatly relieved the monotony of their imprisonment, yet much ingenuity was necessary in devising any plan sufficiently novel to break the general ennui. Says Parry:

"It is hard to conceive any one thing more like another than two winters passed in the higher latitudes of the polar regions, except when variety happens to be afforded by intercourse with some branch of the whole family of man. Winter after winter nature here assumes an aspect so much alike that cursory observation can scarcely detect a single feature of variety. The winter of more temperate climates, and even in some of no slight severity, is occasionally diversified by a thaw, which at once gives variety and comparative cheerfulness to the prospect. But here, when once the earth is covered, all is dreary monotonous whiteness, not merely for days or weeks, but for more than a half of a year together. Whichever way the eye is turned, it meets a picture calculated to impress upon the mind an idea of inanimate stillness, of that motionless torpor with which our feelings have nothing congenial; of anything, in short, but life. In the very silence there is a deadness with which a human spectator appears out of keeping. The presence of man seems an intrusion on the dreary solitude of this wintry desert, which even its native animals have for a while forsaken."

Happily, Lieutenant Hoppner hit upon the idea of holding

#### MASK BALLS.

one each month, and great diversion was thereby afforded to both officers and men. In these masquerades Parry joined heartily and thus writes:

"It is impossible that any idea could have proved more happy, or more exactly suited to our situation. Admirably dressed characters of various descriptions readily took their parts, and many of these were supported with a degree of spirit and genuine good humor which would not have disgraced a more refined assembly; while the latter might not

have been disgraced by copying the good order, decorum and inoffensive cheerfulness which our humble masquerades presented. It does especial credit to the dispositions and good sense of our men, that though all the officers entered fully into the spirit of these amusements, which took place once a month alternately on board of each ship, no instance occurred of anything that could interfere with the regular discipline, or at all weaken the respect of the men toward their superiors. Ours were masquerades without licentiousness—carnivals without excess."

In the course of their imprisonment Lieutenant J. C. Ross examined the shore northward to Cape York, and Lieutenant Sherer the coast line southward to Cape Kater, latitude  $72^{\circ} 13'$ , while Commander Hoppner journeyed inland nearly two degrees over a deeply-ravined country to latitude  $73^{\circ} 19'$ . Lieutenant Foster, in establishing a meridian mark, found that he could carry on a conversation with his assistant at the distance of a mile and two-tenths. The weather was serene and the temperature  $18^{\circ}$  below zero at the time.

Many polar bears were seen in this region and twelve killed. On two occasions the

#### MATERNAL AFFECTION

of these brutes was shown in the stubborn defense of their young, when they might have escaped. But while this quality is highly developed in these creatures it must not be overlooked that hatred of each other is not wanting in their nature. Only a few years ago, in the Zoölogical Garden of Cologne, there took place

#### A MORTAL COMBAT

between a couple of them. They had been captured five years previous, in Spitzbergen, and confined in a large pit containing a tank in the center. A quarrel finally ensuing between them, the female took refuge upon a large rock in the corner of the pit, where she remained for three days. Pressed by hunger, she descended and was furiously assailed by the male

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bear. In attempting to separate the combatants the keepers belabored the head of the male with iron bars, but the bones being so much thicker than those of an ordinary bear, their blows were unavailing.

Continuing to spend his fury, the enraged beast tore the body of his companion

INTO STRIPS OF BLEEDING FLESH,

dragged her to the tank and held her beneath the water till he felt that life was extinct. Bringing the mangled mass again to the floor of the pit he then dragged it round the tank for nearly an hour. After this, he sought his sleeping-den and the keepers immediately closed the iron bars upon him. The dead bear had received more than a hundred wounds, its neck and head being crushed to a jelly. During the conflict neither a cry nor any other sound was heard from either of the bears.

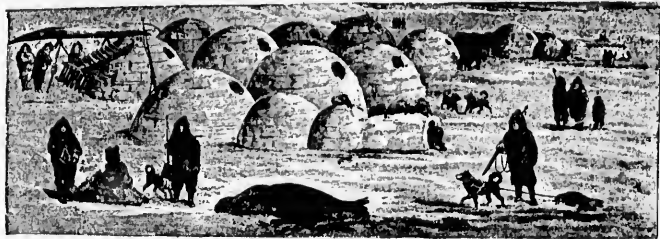
Besides bears slain at Port Bowen, one or two foxes were killed and four trapped. One of these was tamed on board the "Fury." The color of its fur was nearly pure white, till, in May, it became a dirty chocolate containing two or three brown spots. But three Arctic hares were secured. The fur of these was thick and soft, and of a most beautiful whiteness. An ermine and a few moose were also killed and, in June, several hundred dovekies. In attempting to obtain some of these, John Cottrell, a seaman from the "Fury," was drowned through a crack in the ice. On the 12th of July a white whale was killed and the oil saved for use in the following winter. Hundreds of these creatures were seen in this part of the inlet.

At last, on July 20th, the vessels sailed from Port Bowen, and, eight days later, were on the west shore of the inlet, off North Somerset. Here the "Hecla" became beset by the ice and drifted with it for two days. A heavy gale on the 31st caused the "Hecla" to carry away three hawsers and the "Fury" to strand on the beach, but she was again hove off with high tide. Both ships now drifted down the inlet with the ice till they grounded. The "Fury" had been so strained that she leaked and four pumps kept constantly at work could not clear

her of water. They were again floated on high tide, but the "Fury" was a second time driven on shore, and a second time gotten off. Various attempts were now made to repair her, until, on the 21st, a gale drove her, for a third time, upon the shore. Here Parry reluctantly abandoned her, and says: "Every endeavor of ours to get her off, or if got off, to float her to any known place of safety, would be at once utterly hopeless in itself and productive of extreme risk to our remaining ship."

Incessant efforts to save her had been continued for twenty-five days. She was left alone just north of Creswell Bay.

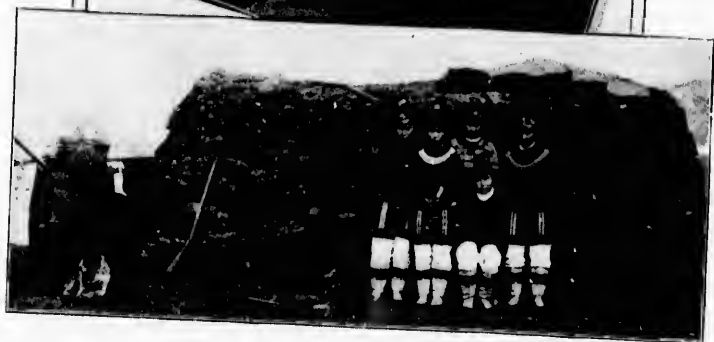
The "Hecla" now made her way to Neill's Harbor, a little south of Port Bowen, where she was put in readiness for re-crossing the Atlantic. While here, John Page, a seaman from the "Fury," died and was buried with due respect. Putting to sea on August 31st, the "Hecla" was in Baffin's Bay by September 7th. Here from thirty to forty icebergs at least 200 feet in height were sighted on its eastern side in latitude 75° 30'. The "Hecla" continued toward England by way of the Orkney Islands and arrived in the Thames on the 20th of October, but two men having been lost during the entire voyage of both vessels.



SNOW VILLAGE.

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**Turf and Stone Huts.—Upernavik.**  
(See pages 99, 100, etc.)





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F Lebold W. Whitlock:*

(See Chapter XXIX.)

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## CHAPTER XI.

FRANKLIN'S SECOND EXPEDITION AND THE VOYAGE  
OF THE "BLOSSOM."

Down the Mackenzie next became the watchwords of Franklin, Back, and Richardson as, returning from their almost life-taking descent of the Coppermine, they volunteered to prosecute further researches along the northern shore of North America. With heroic ambition

## THE DYING WIFE

of Franklin had presented him with a small silk flag which she had made with her own hands, and bade him depart on the day set by the admiralty. When, on the following day, she passed away and the news of the sad event was brought to him, he manfully repressed his feelings of deep sorrow that his officers and men might not become dispirited, and pressed forward on his long journey to the Polar Sea.

The officers of the expedition, having sailed from Liverpool to New York, proceeded through Canada where, at a point about 200 miles south of Lake Athabasca, they joined the men who had come by way of Hudson's Bay and thence to the point stated, whence the entire party pushed on to Fort Chipewyan, on the west end of Lake Athabasca. Arriving here about the middle of July, Franklin obtained additional supplies and engaged the services of some of the Indians who had accompanied him on the previous journey, and then proceeded to the Great Bear Lake, where winter-quarters were established in huts of wood and stone, and the place was named

## FORT FRANKLIN.

While Lieutenant Back and Mr. Dease, an officer of the

Hudson's Bay Company, were engaged in the work of thus arranging for the winter, Dr. Richardson was sent to locate a suitable point upon the Coppermine to which he should ascend from the mouth of that river in the course of the following summer, while Franklin and a small party made a preliminary descent of the Mackenzie to its mouth. Says Franklin: "Immediately on reaching the sea, I caused to be hoisted

#### THE SILK FLAG

which my deeply-lamented wife had made and presented to me as a parting gift, under the express injunction that it was not to be unfurled until the expedition reached the sea. I will not attempt to describe my emotions as it expanded to the breeze; however natural and irresistible, I felt that it was my duty to suppress them, and that I had no right by an indulgence of my own sorrows to cloud the animated countenances of my companions. Joining, therefore, with the best grace I could command, in the general excitement, I endeavored to return with corresponding cheerfulness their warm congratulations on having thus planted the British flag on this remote island of the Polar Sea."

Franklin returned to winter-quarters on the 5th of September, from which time forward exploration was confined to territory near at hand and until the 28th of June following, on which date Franklin and Back, with two boats and fourteen men, and Dr. Richardson and Lieutenant Kendall, with two boats and ten men, began the descent of the Mackenzie, at the delta-like mouth of which they separated on the 3d of July, Richardson and Kendall proceeding eastward to the mouth of the Coppermine, while Franklin and Back directed their course westward in the hope of effecting a junction with Captain Beechey, who had been despatched in the "Blossom," by way of Cape Horn and Bering Strait, with instructions to proceed thence eastward in the endeavor to meet Franklin.

At the mouth of the Mackenzie, Franklin's detachment fell

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in with a large party of Eskimos, who, seizing Franklin, held him fast while his

## BOAT WAS PILLAGED.

Fortunately, Back came upon the scene, and, ordering his men to take aim with their muskets, the natives sued for peace and averted bloodshed.

Continuing westward to longitude  $149^{\circ} 37'$  west, and failing to meet with any of Captain Beechey's party, although at that time Mr. Elson, leading a detachment from the "Blossom," was not distant 160 miles, Franklin decided to retrace his course. He was in part influenced to take this step through hearing that a tribe of hostile Indians were awaiting his advance. He had traced 374 miles of coast. Ascending the Mackenzie, he arrived at headquarters September 30th.

Richardson and Kendall had reached there on the first of the month. They had, after leaving the mouth of the Mackenzie, proceeded 500 miles eastward through Dolphin and Union Strait, named after their boats, into Coronation Gulf, the outlet of the Coppermine, thus adding to the charts 902 miles of coast line. Ascending the Coppermine, they arrived at Fort Franklin, as stated.

Here, although the weather was intensely cold, the thermometer on one occasion sinking to  $58^{\circ}$  below zero, a second winter—1826-7—was spent in good cheer and good health. Dr. Richardson gave lectures on practical geology, while Mr. Drummond contributed information on natural history. Living in a lonely hut on the Rocky Mountains, he contrived, in the course of the winter, to collect more than 200 specimens of animals, birds, etc., and to gather more than 1,500 plants, many of which had not been classified before. The results of the expedition were gratifying beyond expectation, and the party returned to England in the summer of 1827.

While Parry was searching for the Northwest Passage for the third time, and endeavors to communicate with him by the Richardson and Kendall detachment of Franklin's second expedition were being prosecuted by way of the shore lying east of the mouth of the Mackenzie River, Franklin and Back

were striving to effect a junction to the westward of the mouth of that stream, with Captain F. W. Beechey, who, in the gunship "Blossom," had been despatched in May, 1825, by way of

#### BERING'S STRAIT,

in order to replenish the supplies of both Franklin and Parry, should they succeed in reaching those waters. Although but twenty-nine years of age, Beechey had seen service with Franklin in 1818 and Parry in 1819, and was well qualified for his task.

On the 28th of June, 1826, the "Blossom" anchored off Petro-paul-owsky, in Kamchatka, where he met Baron Wrangell, the great Arctic sledge traveler, from whom he learned of Parry's return to England.

Coasting northward, the towering peaks of the peninsula, twenty-eight of them active volcanoes, were in plain view. Covered with snow, and many of them raising their fantastic summits from 10,000 to 16,500 feet high, huge columns of dark smoke waved and rolled like so many giants' banners in the air.

Pressing on through the strait, he reached the appointed rendezvous at Chamisso Island, in Kotzebue Sound, on the 25th of July. Here, on Puffin Rock, a barrel of flour was buried, and then followed the surveying and examining of the coast lying to the northeast. Posts and other landmarks were erected and dispatches for Franklin deposited.

A barge, or small boat, had been despatched under Messrs. Elson and Smyth, to keep close to the shore the better to observe any traces of Franklin's party. On August 25th

#### A REMARKABLE AURORA BOREALIS

was observed, and Beechey thus speaks concerning it:

"It first appeared in an arch extending west-by-north to northeast; but the arch, shortly after its first appearance, broke up and entirely disappeared. Soon after this, however,

a new display began in the direction of the western foot of the first arch, preceded by a bright flame, from which emanated coruscations of a pale straw color. Another simultaneous movement occurred at both extremities of the arch, until a complete segment was formed of wavering perpendicular radii. As soon as the arch was complete the light became greatly increased, and the prismatic colors, which had before been faint, now shone forth in a brilliant manner. The strongest colors, which were also the outside ones, were pink and green, on the green side purple and pink, all of which were as imperceptibly blended as in the rainbow. The green was the color nearest the zenith. This magnificent display lasted a few minutes; and the light had nearly vanished, when the northeast quarter sent forth a vigorous display, and nearly at the same time a corresponding coruscation emanated from the opposite extremity. The western foot of the arch then disengaged itself from the horizon, crooked to the northward, and the whole retired to the northeast quarter, where a bright spot blazed for a moment, and all was darkness. There was no noise audible during any part of our observations." Strangely, too, the compasses were not perceptibly affected.

On the 28th the "Blossom" returned to Chamisso Island and found that the barrel of flour had been dug up and appropriated by the natives. Beechey had met some of these people as he entered the strait. They were very familiar with the region, and with a stick designated upon the sand the coast line as far as Cape Krusenstern, regulating distances by the day's journey. Elevations of sand or stones represented hills and ranges of mountains, while collections of pebbles indicated groups of islands, their relative sizes being carefully shown. Villages and fishing-stations along the coast were designated by means of sticks placed upright, in imitation of the poles erected wherever these people have their abode.

Meanwhile, Elson and Smyth had advanced northeastward until, on the 22d, their progress was stopped by a long point of land, named by Beechey, Point Barrow. They were then

but 146 miles from Return Reef, whence Franklin had set out on his return to Fort Enterprise, but four days previous.

#### THE HOSTILE ATTITUDE

of the natives now prevented Elson's farther progress, and he and his seven companions therefore retraced their course, rejoining the "Blossom" on the 9th of September at Chamisso Island. Here Beechey again buried a barrel of flour for Franklin and, with but five weeks' provisions remaining, sailed for California, and the Sandwich and other islands of the Pacific, where he resupplied the "Blossom" and returned to Chamisso Island on July 5, 1827.

The flour and dispatches deposited the previous year had not been molested. Lieutenant Belcher was sent with the barge to explore the coast to the northward, but the boat was wrecked and three of the men were lost. On the 9th of September, the "Blossom" went aground, but was got off safely at high tide. On the 29th a conflict ensued between the ship's crew and the Eskimos, in which seven of the whites were wounded with arrows, and one Eskimo was killed. On the 6th of October, the "Blossom" sailed from Chamisso Island, rounding Cape Horn in a snow-storm on the last day of June, 1828, and arrived in England on the 12th of October following, after an absence of nearly three years and five months. Franklin had preceded him a year.



LAMP.  
The mending done by Eskimos.

## CHAPTER XII.

## PARRY'S FOURTH VOYAGE.

Although but a few months home from his third Arctic voyage, Parry, in 1826, struck with the suggestions of Scoresby in a paper read before the Wernerian Society and the plan of Franklin proposed some time previous, offered his services to the Admiralty to undertake a fourth voyage, this time in quest of the

## NORTH POLE,

by way of the Spitzbergen group of islands. True to their young leader, and sharing his enthusiasm, his former companions gathered round his standard. These were Lieutenants J. C. Ross, Foster, Bird, and Crozier, and Messrs. Halse and Beverly. The crew being appointed, the expedition sailed in the "Hecla," April 4, 1827.

On the 19th Hammerfest Harbor was reached, and here Parry and Lieutenant Foster remained to prosecute magnetic and other scientific studies, while Lieutenant Crozier proceeded to Alten, sixty miles distant, to procure reindeer, eight of which were purchased for the purpose of drawing the sledges over the ice of the Arctic Ocean.

Concerning these animals, Parry thus writes:

"Nothing can be more beautiful than the training of the Lapland reindeer. With a simple collar of skin around his neck, a single trace of the same material attached to the sledges and passing between his legs, and one rein fastened like a halter about his neck, this intelligent and docile animal



is perfectly under the command of an experienced driver, and performs

#### ASTONISHING JOURNEYS

over the softest snow. When the rein is thrown over on the off side of the animal, he immediately sets off at a full trot, and stops short the instant it is thrown back to the near side. Shaking the rein over his back is the only whip that is required. In a short time after setting off they appear to be gasping for breath, as if quite exhausted; but, if not driven too fast at first, they recover, and then go on without difficulty. The quantity of clean moss considered requisite for each deer per day is four pounds; but they will go five or six days without provender and not suffer materially. As long as they can pick up snow as they go along, which they like to eat quite clean, they require no water, and ice is to them a comfortable bed."

Again setting sail on the 29th, they arrived, on May 5th, in latitude  $73^{\circ} 30'$ , and longitude  $7^{\circ} 28'$  east, where they met loose ice. Two days later the "Hecla" had made 110 miles farther northward, in latitude  $74^{\circ} 55'$ , and a few miles east of the meridian of Greenwich. Here was met a continuous stream of ice. On the 10th, Parry fell in with some whaling-vessels which were endeavoring to reach latitude  $78^{\circ}$ , south of which it was not expected that whales could be found. During the night the "Hecla" and the whalers made fifty miles northward. On the 14th the "Hecla" passed Magdalena Bay, and, arriving off Hakluyt Headland, worked thence southeastward to Smerenburg Harbor, which they found completely frozen over. Here they saw walruses, dovekies and eider-ducks in vast numbers. Four wild reindeer came to them on the ice.

May 22d, Lieutenant James C. Ross, with officers and men, effected a landing over the ice, and, upon a hillock, found two lonely graves dated 1741 and 1762. A quantity of fir drift-wood was also seen.

Five days later an attempt was made to proceed northward by means of the sledge-boats, but was given up on account of the extreme roughness of the ice. On the 29th and

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30th, Lieutenants Foster and Crozier deposited a boat-load of provisions on Red Beach, six miles distant.

By the first of June, as Parry was about to undertake again the journey northward, the "Hecla" began to move east with the drift-ice and reached Mussel Bay on the 6th, where Parry and others landed to deposit provisions. Two days later the vessel was again free of ice by reason of a south wind. During the three weeks previous the weather had been beautiful, day after day being clear and cloudless, with scarcely any wind, the temperature of the air being warm, while the sun was scorching.

On June 3d a shower of rain fell, and on the 6th it rained quite hard for two or three hours.

From the 8th to the 10th the weather was "thick," and Parry made for Brandywine Bay, with Low and Walden islands in sight. Thence the "Hecla" pushed northward to  $80^{\circ} 43' 32''$ , the Seven Islands being seen to the east, while the Little Table Island, a mere crag 400 feet high, was visible nine or ten miles to the east-northeast. "This island," writes Parry, "being the northernmost known land in the world, naturally excited much of our curiosity; and bleak and barren and rugged as it is, one could not help gazing at it with intense interest."

At midnight, on the 14th, the explorers were in latitude  $81^{\circ} 5' 32''$ , and longitude  $19^{\circ} 34'$  east. Doubling back they deposited provisions on Walden and Little Table islands. Proceeding still southward they arrived on the 20th near Verlegen Hood—so called by the Dutch—but named by Parry Hecla Cove. This was in latitude  $79^{\circ} 55'$ , and longitude  $16^{\circ} 49'$  east. From this harbor two boats, the "Enterprise" and "Enterprise," were made ready for another attempt to proceed northward. Parry and Dr. Beverly accompanied one of the boats, while Lieutenant Ross and Mr. Bird went with the other. Lieutenant Crozier accompanied the party with a supply of provisions as far as Walden and Low islands. Arriving at Little Table Island on the 23d, Parry, at 10:30 p. m., started on the memorable journey that established the then

"farthest north." By midnight the party had attained latitude  $80^{\circ} 51' 13''$ , and by noon of the 24th, latitude  $81^{\circ} 12' 51''$ . Not until a month later, viz., on July 23d, did these persistent men attain the farthest northerly point then reached by man,  $82^{\circ} 45'$ . In making this journey they had been absent thirty-three days, and what they encountered is best told in the language of the never-discouraged Parry: "Traveling by night, and sleeping by day, so completely inverted the natural order of things that it was difficult to persuade ourselves of the reality. Even the officers and myself, who were all furnished with pocket chronometers, could not always bear in mind at what part of the twenty-four hours we had arrived, and there were several of the men who declared, and I believe truly, that they never knew night from day during the whole excursion.

"When we rose in the evening, we commenced our day by prayers, after which we took off our fur sleeping-dresses and put on clothes for traveling; the former being made of camlet, lined with raccoon skin, and the latter of strong blue cloth. We made a point of always putting on the same stockings and boots for traveling in, whether they had been dried during the day or not, and I believe it was only in five or six instances at the most that they were not either still wet or hard frozen. This, indeed, was of no consequence beyond the discomfort of first putting them on in this state, as they were sure to be thoroughly wet in a quarter of an hour after commencing our journey; while on the other hand, it was of vital importance to keep dry things for sleeping in. Being 'rigged' for traveling, we breakfasted upon warm cocoa and biscuit, and after stowing the things in the boats and on the sledges so as to secure them as much as possible from wet, we set off on our day's journey, and usually traveled four, five, or even six hours, according to circumstances."

Halting early in the morning for rest, "Every man then immediately put on dry stockings and fur boots, after which we set about the necessary repairs of boats, sledges, or clothes, and after serving the provisions for the succeeding day, we went to supper. Most of the officers and men then smoked

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their pipes, which served to dry the boats and awnings very much, and usually raised the temperature of our lodgings 10° or 15°. This part of the twenty-four hours was often a time, and the only one, of real enjoyment to us; the men told their stories and fought all their battles o'er again, and the labors of the day, unsuccessful as they too often were, were forgotten. A regular watch was set during our resting time, to look out for bears, or for the ice breaking up round us, as well as to attend to the drying of the clothes, each man alternately taking this duty for one hour. We then concluded our day with prayers, and having put on our fur dresses, lay down to sleep with a degree of comfort which perhaps but few persons would imagine possible under such circumstances, our chief inconvenience being that we were somewhat pinched for room, and therefore obliged to stow rather closer than was quite agreeable."

On the day following their attainment of the farthest north, Lieutenant Ross killed a she bear, the flesh of which was eagerly eaten by the meat-hungry men. Thus far animal life appeared to be scarce, a single gull, a solitary rotge, two seals, and

#### TWO FLIES

being all that they had seen during the entire outward journey. Owing to the drifting of the ice, the party were at this time being carried backward faster than they could advance northward, and, accordingly, Parry began the return journey on July 27th, arriving finally, on the 21st of August, once more on board the "Hecla," after an absence of sixty-one days, during which time they had traveled, all told, 1,127 statute miles. On the return journey an abundance of animal life was visible. On August 8th seven or eight narwhales were seen, and not less than 200 rotges, or little anks, a flock of which occurred in every hole of water. On the 11th, in latitude 81° 30', the sea was observed to be crowded with shrimps and other sea crustaceans, on which numerous birds were feeding.

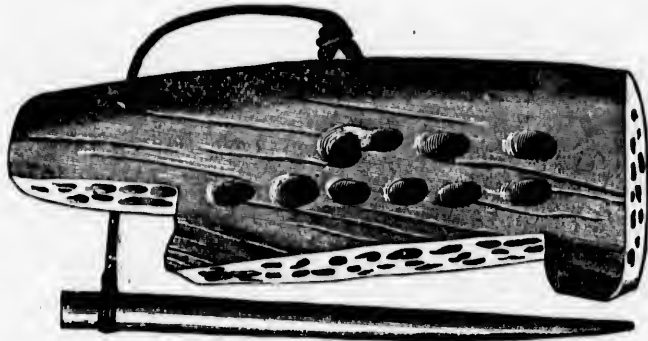
Returning to England in September, Parry retired from

Arctic service, though always taking great interest in everything that pertained to the solution of the problem for which he had made five voyages, in four of which he had commanded, and in the other one had been second in command. As late as 1845 we find him addressing Sir John Barrow as follows:

"It is evident that the causes of failure in our former attempt, in the year 1827, were principally two: first, and chiefly, the broken, rugged, and soft state of the ice over which we traveled; and secondly, the drifting of the whole body of ice in a southerly direction.

"My amended plan is to go out with a single ship to Spitzbergen, just as we did in the 'Hecla,' but not so early in the season; the object for that year being merely to find secure winter quarters as far north as possible. For this purpose it would only be necessary to reach Hakluyt's Headland by the end of June, which would afford ample leisure for examining the more northern lands, especially about the Seven Islands, where, in all probability, a secure nook might be found for the ship. \* \* \* The winter might be usefully employed in various preparations for the journey, as well as in magnetic, astronomical, and meteorological observations, of high interest in that latitude. I propose that the expedition should leave the ship in the course of the month of April, when the ice would present one hard and unbroken surface, over which, as I confidently believe, it would not be difficult to make good thirty miles per day, without any exposure to wet, and probably without snow-blindness. At this season, too, the ice would probably be stationary, and thus the two great difficulties which we formerly had to encounter would be entirely obviated. It might form a part of the plan to push out supplies previously, to the distance of 100 miles, to be taken up on the way, so as to commence the journey comparatively light; and as the intention would be to complete the enterprise in the course of the month of May, before any disruption of the ice, or any material softening of the surface had taken place, similar supplies might be sent out to the same distance, to meet the party on their return."

This plan, it seems to the writer of these pages, is a good one, and it is to be regretted that the long experience of the energetic Parry could not have executed it. His advanced years, doubtless, alone prevented his undertaking it. This gallant knight of the sea and ice survived till 1855.



GAME OF CUP AND BALL.

## CHAPTER XIII.

SECOND VOYAGE OF SIR JOHN ROSS.—DISCOVERY OF  
THE NORTH MAGNETIC POLE.

Deeply chagrined at the failure of his efforts in 1818, Captain John Ross, the pioneer of Arctic exploration in the nineteenth century, vainly endeavored to induce the government to send him again on a polar voyage. Notwithstanding the ignominy then attaching to his professional name, for ten years he persevered and spent \$15,000 of his own fortune in the prosecution of his object. He had fought with bravery and skill during the war with the French, from 1793-1815, and was determined to win laurels as an Arctic explorer as well.

Finally, he found an able supporter in the person of Felix Booth, a man of wealth and public spirit. Through him, Ross was enabled to purchase a side-wheel steamer of 150 tons burden and to provision it for three years.

The generosity of Booth deserves double emphasis from the fact that, at his own request, the Parliamentary reward of \$100,000 for the discovery of the Northwest Passage was revoked, that he might not be charged with mercenary motives.

Thus did Ross anticipate the use of steam in Arctic navigation, this being the first time that a trial was made of it for that purpose, and although the machinery in Ross' vessel was soon found to be unserviceable it but served to illustrate the utility of steam with proper application.

The expedition numbered twenty-eight men and sailed on board the "Victory," May 23, 1829. Previous to her departure the ship was

VISITED BY MANY NOTABLES,

among them being Louis Philippe, the future king of the French.

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Arriving off the coast of Greenland about the middle of June, the "Victory" put in at the Danish settlement of Holsteinberg, where damaged spars and rigging were repaired. Again sailing on the 26th, the sea was found clear in Baffin's Bay, Lancaster Sound, and well down into Prince Regent's Inlet. Here, on August 12th, a formidable barrier of ice was encountered. On the next day the place where the "Fury" had been abandoned four years previous, was reached, and although no traces of Parry's old ship were to be found, her stores still remained in perfect condition on shore. From these the "Victory" replenished her supplies for three years from date, besides leaving a considerable quantity for possible future navigators.

By the end of September, 300 miles of heretofore undiscovered coast had been explored. A landing having been effected, the territory was named

#### BOOTHIA FELIX,

with Bellot Strait on the north, the Gulf of Boothia on the east, and Franklin Strait on the northwest.

Mary Jones' Bay having been discovered on the east coast of this new territory, here, in Felix Harbor,

#### WINTER-QUARTERS

were established on September 17, 1829.

They were soon frozen in and nothing of unusual interest occurred until, on January 9, 1830, the "Victory" was visited by a very large party of Eskimos. They were of neater appearance than those who had visited Parry farther south and were familiar with the geography of the region in a very intelligible manner. The women displayed a higher degree of intelligence in this respect than the men. As Parry met his Ig-loo-lik, so Ross found his Te-rik-sin, as the gifted female geographers of those regions.

On April 5th Captain Ross, with Thomas Blanky and two Eskimo guides, set out to explore a strait reported to lead



westward, and which, it was hoped, communicated with the western sea. On the 8th the party came to a large bay instead, and this, facing west, opened into the sea. In the interior, a large lake, called Nie-ty-le by the natives, was discovered. On this journey Captain Ross, as was afterwards ascertained, approached to within ten miles of the North Magnetic Pole. Learning that no strait existed farther south, Ross nevertheless traced the coast about sixty miles in that direction.

On the 17th of May Lieutenant James Clark Ross, nephew to the Captain and second in command of the expedition, set out with three companions and a sledge drawn by eight dogs, for the purpose of making explorations farther west. Crossing the ice on a strait, which has since been called in his honor, young Ross discovered Matty Island, and, still farther westward,

#### KING WILLIAM'S LAND,

reaching its northernmost point on May 29th. This he named Cape Felix, and from it beheld, in the northwest, the wide expanse of sea now known as McClintock Channel, and, in the southwest, a channel which he called Victoria Strait. Along this last mentioned he now proceeded to a headland which was named Point Victory, a more distant one being honored with the name of Frankiin.

Distant now 200 miles from the ship and with but few provisions left, this brave young scientist, after having erected a cairn and deposited therein the customary records, set out on the return. To such straits were they now reduced that six of the dogs perished from exhaustion and doubtless they themselves were saved from the same fate through meeting with a tribe of Eskimos, who supplied them with fresh fish and among whom they rested a day before proceeding to the ship, which they reached on May 13th.

Not until September 17th, after an imprisonment of eleven months, was the "Victory" again free of ice. Unfortunately, she advanced but a few miles when the ice of another season held her fast and winter quarters were again made ready.

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(1.) Ship "Bucking" Ice. (2.) South Greenland Boy (with ptarmigan) and Girl. (3.) The Captain in the "Crow's Nest," or barrel with Trap-door Bottom, Looking for a Lead in the Ice. (4.) The Ship's Pet. (5.) Little Orphan Boy of Etah Eskimo. (6.) An Etah Eskimo.



(1.) The Ship and Her Image on a Quiet Day in Melville Bay. (2.) Iceberg seen in Baffin's Bay. (3.) Baffin's Bay Iceberg. (4.) Iceberg. (5.) Blasting the lee. (6.) Eskimo Summer Encampment of Sealskin Tents or "Tu-picks."

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The winter was one of great severity, the thermometer sinking to  $60^{\circ}$  below zero.

In the ensuing spring of 1831, a number of exploring trips were undertaken, and in one of them the younger Ross

#### DISCOVERED THE NORTH MAGNETIC POLE.

He says: "The place of the observatory was as near to the magnetic pole as the limited means which I possessed enabled me to determine. The amount of the dip, as indicated by my dipping-needle, was  $89^{\circ} 59'$ , being thus within one minute of the vertical; while the proximity, at least, of this pole, if not its actual existence where we stood, was further confirmed by the action, or rather by the total inaction, of the several horizontal needles then in my possession.

"As soon," he continues, "as I had satisfied my own mind on the subject, I made known to the party this gratifying result of all our joint labors; and it was then that, amidst mutual congratulations, we fixed the

#### BRITISH FLAG ON THE SPOT,

and took possession of the North Magnetic Pole and its adjoining territory in the name of Great Britain and King William IV. We had abundance of materials for building in the fragments of limestone that covered the beach, and we therefore erected a cairn of some magnitude, under which we buried a canister containing a record of the interesting fact, only regretting we had not the means of constructing a pyramid of more importance, and of strength sufficient to withstand the assaults of time and of the Esquimaux. Had it been a pyramid as large as that of Cheops, I am not quite sure that it would have done more than satisfy our ambition under the feelings of that exciting day."

Thus, on the 1st of June, 1831, in latitude  $70^{\circ} 5' 17''$ , and longitude  $96^{\circ} 46' 45''$  west, did the British establish a rightful claim to a great and important discovery, and what American, reading the accounts and perceiving the enthusiasm of our

consins on the other side of the Atlantic in all such enterprises, can restrain wishing for the

#### STARS AND STRIPES

still greater trinnphs?

On this jonnrey Ross was absent twenty-eight days.

Once more, on August 28th, the "Victory" stood clear of ice but was unable to make good more than four miles of navigation when, on September 27th, she was completely beset. Thus, in two years, she had progressed but seven miles.

A third winter was accordingly spent in the same locality, and when spring arrived, it was decided to abandon the "Victory" and, obtaining supplies and boats on Fury Beach, to make for the waters of Baffin's Bay in the expectancy of there meeting with some whaling-vessel. On the 23d of April, 1832, the party therefore started for the Beach. Heavy laden and encountering much snow and drift, they were compelled to make long circuits, so that to gain thirty miles in a straight line they were compelled to travel three hundred twenty-nine.

The "Victory" was not formally abandoned, however, till May 29th, on which date, with colors flying from her mast-head, Captain Ross took leave of her, he being the last to depart. He says: "It was the first vessel that I had ever been obliged to abandon, after having served in thirty-six, during a period of forty-two years. It was like the last parting with an old friend, and I did not pass the point where she ceased to be visible without stopping to take a sketch of this melancholy desert, rendered more melancholy by the solitary, abandoned, helpless home of our past years, fixed in immovable ice till time should perform on her his usual work."

On July 1st the entire party reached Fury Beach, and, erecting a large tent, styled it "Somerset House." A month later they had crossed Prince Regent's Inlet and arrived at the entrance to Lancaster Sound, which they found so blocked with ice that they were compelled to return to "Somerset House." This they reached on October 9th, and here spent a fourth winter.

The tent was rendered more comfortable by means of an embankment of snow and an additional stove. Although there was a reduction of the regular allowance of preserved meats, there was plenty of flour, sugar, soups, and vegetables. During the winter Mr. Thomas, the carpenter, and two others died.

On the 8th of July following, the party again took their departure from "Somerset House," and, forty-six days later, arrived in Baffin's Bay, at Navy Board Inlet. Here a joyful surprise awaited them. At 4 o'clock on the morning of August 20th, a vessel hove in sight. Quickly the exhausted men roused themselves and sprang to their oars as men escaping from great peril. Alas! like a phantom the ship suddenly disappeared in the haze and they were fast sinking into despair when another vessel was espied lying in a calm. With hearts beating between hope and fear, and their gaze steadfastly fixed upon the stately form, they kept up a hurried and energetic stroke of the oar until—with joy unbounded—they had reached the whaler "Isabella," of Hull, the very ship in which Ross, fifteen years before, had made his first polar voyage.

With difficulty were those on board the whaler persuaded that it was indeed Ross and his English companions who sought admission on the ship; for, had they not been mourned as dead these two years by their friends in England?

When, however, the honest whalers were convinced of the truthfulness of their story, the rigging was quickly manned in their honor, and with three rousing cheers Captain Ross and party were welcomed on board the "Isabella." What followed is vividly described by Ross himself: "Though we had not been supported by our names and characters we should not the less have claimed from charity the attention that we received; for never were seen a more

#### MISERABLE SET OF WRETCHES.

Unshaven, since I know not when, dirty, dressed in the rags of wild beasts, and starved to the very bones, our gaunt and

grim looks, when contrasted with those of the well-dressed and well-fed men around us, made us all feel—I believe for the first time—what we really were, as well as what we seemed to others. But the ludicrous soon took the place of all other feelings; in such a crowd and such confusion all serious thought was impossible, while the new buoyancy of our spirits made us abundantly willing to be amused by the scene which now opened. Every man was hungry, and was to be fed; all were ragged, and were to be clothed; there was not one to whom washing was not indispensable, nor one whom his beard did not deprive of all human semblance. All—everything, too, was to be done at once; it was washing, dressing, shaving, eating, all intermingled. It was all the materials of each jumbled together, while in the midst of all there were interminable questions to be asked and answered on both sides; the adventures of the "Victory," our own escapes, the politics of England, and the news, which was now four years old. But all subsided into peace at last. The sick were accommodated, the seamen disposed of, and all was done for us which care and kindness could perform. Night at length brought quiet and serious thought, and I trust there was not a man among us who did not then express, where it was due, his gratitude for that interposition which had raised us all from a despair which none could now forget, and had brought us from the borders of a most distant grave to life, and friends, and civilization. Long accustomed, however, to a cold bed on the hard snow, or the bare rocks, few could sleep amid the comforts of our new accommodations. I was myself compelled to leave the bed which had been kindly assigned me, and take my abode in a chair for the night; nor did it fare much better with the rest. It was for time to reconcile us to this sudden change, to break through what had become habit, and to inure us once more to the usages of our former days."

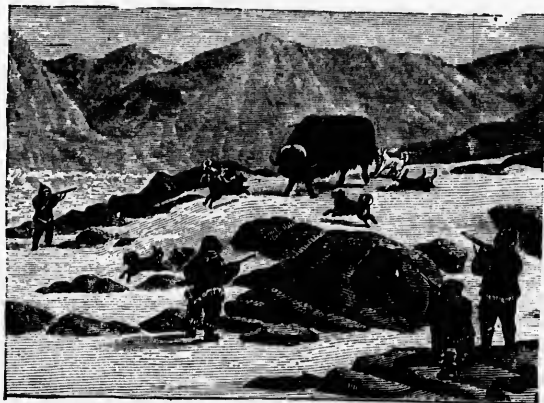
By the middle of October the entire party were in England, where Ross received the freedom of her leading cities and was knighted by the king, and received a grant of \$25,000

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from Parliament. In 1851 he became Rear Admiral. His death occurred five years later.

His nephew, James C. Ross, was promoted to a captaincy, and from 1839 to 1843 conducted the famous Antarctic expedition, in the course of which he approached to within 160 miles of the South Magnetic Pole, computed to be in south latitude  $66^{\circ}$ , and east longitude  $146^{\circ}$ . He, too, was made a knight.



SHOOTING THE FIRST MUSK-OX, WEST COAST OF GREENLAND.



## CHAPTER XIV.

EXPEDITIONS OF CAPTAIN BACK AND MESSRS. DEASE  
AND SIMPSON.

After Ross had been absent for two years, with no intelligence of his whereabouts, Dr. Richardson first directed public attention towards his probable fate and volunteered to go to his relief. The government was solicited to lend a helping hand, but being slow to act,

## A POPULAR SUBSCRIPTION

was started, and \$20,000 raised, to which the government added \$10,000. Captain Back, the veteran of two overland journeys to the north coast of North America in company with Franklin and Richardson, volunteered his services, and was placed in command.

Accompanied by Dr. Richard King as naturalist, and three men who had been with Franklin in 1825, Back arrived in New York in the latter part of March, 1833.

Proceeding to Montreal, he then journeyed to Fort Chipewyan, on the west end of Lake Athabasca, where he arrived July 20th. During this part of the journey the party were dreadfully tormented by sand-flies, mosquitoes, and horse-flies, so that their faces streamed with blood, the ensuing pain and irritation producing giddiness and causing them to moan with pain and agony.

Leaving Fort Chipewyan, a journey of nineteen days brought them to Fort Resolution, on Great Slave Lake. In the course of this long march Back was joined by a

## MOTLEY CROWD

consisting of "an Englishman, a man from Stornoway, two Canadians, two Metifs, or half-breeds, and three Iroquois In-

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dians. Babel could not have produced a worse confusion of inharmonious sounds than was the conversation they kept up." The Stornoway man was A. R. MacLeod, and was accompanied by his wife, three children and a servant. He was a member of the great MacLeod family, Isle of Lewis, and who, along with the MacAulays, have long dwelt side by side in the fishing hamlets of Islivig and Braenish, in which latter place was born the great-grandfather of the eminent historian, Macaulay.

Some years since, it was the writer's good fortune to visit this locality, as well as the ancient and historic Stornoway, in which, while visiting the school, was learned that here was born the afterwards-celebrated Sir Alexander Mackenzie, whose services we have already mentioned in these pages.

Leaving MacLeod and all but four men, Captain Back proceeded in a northeasterly direction from Fort Resolution in search of the Thlew-ee-Choh, or Great Fish, now called Back River.

Forests, swamps, portages, streams, lakelets, rapids and cascades impeded their progress until, on August 27th, from a hilltop, Back saw the wide expanse of water now known as Lake Aylmer. Two days later three of Back's men reached this lake by means of a canoe, while Back searched for and found Sand Hill, or Sussex Lake, the source of the great river toward which he was traveling.

Returning to Great Slave Lake, its northeastern extremity was reached by the middle of September. Here MacLeod and party had erected a comfortable house, fifty by thirty feet in dimensions, containing four rooms, a central hall where were received their Indian visitors, and a more rudely constructed kitchen.

#### FORT RELIANCE

was the name given to the encampment. Meanwhile, Dr. King arrived with a large supply of provisions.

The winter was a severe one, the thermometer sinking to seventy degrees below zero. Food became scarce, but the faithful Chief A-kai-teho and his hardy hunters managed to

secure considerable game, which was generously shared with the strangers. "The great chief," said Akaitcho, "trusts in us, and it is better that ten Indians should perish than that one white man should perish through our negligence and breach of faith."

On February 14, 1834, MacLeod moved his family nearer the hunting-grounds, where six of the natives near him died of starvation, his own family barely escaping the same fate.

April 25th a messenger arrived at Fort Reliance announcing the safe arrival of Captain Ross and party in England. Says Back: "In the fulness of our hearts we assembled together and humbly

#### OFFERED UP OUR THANKS

to that merciful Providence, who, in the beautiful language of Scripture hath said: 'Mine own will I bring again, as I did some time from the deeps of the sea.' The thoughts of so wonderful a preservation overpowered for a time the common occurrences of life. We had just sat down to breakfast, but our appetites were gone, and the day was passed in a feverish state of excitement."

Captain Back now directed his energies toward the exploration of the Great Fish River. He sent in advance Mr. MacLeod and family for the purpose of hunting and depositing the game secured. On June 7th he, too, set out with Dr. King and five men and soon came upon the boat-builders, whom he had also despatched in advance. Taking the best of the boats he had it fitted with runners, as Parry had done in 1827.

On the 14th, with six dogs drawing the boat-sledge, he took a fresh start and came upon a caché of deer and musk-ox flesh. On the 25th a second store was met with, eleven animals having been left in the two depots.

That there might be no partiality shown in the matter of food, Back ordered that the rations of himself and officers should contain an equal share of the objectionable musk-ox flesh.

On the 27th MacLeod was overtaken, and on the next day

the boat was launched upon the great river, MacLeod and thirteen men having been sent back to Fort Resolution to take charge of supplies to be forwarded from the Hudson Bay Company's stations, to establish a fishery, to erect a suitable building for winter quarters, and then to return to the Great Fish River by the middle of September to render assistance to his own party upon its return to that point.

On July 8th, with ten companions, and 3,360 pounds of provisions, Back started on his voyage down the river. The first hundred miles were a series of rapids and cascades. On the 28th, a

#### LARGE TRIBE OF ESKIMOS

was met with and greatly assisted them in making the last long portage. Arriving at the mouth of the river, Back descried a headland, to which he gave the name Victoria.

Thus the party had descended a tortuous stream for 530 miles, including five large lakes, eighty-three falls, rapids, and cascades, and now stood overlooking a wide expanse of the Polar Sea, in latitude  $67^{\circ} 11'$  north, but thirty-seven miles farther south than the mouth of the Coppermine River.

Back reached, as the terminus of his voyage, latitude  $68^{\circ} 13' 57''$ , and gave to the name of a headland seen on the north-west shore of the estuary, in latitude  $68^{\circ} 46'$ , Cape Richardson.

Returning, the party arrived at the source of the river on September 16th, where they met MacLeod, with the much-needed supplies.

On the 27th all reached Fort Reliance, where Back and six of the party passed the winter, MacLeod and all others maintaining themselves at the fishing-station.

On March 21, 1835, Captain Back set out upon his return to England, by way of Canada and New York, arriving in Liverpool September 8th, after an absence of nearly two years and seven months. A month later Dr. King and others arrived by way of the Hudson's Bay route.

For his services Captain Back was awarded a gold medal and a post captaincy in the navy.

Nine months after his return from this journey, at the

suggestion of the Geographical Society, he was again sent out

IN THE "TERROR,"

in which he was to proceed to Repulse Bay, or the Wager River, and thence to make an overland journey to the bottom of Prince Regent's Inlet and to send other parties to Fury and Hecla Strait, and, if possible, to Franklin's Point Turn again.

Arriving at Salisbury Island, in the northern part of Hudson's Bay, on the 14th of August 1836, the vessel was soon frozen in.

From December to March, inclusive, the "Terror" drifted about in a crazy and helpless manner.

On July 10, 1837, the ice put her on her beam ends, in which manner she rested until on the 14th she suddenly righted herself. The vessel had been so greatly disabled that Captain Back returned at once to England. The "Terror," however, was destined to be heard of in connection with another polar voyage.

Sent by the Hudson's Bay Company to complete the survey of the north coast, left untouched by Franklin, Beechey and Back in their several journeys and voyages,

MESSRS. DEASE AND SIMPSON,

in July, 1837, descended the Mackenzie River, and, by August 4th, Simpson had proceeded from Franklin's Return Reef 146 miles westward to a point just beyond Point Barrow, whence Elson had returned to the "Blossom" in 1826. On this journey Simpson

DISCOVERED THE GARRY AND COLVILLE RIVERS.

Returning to the Great Bear Lake, the winter was spent at Fort Confidence, and, on June 6, 1838, the ascent of the Dease River, which empties into the Great Bear Lake from the north, was begun. The Coppermine was then descended to its embouchure into Coronation Gulf, which was reached on the 1st of July. Here, on one of the Barry Islands, some very pure specimens of copper were found.

Just before entering the gulf, Escape Rapids were run, and that occurrence is thus described by Simpson: "A glance at the overhanging cliff told us that there was no alternative but to run down with a full cargo. In an instant we were

IN THE VORTEX;

and before we were aware my boat was borne toward an isolated rock, which the boiling surge almost concealed. To clear it on the outside was no longer possible; our only chance of safety was to run between it and the lofty eastern cliff. The word was passed, and every breath was hushed. A stream which dashed down upon us over the brow of the precipice more than a hundred feet in height, mingled with the spray that whirled upward from the rapid, forming a terrific shower-bath. The pass was about eight feet wide, and the error of a single foot on either side would have been instant destruction. As, guided by Sinclair's consummate skill, the boat shot safely through those jaws of death, an involuntary cheer arose. Our next impulse was to turn round to view the fate of our comrades behind. They had profited by the peril we incurred and kept without the treacherous rock in time."

July 29th the party reached Cape Barrow, thence pushing northeastward, Cape Flinders, in latitude  $68^{\circ} 15'$ , longitude  $109^{\circ} 15'$  west, on Kent Peninsula, was attained on August 9th. Here, three miles from Franklin's Point Turnagain, they remained till, on the 20th, Simpson, with seven men and provisions for ten days, set out on a foot journey.

Traveling eastward, on the 23d Simpson ascended a height from which he viewed a wave-worn sea, and beyond it a vast extent of territory upon which he bestowed the name of the young queen-sovereign of England, Victoria. Its eastern extremity was called Cape Pelly, in honor of the governor of the Hudson's Bay Territory.

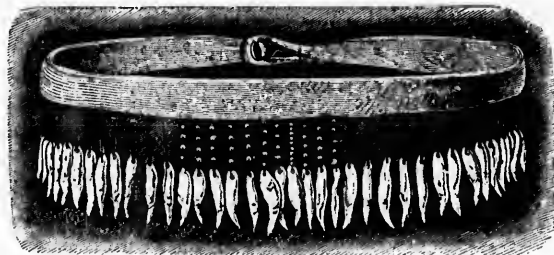
Having surveyed one hundred forty miles of coast line eastward of Point Turnagain, Simpson returned to Fort Confidence, where the party arrived on September 14th. Here the winter was spent.

In June, 1839, after having spent a week in exploring Richardson's River, Simpson again descended to the sea, and after doubling Cape Alexander at the eastern extremity of Dease Strait, in latitude  $68^{\circ} 55'$  and longitude  $106^{\circ} 45'$ , on July 28th he entered a large gulf or bay, still unnamed, and traced its coast line for 500 or 600 miles to a narrow channel separating King William's Land from the continent, and which has been called in his honor Simpson's Strait.

Proceeding, on the 25th, the journey's end was reached near Cape Herschel. The spot was marked with a cairn and documents were deposited. It stood upon Boothia Isthmus, ninety miles south of the North Magnetic Pole as determined by Ross eight years previous.

The east coast of Victoria Land was then examined for 150 miles, after which the party returned to Fort Confidence, having completed a boat voyage of 1,600 miles in four months.

Simpson was murdered in the course of the following year by one of his Indian guides when on his return to England. He was but thirty-six years of age and had been awarded the Founder's Gold Medal.



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## CHAPTER XV.

## MIDDENDORF IN THE TAIMUR PENINSULA.

Of indomitable determination and untiring in his zeal for science, Middendorf deserves a place of honor for his expedition to the Taimur Peninsula. Commissioned by the Academy of Natural Sciences of St. Petersburg, he, in company with a Danish forester, and a single servant, proceeded in 1843 to a point on the Yen-i-se-i, just below Tu-ru-chausk, in latitude  $61^{\circ}$ , longitude  $90^{\circ} 30'$  east. Here he was joined by a topographer, three Cossacks, and some Tun-gu-si guides.

The measles broke out among the members of the party at this time and it became necessary to transport the patients on sledge-ambulances having boxes lined with skins.

Leaving the forest of the Yen-i-se-i, on April 13th, the party struck the open tun-dras and journeyed toward the Cha-tanga River. The inhabitants in its region being afflicted likewise with measles, Middendorf then directed his course almost due north toward the Taimur River.

Leaving Brandt to prosecute meteorological work and to gather specimens of the fauna and flora of the regions, on the 19th of May, with the topographer, two Cossacks, an interpreter, a boat of twelve feet keel, sixty-eight reindeer, and some Samoyeds who were migrating in the same direction, Middendorf began his long journey.

Striking the Taimur on June 14th, in latitude  $74^{\circ}$ , tents were pitched and the boat was put in readiness. The ice broke up on the 30th and, on July 5th, the boat was launched by the light of the midnight sun. Through Taimur Lake progress was delayed by strong north winds, but beyond the lake the increasing rapidity of the stream hastened them on. On Au-



gust 6th the first frost was had, and on the 24th the sea was reached, in latitude  $75^{\circ} 40'$ .

On this journey Middendorf found confirmation of De Saussure's—the great Swiss naturalist—statement that the difference between light and shade is greatest in summer and in the higher latitudes; for, although the thermometer indicated 37 degrees below zero in the shade, the hillsides exposed to the sun were dripping with wet. Toward the end of June while the mean temperature of the air was still below the freezing-point of water, the snow had vanished from the sunny side of the Taimur.

Torrents of water coursed the hillsides and swelled the river forty feet above its winter level and swept the ice to the sea.

About the middle of August, in light underclothes and barefooted, Middendorf hunted butterflies in latitude  $74^{\circ} 15'$ , the temperature of the air being  $68^{\circ}$ , but near the ground  $86^{\circ}$ , while at a spot exposed to the northeast wind it was five degrees below freezing—at  $27^{\circ}$ .

Moisture was great. In May thick snow-fogs prevailed; in June vapor-fogs, turning daily to light, intermittent showers. During the middle portions of the day—the night-period of the twenty-four hours—when the sun was lowest on the northern horizon, the weather was clear and serene.

Winds rose suddenly and

#### THUNDERSTORMS

were frequent. Their occurrence in the Arctic regions is anomalous. The north and south winds battled for supremacy toward the end of August, but those from the north finally prevailed.

The snow-fall was light on the tundras, being, near the close of winter, but from two to six inches, while the ice on the lake and river measured from four to eight feet in thickness, depending upon the depth of snow covering it.

A brownish moss covered the soil, while grass grew to the height of from three to four inches along the streams and in

depressions. On the river and lake, grass, greensward and flowers abounded.

Here vegetable growth is undoubtedly the most rapid in the world. Animal life is the same as in both hemispheres as high as latitude 75°.

Hares, foxes, wolves, reindeer, bees, hornets, butterflies, caterpillars, spiders, flies, gnats, wary gulls and incautious ptarmigans—all these enlivened the scene.

August 25th Middendorf reached the Polar Sea, it being free from ice as far as the eye could reach. Delayed as he had been by the prevalence of the measles, the lateness of the season compelled him to begin his return journey on the next day. Aided by the north winds the boat made good progress in the ascent of the river southward.

September 9th the young ice was observed forming rapidly on the lake and in their efforts to reach the river the boat was crushed irreparably between two ice-floes. A sledge was now constructed on the 10th, but on the following day Middendorf, sick and fatigued, was unable to proceed. The scant supplies of food and his own dog were now divided into five equal portions among the party, his four companions being hastened forward to overtake, if possible, the Samoyeds before their annual migration southward.

Says Middendorf: "My companions had now left me twelve days; human assistance could no longer be expected; I was convinced that I only had myself to rely upon, that

#### I WAS DOOMED.

and as good as numbered with the dead. And yet my courage did not forsake me."

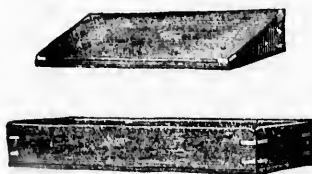
With reason almost unseated, three days later a saving flash of thought came to him. He writes: "My last pieces of wood were quickly lighted, some water was thawed and warmed, I poured into it the spirits from a flask containing a specimen of natural history, and drank. A new life seemed to awaken in me; my thoughts returned again to my family. Soon I fell into a profound sleep—how long it lasted I know

not—but on awakening I felt like another man, and my breast was filled with gratitude. Appetite returned with recovery, and I was induced to eat leather and birch-bark, when a ptarmigan fortunately came within reach of my gun. Having thus obtained some food for the journey, I resolved, though still very feeble, to set out and seek the provisions we had buried. Packing some articles of dress, my gun and ammunition, my journal, etc., on my small hand-sledge, I proceeded slowly, and frequently rested. At noon I saw, on a well-known declivity of the hills,

#### THREE BLACK SPOTS

which I had not previously noticed, and as they changed their position, I at once altered my route to join them. We approached each other, and—judge of my delight—it was Trischin, the Samoyed chieftain whom I had previously assisted in the prevailing epidemic, and who now, guided by one of my companions, had set out with three sledges to assist me. Eager to serve his benefactor, the grateful savage had made his reindeer wander without food over a space of one hundred fifty versts (eighty-seven miles) where no moss grew."

Middendorf's companions had reached the Samoyeds in time to send him assistance and on the last day of September he was again safe within his tent. His journey had terminated two degrees short of Cape Chel-yus-kin, but that point had been attained 101 years before. His explorations made known the fauna, flora and meteorology of the most northern region of the eastern continent.



PARTS OF SIR JOHN FRANKLIN'S DESK.

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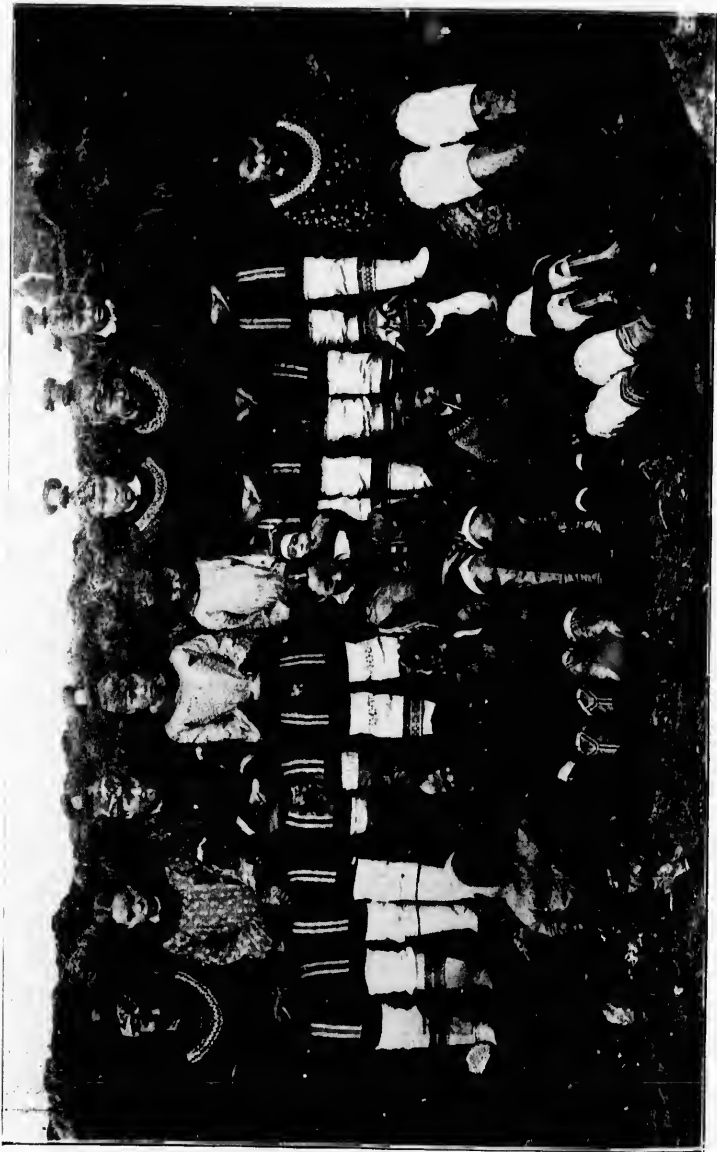
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(1.) Cumberland Sound Eskimos Aboard. (2.) Cumberland Sound Eskimo Men. (3.) An Eagle's Nest. (4.) Ptarmigans and Hares Caught in Snares by Eskimos. (5.) Dead Walrus and Her Baby. (6.) An Ook-sook, or Large Seal.



South Greenland Danish-Eskimo Women and Children.

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## CHAPTER XVI.

FATEFUL VOYAGE OF FRANKLIN AND EXPEDITION OF  
RAE.

Franklin's last expedition, undertaken in 1845, comes now in order. So advanced in age was the gallant Sir John that although the admiralty was glad to avail itself of his rich experience, Lord Haddington was loth to let him go. "I might find a good excuse for not letting you go, Sir John, in the telling record which informs me that you are sixty years old," said the peer.

"No, no, my Lord," said Franklin, "I am only fifty-nine." Further objection was useless.

With his pennant flying from the "Erebus," and Captain Crozier, the companion of Parry in his last three voyages and of Sir John Ross in his second expedition, commanding the "Terror," the crazy vessel in which Captain Back had essayed a voyage into the north part of Hudson's Bay in 1836, Franklin set sail in May, 1845.

Provisioned for three years, the vessels had on board one hundred men, the very cream of the navy.

A provision ship accompanied them as far as Disco, Greenland, from which point it returned to England, bearing the last tender farewell messages of the departing explorers. On the 9th of July Franklin wrote: "I hope that my dear wife and daughter will not be anxious if we should not return by the time they have fixed upon. Without success in our object, even after the second winter, we should wish to try some other channel, should the state of our provisions and the health of our crews justify it." A portion of the very last letter written by this same brave and affectionate man is as follows:

"Whale Fish Island, Bay of Disco, 11th of July, 1845.

"My Dear Sister— \* \* \* The appearance, dress and manners of the Esquimaux bespeak that care is taken of them by the government. Several of them can read the Bible with ease, and I am told that when the families are all collected the children are obliged to attend school daily. I looked into one of the huts arranged with seats for this purpose. When the minister comes over from Disco he superintends the school; at other times the children are taught by a half-caste Esquimaux. How delightful it is to know that the gospel is spreading far and wide, and will do so till its blessed truths are disseminated through the globe. Every ship in these days ought to go forth to strange lands bearing among its officers a missionary spirit; and may God grant such a spirit on board this ship. It is my desire to cultivate this feeling, and I am encouraged to hope we have among us some who will aid me in this duty. We have divine service twice on each Sunday, and I never witnessed a more attentive congregation than we have. May the seed sown fall upon good ground, and bring forth fruit abundantly to God's honor and glory.

"Ever your affectionate brother,

"John Franklin."

No wonder, then, that Franklin was always surrounded by a host of ever faithful companions in all his undertakings, and that, while he thus writes to his sister, a fellow-officer, Lieutenant Fairholme, of the "Erebus," should also write concerning him: "I need hardly tell you how much we are all delighted with our captain. He has, I am sure, won not only the respect, but the love of every person on board by his amiable manner and kindness to all; and his influence is always employed for some good purpose, both among officers and men. He is in much better health than when we left England, and looks ten years younger."

The gallant Fitz-James also wrote: "I am convinced that he is the most capable of all men of commanding an expedition."

The last ever seen of them was in the latter part of July.

This was by a whaler who described them as "moored to an iceberg, waiting for a chance to enter Baffin's Bay." They were once more endeavoring to solve the mystery of a north-west passage.

The mournful discoveries which have since been made in the endeavor to unravel their sad fate appear in pages following.

Resolved to outline the coast lying between Dease and Simpson's farthest and Fury and Hecla Strait, the Hudson's Bay Company, on the 13th of July, 1846, despatched

DR. JOHN RAE.

in command of thirteen men, for that purpose.

Proceeding by boat along the western shore of Hudson's Bay, the party reached Wager River, or Bay, on the 22d. Here they were deterred a day by the ice, which at the time was being ground upon the rocks by the action of the tide with noise

LIKE THUNDER.

The current was running at the rate of eight miles an hour.

On the 24th anchor was cast at the head of Repulse Bay, where a party of Eskimos were met. The women of the tribe were wearing round their wrists beads obtained from Parry's ships, the "Hecla" and "Fury," twenty-four years previous. The natives had neither seen nor heard of anything concerning Franklin.

Learning from these people that it was only about forty miles across the isthmus of the Melville Peninsula to the head of Committee Bay and that distance broken by a series of lakes so that there would be but about five miles of portage, with a small advance party and one boat, Dr. Rae pushed on until he had launched upon the salt waters of the bay. Checked by the ice, he recrossed the lake-dotted isthmus and began at once to prepare for

WINTER-QUARTERS

on Repulse Bay. In his journey he had been assisted by the natives.

There being no wood in the region, August was spent in



building a dwelling-place of stone. It was twenty feet long, fourteen feet wide, and eight feet high, the roof being of oil-cloth and skin, the masts and oars serving as rafters, while the door was parchment skin.

Deer abounded, and although many had already migrated south, fleeing from the approaching Arctic night, one hundred sixty-two fell before their rifles before the end of November. In one day, Dr. Rae shot seven within two miles of the house. Besides these, two hundred partridges and some salmon were secured.

Fuel sufficient for cooking was gathered, and the fat of two seals which were shot supplied oil for the lamps. By means of nets set under the ice a few more salmon were caught.

By the middle of March following, the deer again appeared, chasing the fleeing night.

April 5th, Dr. Rae, with three men, two Eskimo interpreters, and a sled drawn by four dogs, started to explore the western shore of Committee Bay. In the course of the latter part of the month he arrived on the isthmus joining Boothia with the land lying to the south. This isthmus was found to be but one mile wide.

Returning, four Eskimos were met, and from them Rae's exhausted party obtained food for both men and dogs. The 5th of May found them again at the head of Repulse Bay.

Eight days later Dr. Rae, with four picked men, again started out, this time to trace the west shore of Melville Peninsula. When within a few miles of Fury and Hecla Strait the shortness of provisions compelled them, with many regrets, to return to headquarters, which they reached on the 9th of June. All were greatly reduced in flesh and strength and were compelled to resort to the expedient of tightening their belts to allay the pangs of hunger.

Game, however, was soon secured, the boats made ready, and on the 12th of August the party sailed for Fort Churchill, where they arrived on the 31st.

For his services the Hudson's Bay Company rewarded Dr. Rae with a gift of \$2,000.

## CHAPTER XVII.

## RICHARDSON'S SEARCH FOR FRANKLIN.

When, after an absence of nearly three years, no intelligence was received concerning the whereabouts of Franklin, it was determined to despatch searching parties to three different localities, viz., to Lancaster Sound, the Mackenzie River and Bering Strait.

In execution of this great plan, an expedition under command of Dr. John Richardson, the brave and skillful companion of Franklin in his famous expedition of 1819-26, left Liverpool March 25, 1848.

Dr. Richardson being an eminent and thorough naturalist, was therefore preëminently qualified for the great overland journey.

Dr. John Rae, who had been a resident of British America for fifteen years, and who was of much practical wisdom, was placed second in command.

Arriving in New York April 10th, they proceeded by way of Lake Champlain, the St. Lawrence River, the Great Lakes, and the various lakes and streams of British America to the Mackenzie River, the delta of which was reached on the 31st of July. Here, it will be remembered, Franklin had unfurled the silk flag given him by his dying wife, in 1826, and divided his expedition into two parties, the one under his immediate command proceeding west toward Bering's Strait, the other, under the direction of Dr. Richardson, east to the mouth of the Coppermine River; and now, twenty-two years later, Dr. Richardson was about to repeat the journey.

The Eskimos encountered at that time were again met with, to the number of about two hundred, but, strangely, they denied ever having before seen or heard of any white men or their

boats. To all appearances they had forgotten the conflict with Franklin on the occasion of his arrival among them, and, doubtless, unpleasant recollections of it caused their denial.

Secretly depositing a case of pemmican in a pit dug ten feet from the best-grown tree on the point, besides leaving a bottle containing the memorandum of their journey and other information, Richardson proceeded along the coast hoping to be able to cross over to Wollaston Land, near the mouth of the Coppermine.

At Baillie's Islands, near Cape Bathurst, Eskimos were again met and bartered with. They were here at this season for the purpose of capturing the black whale. More pemmican was now buried, and in order to conceal the location of the pit containing it, the turf was carefully replaced, drift timber burned upon the spot, and a

#### SIGNAL-POLE

painted red and white erected at a distance of ten feet from the caché. Upon the pole were hung several articles of value as an inducement to the Eskimos not to remove the pole itself. The effect was as desired, for upon leaving the place, Dr. Richardson had the satisfaction of perceiving some of the Eskimos strip the pole of its gifts, leaving the signal undisturbed.

Rounding Cape Bathurst, the shore sometimes rose to the height of 250 feet. The bituminous shale at Point Trail, in latitude  $70^{\circ} 19'$ , ignited evidently by the natives, had been burned and the banks thus destroyed and crumbled presented a singular appearance.

Near Cape Parry, an eminence 500 feet high and surmounting all the surrounding region, another case of pemmican and a letter were deposited, the spot being marked with limestones painted red. Traces of Eskimos were still found.

Near Cape Kendall, on August 12th, the sea became so much obstructed by ice that it became necessary to abandon all but one portable boat, the tent, hatchets, and some of the cooking utensils to the Eskimos. Advancing now on foot through deep snow, their weary progress was expedited by the

generous assistance of the natives whom they continued to meet, these ferrying them across the numerous inlets lying in their course. Two of the natives were recognized as being among those mentioned by Mr. Simpson; one by having a wen on his forehead, and the other by being a cripple and wearing crutches. They, as indeed the whole tribe, had been kindly treated by Dease and Simpson and, in turn, all were disposed to be friendly with the whites now.

Dr. Richardson allowed his men to offer none of them any indignity. He himself entering one of their huts found six or seven women seated in a circle and sewing. Being nearly naked, and dirty, they seemed both afraid and ashamed. In order to render their persons as repulsive as possible they had evidently smeared their bodies with mud and ashes, and seemed greatly relieved when the doctor took his departure. Thus do man's passions, fears and artifices appear the same the world over.

At length, on September 5th, the Coppermine was reached.

Deer and geese abounded and nine or ten of the latter being shot by Dr. Rae, and wood found, a large fire was built and a feast enjoyed.

Greatly refreshed, the party now ascended the river a considerable distance and then, striking across the country, arrived, on September 10th,

#### AT FORT CONFIDENCE,

on the Dease River, just above its outlet into Great Bear Lake. Divine service was held, and thanks offered to the Almighty for their safe return. Such expressions of deep gratitude were not "the exception" but "the rule" with Dr. Richardson. The services being held regularly, were attended by the Catholics as well as by the Protestants of the party.

During all his long journey from the Great Lakes to the mouth of the Mackenzie, and thence to Fort Confidence, this truly great man had been assiduous in making botanical and geological observations and collections and his notes on the animal life and climatology of the regions traversed render the

accounts of his travels of great value and fascination. Lichen and moss, affording reindeer and musk-ox their abundant food; crowberry, bleaberry and cranberry, preserved from time of ripening to the following season of blossoms by an early and long-continued freezing, furnishing to goose and bear their fattening provender; chromate and copper, yielding to Eskimo and Indian their hostile weapon and pigment—all these and much more hold the reader intent from beginning to end.

During the winter both Richardson and Rae were busily employed with their scientific observations.

On April 12th, 1849, was received a letter-bag from England. Among the packages received was a newspaper,

THE GALENA (ILL.) ADVERTISER.

This conveyed to them later news from England than any of the other articles, from this circumstance: while the mail-bag was being transported from New York to the Red River of the North, the latest news from England—September 15, 1848—was telegraphed to the Galena paper, which, being printed the next day, was despatched by way of the Upper Mississippi and thence found its way into the more slowly traveling letter-bag and so on beyond the Arctic Circle. In it was published news concerning the Irish rebellion. In January the

OREGON CITY (OREGON) SPECTATOR,

of February, 1848, had reached them after a journey of eleven months. It contained an account of the uprising of the Black-foot Indians.

In April, Mr. Rae, in anticipation of a summer voyage down the Coppermine, was employed in transporting provisions and boat supplies to a tributary of that stream. These were left in charge of two men, and two Indian hunters were kept busy obtaining and curing the flesh of reindeer and musk-ox for their use on the trip.

The ice not breaking, it was the middle of July before Rae's party reached the mouth of the Coppermine. Thence various attempts to cross to Wollaston Land were made, but having

arrived too late in the season, the ice had already broken into impenetrable hummocks and, after waiting till the 19th of August, they were obliged to abandon the effort altogether. They, however, met with five Eskimos who had spent the winter among the Wollaston Land Eskimos who had never seen Europeans or large boats. Thus baffled, although a brave and intelligent man, Rae again ascended the Coppermine and in due time arrived at Fort Confidence.

While towing the boat along shore, over the last bad rapid,

#### A SAD ACCIDENT

occurred to the faithful interpreter, Albert One Eye. Owing to the carelessness and timidity of the steersman, the boat was cast adrift. Misunderstanding a direction of Mr. Rae, Albert sprang into the boat, and both were lost. The young man was thrown from the boat, and seen to sink, never to rise again. Being active, of an amiable disposition, and of extreme goodness, his death was deeply lamented.

During Rae's employment on this trip, Dr. Richardson crossed Great Bear Lake to its outlet, at its south extremity, by means of

#### GREAT BEAR RIVER,

a tributary of the Mackenzie, the ascent of which to Great Slave Lake was the object of Dr. Richardson's efforts.

When descending the Great Bear River, one of the seamen, Brodie by name, started inland, purposing to shorten the distance. He soon lost his way, and as is usual, it is said, for persons to do under such circumstances, he started to run. Arriving at a tortuous stream he was compelled to swim it twice, carrying his clothes upon his back. In his second effort he lost his garments, but upon arriving on the shore entirely naked he knew it meant death to proceed without garments and therefore resolutely swam again into the icy stream and fortunately recovered them. He at last located himself and returned to his companions.

To become lost in this manner appeared to be characteristic of the sailors, who could not be made to realize the danger

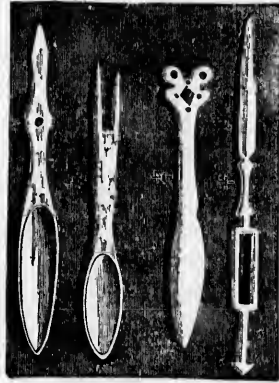
arising through wandering from companions until experience had taught them better.

On another occasion one of them was found contentedly

WALKING TOWARD THE MOON,

which, being red and near the horizon, streamed through the forest and led the wanderer into the belief that he was approaching the camp-fire of his comrades.

Dr. Richardson eventually arrived in England on the 6th of November, where he was received with marks of satisfaction for his great services. He had been absent nineteen months, twelve of which were spent in actual travel.



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## CHAPTER XVIII.

## SEARCH EXPEDITION OF JAMES C. ROSS.

The first expedition fitted out to search for the lost explorers by way of the Lancaster Sound route, left England June 12, 1848, in command of Sir James C. Ross, who, it will be remembered, had been in many parts of the world with his distinguished uncle, Sir John Ross.

The pennant ship "Enterprise" was of 450 tons, and among the officers were the afterwards celebrated lieutenants, McClure and McClintock. The "Investigator," in command of Captain E. J. Bird, who had served under Parry during his second and fourth voyages, was of 480 tons. The two ships carried a complement of 135 men.

## LEOPOLD HARBOR,

at the northwestern corner of Prince Regent's Inlet, was reached September 11th, and here, a month later, winter-quarters were completed. A more desirable location could not have been secured, for it commanded the junction of the four great channels, Lancaster Sound, Wellington Channel, Barrow's Strait, and Prince Regent's Inlet, so that any of Franklin's party, traveling by either route, could scarcely avoid learning of their presence in Leopold Harbor.

Knowing that a party short of provisions would search for foxes at this time of year, about fifty of these small white creatures were entrapped, and, copper collars containing information for the lost men being fastened about their necks, again set at liberty. Parry had previously used this method, having left medals with the Eskimos.

The winter passed uneventfully, and during April and May



Captain Ross and Lieutenant McClintock, with twelve men, explored the north and west coast of

#### NORTH SOMERSET

as far as latitude  $72^{\circ} 38'$  and longitude  $95^{\circ} 40'$  and erected a cairn of stones. Beyond this they could see clearly to a distance of fifty miles, and that the Gulf of Boothia was separated from the western sea by an apparent isthmus, now, however, known to be a short neck of water called Bellot Strait.

While they were absent Mr. Mathias, assistant-surgeon on the "Enterprise," died of consumption.

Meanwhile, both coasts of Prince Regent's Inlet and the western coast of the Gulf of Boothia for some distance had been examined, so that, considering Rae's work along the west coast in 1847, not more than 150 miles of the western shore of the inlet and gulf remained unsearched. A small party under Lieutenant Barnard had also crossed Barrow's Strait and examined a portion of the north coast. Nowhere were traces of their missing countrymen to be found.

The party that examined the west coast of Prince Regent's Inlet came upon the house occupied by Sir John Ross in the winter of 1832-3. The stores taken from the "Fury," abandoned in 1827, were found in an excellent state of preservation.

These embraced flour, peas, meat and portable soups, which last was as wholesome as when first manufactured.

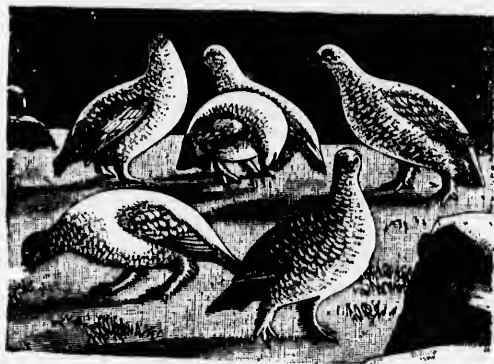
It now appeared to Captain Ross that Franklin had not entered Prince Regent's Inlet, but continued westward through Barrow's Strait, turning south, eventually, in an effort to reach the mainland of America, and that therefore Dr. Richardson's parties in descending the Mackenzie and Coppermine would meet them.

Having built a house and deposited a year's supply of provisions and fuel for a large party of men, the vessels proceeded across Barrow's Strait for the purpose of examining Wellington Channel. When about twelve miles from the shore the ice

arrested farther progress and they were soon beset, and gloomy forebodings of a second winter to be spent in this situation came to all, when the whole body of ice began to move eastward, carrying them through Lancaster Sound at the rate of eight or ten miles a day until quite abreast Pond's Inlet. Here, on September 25th, they were almost miraculously liberated, the ice suddenly breaking into innumerable fragments as if by an unseen power. Says Ross:

"It is impossible to convey any idea of the sensations we experienced when we found ourselves once more at liberty, while many a grateful heart poured forth its praises and thanksgiving to Almighty God for this unlooked-for deliverance."

Now sailing to England, both vessels arrived there in safety early in November.



PTARMIGANS.

## CHAPTER XIX.

## VOYAGE OF THE "NORTH STAR."

Fitted out in the spring of 1849, with provisions for the missing expedition, and with orders and supplies for the "Enterprise" and the "Investigator," the "North Star," of 500 tons, arrived in the vicinity of the Devil's Thumb and Melville Bay on July 29th, where she was beset with ice for sixty-two days, being released September 29th. She then took up her winter-quarters in North Star Bay, Wostenholme Sound, latitude  $76^{\circ} 33'$ , longitude  $68^{\circ} 56'$ .

Up to this date this was the farthest north that a British ship had ever wintered. The cold was intense, but two or three stoves warmed the vessel, and the crews were cheered up with all sorts of games and amusements.

Although about fifty hares and some foxes were shot, other game was scarce. A few Eskimo families visited the ship occasionally, and one poor fellow had both feet so badly frozen that they dropped off. He was nearly cured by Dr. Rae, but died of some pulmonary difficulty after having been on board six weeks.

It was the first of August, 1850, before the "North Star" could leave the bay, and the 22d before she arrived in Lancaster Sound, on which day she spoke the "Felix," under Sir John Ross. On the next day the "North Star" began landing her supplies in Navy Board Inlet, latitude  $73^{\circ} 44'$ , longitude  $80^{\circ} 56'$ . The ice prevented them from being landed at Port Bowen and Port Neale, as had been previously tried. A flag-staff, with a black ball, and a letter deposited beneath a cairn of stones, marked the position of the stores.

The "North Star" returned to England in September. Her men had endured intense cold and many perils, yet but five men were lost on the trip and in winter-quarters.

## CHAPTER XX.

## VOYAGE OF THE "PLOVER" AND "HERALD."

The third search-route, viz., that by way of Bering's Strait, was essayed in 1849, by the "Plover," Commander Moore, and the "Herald," Captain Kellet. These two vessels, having passed the strait, discovered to the northward two islands with several neighboring islets. They then repaired to winter-quarters, the "Plover" to Kotzebue Sound, the "Herald" to Panama.

Previous to this, Lieutenant Pullen had quitted the "Plover" and, with four open boats, made a thirty-two days' voyage to the mouth of the Mackenzie, arriving there on the 26th of August. Ascending this river to Fort Simpson, he met Mr. Rae and learned of the results of the expeditions to the Arctic coast made by both Richardson and Rae.

On the 20th of June following, Lieutenant Pullen left Fort Simpson with the Hudson Bay Company's servants and stock of furs for England, but, five days later, met a messenger with dispatches directing him to return and continue the search along the Arctic coast. He accordingly descended the Mackenzie, but, one of his boats being shattered, he returned unsuccessful, and in due time arrived in England.

## CHAPTER XXI.

## THE SEARCH CONTINUED: THE ADMIRALTY SQUADRON AND PRIVATE EXPEDITIONS.—THE AMERICANS ASSIST.

We now revert a second time to the search conducted by way of Lancaster Sound, whither, in 1850, were sent ten vessels intent upon obtaining some clew to, if not a complete revelation of, the ice-kept mystery. There, in July, were the "Resolute" and the "Assistance," teak-built vessels of 500 tons each, and in command of Captains Austin and Ommaney respectively, and each carrying a complement of sixty men. Accompanying these as tenders were the small screw steamers, the "Pioneer," Lieutenant Osborn, and the "Intrepid," Lieutenant Cator, each carrying thirty men.

Among the officers on board the "Resolute" and the "Assistance" were Lieutenants Browne and McClintock, who served in the "Enterprise" during the voyage of Sir James C. Ross in 1848. Besides these vessels, there were the "Lady Franklin," 250 tons and twenty-five men, and the brig "Sophia," twenty-two men. In charge of the two ships was Captain Penny, who had spent twenty-eight of the forty years of his life in the whaling-service. Mr. Stewart commanded the "Sophia," so named in honor of a niece of Lady Franklin. These vessels carried

## A PRINTING PRESS

as one of the means of passing away hours of enforced idleness.

All of these vessels were fitted out at government expense and the squadron thus composed placed under the command of Captain Horatio T. Austin, who had seen previous Arctic



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(1.) Reindeer Does and Fawns Migrating. (2.) Throwing the Di-zha, or Lasso.  
(3.) Lassoed. (4.) "Bunched," or in Line. (5.) Team at Rest. (6.) Stampeded.  
(See Chapters VII, XII, and XV.)



(1.) A Halt. (2.) Siberian Women Harnessing Up. (3.) Swan and Nest. (4.) Driving Geese. (5.) Shooting the Swan. (6.) Women Storing Brent Geese.

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service as one of Parry's lieutenants on board the "Fury" during the memorable third voyage of 1824-5.

In addition to this squadron sent out by the admiralty,

#### PRIVATE ENTERPRISE AND PUBLIC SUBSCRIPTION

enabled other vessels to assist in the great work. Such were the schooner "Felix," 120 tons, Captain Sir John Ross, who, notwithstanding his advanced years, was eager to engage in the search, the expense of which was borne by the Hudson's Bay Company by a contribution of \$2,500, and public donations; the "Prince Albert," a clipper of ninety tons, Captain Forsyth, a young man recently returned from Africa, who had previously volunteered his services on all of the other expeditions, and now went,

#### WITHOUT FEE OR REWARD.

in command of an expedition sent out by Lady Franklin and individual subscribers; and, finally, the "Advance" and the "Rescue," Lieutenant De Haven commanding and Dr. Kane medical officer, comprising the American, or First Grinnell Expedition.

As previously stated, all these vessels arrived at the entrance to Lancaster Sound in July, 1850, where they separated, prosecuting the search on both sides of the sound.

On the 23d of August, the "Assistance," Captain Ommaney, arrived at the entrance to Wellington Channel. Here, upon Cape Riley, Captain Ommaney discovered the

#### FIRST INFORMATION CONCERNING FRANKLIN.

and very meager at that; "he found traces of encampments, and collected the remains of materials, which evidently proved that some party belonging to Her Majesty's ships had been detained on that spot. Beechey's Island was also examined, where traces were found of the same party."

These "traces" consisted of a rope with the naval mark, evidently belonging to a vessel fitted out at Woolwich, doubtless either the "Erebus" or the "Terror." Captain Ommaney left a depot of provisions at Cape Riley and then searched the



north shores of Lancaster Sound and Barrow's Strait, without finding any further information.

Two days later the "Prince Albert" also visited Cape Riley. Says Captain Forsyth: "We observed five places where tents had been pitched, or stones placed as if they had been used for keeping the lower part of the tent down; also great quantities of beef, pork, and birds' bones, a piece of rope, with the Woolwich naval mark on it (yellow), part of which I have enclosed."

About this time the "Lady Franklin," Captain Penny, succeeded in pushing her way up Wellington Channel as far as

#### CORNWALLIS ISLAND,

when, although an impenetrable ice-barrier was met, to the great chagrin of Captain Penny, open water could be seen beyond as far as the eye could reach.

The season being now far advanced, preparations for

#### WINTER-QUARTERS

were made at once. The "Lady Franklin" established herself at the south extremity of Cornwallis Land, where she was joined by the "Felix," under Sir John Ross, while the "Resolute" and the "Assistance," Captain Austin and Lieutenant Ommaney, fastened themselves to the ice-pack. The "Prince Albert," having accomplished its mission, hastened to England, after an absence of but four months, without any loss whatever, and conveyed the first intelligence concerning the lost expedition, thus accomplishing one of the most remarkable Arctic voyages on record. The American vessels, the "Advance" and the "Rescue," were compelled to return to the United States in a manner which will be narrated later, more in detail.

From the vessels that succeeded in establishing themselves in winter-quarters excursions in every direction were undertaken, there being fifteen sledges and one hundred five men thus employed, while but seventy-five men remained in charge of the ships.

"No signs" were invariably the discouraging words uttered as each party returned from a long journey.

## CHAPTER XXII.

## KENNEDY'S SEARCH VOYAGE.

The tidings and relics found on Beechey Island and taken to England by the "Prince Albert" served to quicken public interest in the great search and the same staunch little vessel was immediately strengthened by extra planking placed upon her sides from the keel to two feet above the water-line, while her bows and stern posts were sheathed in wrought-iron, and the hold made into a labyrinth of cross-beams, thus rendering her as strong as possible. She was provisioned for two years and placed under the command of

## CAPT. WILLIAM KENNEDY,

who was ordered to continue the search by way of Prince Regent's Inlet, "and the passages connecting it with the western sea," as it was supposed that by this route Franklin would, after having abandoned his vessels in the western sea, endeavor to regain Lancaster Sound and Baffin's Bay. Second in command to this expedition was Lieutenant Bellot, who, as a volunteer, showed great courage and genuine devotion. The crew numbered sixteen men.

On the 22d of May, 1851, the "Prince Albert" again set sail. Lady Franklin was then on board, and as she left the ship after bidding the gallant crew all that her devoted heart could wish and express, was enthusiastically cheered as she again turned to her weary watching.

By the 8th of July Captain Kennedy had pushed his vessel three-fourths the way up Baffin's Bay, nearly opposite the Danish village of

## U-PER-NA-VIK,

on the west coast of Greenland, and the northernmost permanent civilized settlement on the face of the globe. At this

village six large Eskimo dogs were taken on board and the ship's already full supply of boats was supplemented by a number of sealskin boats.

On the 13th the "Prince Albert" met the American vessels, the "Advance" and the "Rescue," just escaped from an eight months' perilous drift in the ice-pack.

Not until August 26th did Captain Kennedy succeed in reaching Pond's Inlet, at the entrance to Lancaster Sound. Here a party of Eskimos visited the expedition and so rare was the atmosphere that the voices of the natives could be clearly heard at the distance of eight miles as they approached the vessel.

Arriving at the entrance to Barrow's Strait on September 3d, the farther progress of the "Prince Albert" was terminated by an impassable barrier of ice which an easterly gale had thrown athwart his course. Refuge was then found in Port Bowen, where, it will be recalled, Parry had sought shelter in 1824-5. Here were picked up nails, pieces of canvas, and broken pipes, while the cairns and stone fireplace were still standing.

The lonely grave of John Cottrell, the seaman from the "Fury" who, at the age of thirty-nine, was buried in July, 1825, was also revisited.

On the 9th of September Captain Kennedy succeeded in crossing the inlet to within a few miles of Port Leopold.

With a gutta-percha boat and four seamen, he finally effected a landing, and after spending an hour in endeavoring to reconnoitre the north coast and to ascertain whether or not documents had been left by any of the other searching parties, attempted to return to the vessel. But this was impossible. The ice had changed its position and was now a

#### TOSSING, GRINDING, ROARING MASS

of danger. Night was on, and the unfortunate men were compelled to draw up their boat on the beach and shelter themselves beneath it. The cold was intense, and Captain Ken-

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nedy was compelled to restrain his men from taking more than intermittent naps during the entire night.

At length morning dawned, but not a vestige of their vessel was in sight; they were now in danger and perhaps doomed. Winter was upon them—and the hope for rescue in the following spring was their great comfort. Most fortunately Sir James C. Ross had built a house, left stores, and a launch upon Whaler Point in 1849. To these the unhappy men at once repaired and found them in excellent condition. A dwelling-place was soon provided in the launch, and heated by means of a stove and fuel which were among the supplies found. Pemman, biscuit and chocolate were their food. A week passed, when, on the 17th, they were

#### JOYFULLY SURPRISED

by the appearance of the intrepid Bellet, who, with seven men, had succeeded in dragging the jolly-boat over the ice from the ship, after having made two previous ineffectual attempts to do so. Returning to the ship, the winter wore away, when, on February 25th, Kennedy and Bellet, with six men and four sledges, drawn by dogs and men, began the spring work of search and exploration. Traveling the east coast of North Somerset, the party arrived at Fury Beach on the 5th of March. Here the preserved soups and vegetables deposited by Sir John Ross thirty years previous were found in perfect condition. The flour had become caked into soft lumps, but upon being reground and passed through a sieve made excellent biscuit.

At its southern extremity they crossed Victoria Strait and thoroughly

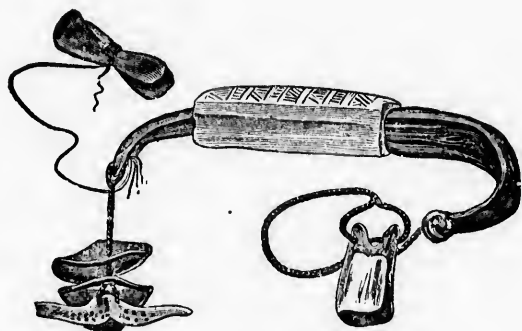
#### EXPLORED PRINCE OF WALES LAND,

thence recrossing to North Somerset, followed its north coast back to the starting point. Thus terminated one of the most remarkable sledge journeys on record, during which, in ninety-seven days, eleven hundred miles were traveled without illness or accident.

Finally released from a ten months' imprisonment in the ice, the "Prince Albert" crossed Barrow's Strait to Cape Riley,

where was met the "North Star," under command of Captain Pullen, who had returned from his trip to Bering's Strait and had been despatched with the "North Star" as a depot-ship to the squadron of Sir Edward Belcher.

It was now determined that the "Prince Albert" should return to England, and, although both Kennedy and Bellot eagerly endeavored to join Sir Edward's squadron and to allow the "Prince Albert" to return to England in charge of others, it was finally decided otherwise and accordingly Lady Franklin's vessel again directed her course homeward, arriving at Aberdeen, October 7th, 1852, after an absence of fifteen months without the loss of a man.



NATIVE NEEDLE-CASE.  
Presented to C. F. Hall when on King William Land, 1869.

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## CHAPTER XXIII.

VOYAGE OF M'CLURE AND COLLINSON: DISCOVERY  
OF A NORTHWEST PASSAGE.

Leaving for a time the vessels conducting the search by way of Lancaster Sound; we return to consider what, meanwhile, was being done by way of Bering's Strait—efforts leading to the discovery of the northwest passage, and giving rise to one of the most pleasing as well as most thrilling narratives in Arctic research.

Immediately upon the return of the "Enterprise" and the "Investigator," under Sir James C. Ross, in 1849, they were again fitted out and set sail from England on the 20th of January, 1850, Captain R. Collinson, commanding officer, with R. L. McClure in charge of the "Investigator." Each vessel carried a complement of sixty-six men, among them being Rev. Mr. Miertsching, an enthusiastic German Moravian who had for several years been a missionary among the Eskimos of Labrador. He accompanied Commander McClure's ship as interpreter. The crews were mostly made up of volunteers who had already seen Arctic service, McClure having been a trusted lieutenant under Ross in 1848-9.

Having set sail, the vessels became separated and did not again meet until, having rounded Cape Flora, they again came together three months later in the Mid-Pacific. Once more they parted company—never again to meet.

Each, however, called in turn at the Sandwich Islands and laid in stores, fruits, and vegetables, the "Enterprise," under Captain Collinson, preceding the "Investigator" on the way to Bering's Strait by about a week.

When, now, the "Investigator" arrived at Honolulu, Sandwich Islands, a rumor was there current to the effect that,

should the "Enterprise" arrive earlier at Kotzebue Sound, just beyond the strait, as by reason of her superior speed was probable, Captain Collinson would then proceed with the "Plover," still at anchor in the sound, and order the "Investigator" to remain there in her stead.

This served to raise the ardor of every man on board the "Investigator" to the highest degree, and remembering that the race is not always to the swift, McClure again set sail on the

#### FOURTH OF JULY.

taking advantage of every breeze till, twenty-five days later, he arrived, without accident, in Kotzebue Sound.

The "Plover" had seen nothing of the "Enterprise" and accordingly the "Investigator" again set sail within forty-eight hours and was soon out of sight on the rough surface of the stormy strait.

On August 2d, latitude 72°, the first heavy ice was met, and upon it, basking in the ceaseless sunshine, were immense herds of walruses, embracing

#### HUGE BULLS

with long and frightful tusks, and females, and "baby" walruses, with their meek and innocent countenances.

Some of these creatures weighed, it was estimated, as much as 3,500 pounds—more than a ton and a half! The ice, when relieved of this great weight, rose two feet higher.

A gun having been loaded with grape and canister for the purpose of firing upon a herd of these creatures, McClure's heart was so touched at the mutual affection displayed among themselves, especially between mothers and babes, that he countermanded the order.

It was noticed that sometimes a female, or "cow," suckled two "calves," although but one is the usual number of her offspring at a time, and which, it is said, is dependent upon her breast for the first twelve or eighteen months of its existence.

When mature, these animals feed upon submarine plants

and clams, great quantities of the latter being found in the stomach of the walrus, and without any of the shell.

The "Investigator" was able to make rapid progress along the American coast, and soon passed Point Barrow, and by the morning of August 6th, 1850, no further anxiety was felt on board as to the possibility of entering the Arctic Ocean by way of Bering's Strait.

The aspiration of all was now to push on to Melville Island. However, as a great body of ice appeared in that direction, McClure decided to follow the lane of water between the shore and the sea-ice and attain if possible the "open sea" of Dr. Richardson, at the mouth of the Mackenzie River.

Two days later, when about one hundred twenty miles east of Point Barrow, a man was sent ashore to leave dispatches and erect a cairn. Here Eskimos were met, and after the customary form of salutation, namely, that of rubbing noses, had been performed, friendly intercourse was established. At first sight of the approaching ship the Eskimos were greatly astonished to see three great trees—the masts—moving about. They informed Captain McClure that an open channel of water from three to five miles wide would exist all along the shore from that time till winter, but could not tell when the winter would begin.

Here the coast was one vast plain, having a soil of dark-blue clay, not a stone being visible, and the entire extent covered with

#### AN IMMENSE GREEN MAT

of grasses and mosses variegated with a large number of brilliantly colored flowers. Large herds of reindeer and numerous flocks of wild fowl, such as the common and king eider ducks, enlivened the peaceful scene. Great quantities of driftwood lay strewn along the beach, while just beyond it all, upon the bosom of the cheerless Arctic, rested the impenetrable edge of an unmeasured ice-continent from thirty to forty feet in thickness. And how great, therefore, must have been the astonishment of the simple yet affectionate natives as they beheld the "great white handkerchiefs," as they called the sails,



waving to them from the "moving trees" and urging the vessel onward from a region which had always been to them one of terror and mystery.

On the 14th of August the "Investigator" found herself in longitude 148° 17' west, which was past the point of Franklin's farthest west in 1826.

Although greatly delayed by reason of numerous shoals, at one time being aground five hours, she succeeded in arriving off the mouth of the Mackenzie, fifty miles from the mainland. Here, on the 22d, Captain Pullen, upon his return from a journey along the coast east of the mouth of the Mackenzie, passed within a few miles of the "Investigator" without either party being aware of each other's presence.

On the 24th, near Cape Warren, a party of

#### HOSTILE ESKIMOS

were met with, but were soon brought to friendly terms upon perceiving that no harm was to be done them. When asked why they did not trade with the whites along the great river—the Mackenzie—they replied that it was because the white men had given to the Indians "colored water that rendered them savage and took away their reason and that they desired none of it among themselves."

The big-hearted McClure warmed with sympathy for this hardy people, and he thus writes, says the equally compassionate and equally gallant Lieutenant Sherard Osborn:

"Would that some practically Christian body, such as the Moravian missionaries, could send a few of their brethren amongst the tribes of Esquimaux who wander along the Polar Sea, to carry to them the arts and advantages of civilized life, and trust to God, in his own good time, showing the way of eternal life!

"Such men as Mr. Miertsching would in a few years perfectly revolutionize this docile and intelligent race."

Suspended from the ear of the chief of the tribe at Port Warren was a brass button of European manufacture, and which, the Eskimos related, had belonged to a white man who

came among them from the westward in company with others of his own race. They also said that the white men had no boat; that they built a house and then departed inland; that the owner of the button had been killed by a native, who, seeing the great ship, fled; and that the murdered man had been buried by the chief and his son. Unfortunately, however, they could give no idea of how long since all this occurred.

McClure's men visited the house referred to, but found that it was a very old one and that its tenants had vacated it years before.

A thick fog warned the party to return to the ship and the grave was not seen.

Toward the close of August another tribe of natives was met near Cape Bathurst, and in return for presents McClure succeeded in getting these friendly people to agree to carry messages to the Hudson's Bay Company. The women became so greatly excited at the unexpected distribution of presents that they became unmanageable and, rushing upon the stores, carried off whatever they could without the least compunction.

Still working her way eastward, the "Investigator" was employed between the 1st and 5th of September in passing Franklin Bay, an arm of the sea just opposite Baring's Land, and embraced between Capes Bathurst and Parry.

On the day previous to arriving at Cape Parry

#### LARGE FIRES ON SHORE

were observed and, moving to and fro between these and the vessel, were figures in white. "Franklin! Franklin! Franklin at last!" was the thrilling thought that ran through the excited minds of the searchers as they hastened toward the shore.

But it was not Franklin, nor the encampment of any of the long-lost men, that was seen—only a few volcanic mounds of burning sulphur and a contiguous spring to which the reindeer of the region—"the moving figures in white"—resorted for drink.

Leaving the mainland, the "Investigator" proceeded northward to a newly-discovered territory which McClure, in ignor-

ance of its being connected with the already-discovered Bank's Land, named in honor of the Lord of the Admiralty, Baring's Land.

Farther east, Prince Albert's Land was reached, and its interior found to exhibit ranges of mountains covered with snow.

The southern flight of gulls and other birds indicated the near approach of winter.

Entering the narrow channel of water separating Bank's, or Baring's, Land on the west from Prince Albert's Land on the east, the 9th of September found the ship but sixty miles from Barrow's Strait. This water-avenue was called Prince of Wales Strait. Says McClure:

"I cannot describe my anxious feelings. Can it be possible that this water communicates with Barrow's Strait, and shall prove to be the long-sought Northwest Passage? Can it be that so humble a creature as I will be permitted to perform what has baffled the talented and wise for hundreds of years? But all praise be ascribed to Him who has conducted us so far on our way in safety. His ways are not our ways, nor are the means that He uses to accomplish His ends within our comprehension. The wisdom of the world is foolishness with Him."

Winter was now upon the struggling vessel and she was soon beset.

A south wind on the 16th caused her to drift northward until within thirty miles of Melville Bay, which, with Barrow's Strait, Lancaster Sound, and Baffin's Bay connects with the Atlantic Ocean.

Here, in the pack-ice, McClure decided to winter. The "Investigator" was housed over, the south, or sunny side, being left open as long as possible. The dreary months were spent in exploring the adjacent coast and in hunting the game which was almost incredibly abundant. Reindeer were seen in herds of from sixty to ninety each, while one valley was white with ptarmigans and hares. A polar bear measuring ten feet in length and whose foot-prints were twelve inches in diameter, was killed.

On one occasion a young carpenter, Whitfield by name, be-

came separated from his companions while hunting. He had strayed from them against their wishes and was unable to re-join them.

Long and anxiously his comrades looked and called for him; but all in vain. A dense snow-storm suddenly prevailed and the searchers sought safety in their tent.

Presently a noise as of a polar bear was heard. Poor Whitfield's fate! thought the men; whereupon one of them looked between the tent-flaps and beheld, not a yard away, a strange figure erect and rigid in the snow. It was indeed the unfortunate young man. There he was, upon his knees, his hands raised above his head in the attitude of prayer—stiff, speechless, motionless, yet not dead.

Quickly his companions began the work of resuscitation, and his life was happily saved.

He had heard his associates calling to him, and, following in the direction of the signals, benumbed and unable to answer, succeeded in almost reaching the tent when his strength utterly failed and he fell into the position described.

During the winter the ship was visited by a raven, which, however, disappeared with the return of sunlight and was greatly missed by the men.

On the 18th of April, 1851, three exploring parties left the ship, traveling in as many different directions, namely, southeast, northeast, and northwest. These traversed altogether eight hundred miles of territory and erected cairns and deposited information for any wanderers, wherever desirable.

The party that traveled in a southeasterly course, under McClure himself, Mr. Miertsching accompanying, met a party of very friendly Eskimos who accurately traced for them the coast-line of Wollaston and Victoria lands. It was then proved that those regions are not connected with the mainland of America.

The month of May was mainly spent in getting the vessel and stores in readiness for the summer's voyage. The health of the men was good and not a sign of scurvy was detected—"a record unparalleled in the history of Arctic voyages."

On May 21st Commander McClure shot a bear, the stomach of which contained

A CURIOUS MEDLEY

of raisins, pieces of tobacco-leaf, bits of fat pork, and fragments of sticking-plaster.

Profound was the mystery and profounder still were the theories advanced to account for these evidences of civilization thus found in the digestive organs of a wandering bear. Among the explanations offered were two to the effect that the hungry creature must either have raided the larder of the "Enterprise," possibly not far distant at that very time, or else come upon some of the provisions left or thrown overboard by the "Investigator" in the course of the previous autumn.

A tin can containing portions of these articles and lying in the midst of many bear's tracks was shortly afterwards found in the vicinity of the ship and put to rest further investigation.

On May 27th the first gull was seen, and that was held as a sign of a break in the ice.

Not until August 16th was the "Investigator" able to leave the strait—and then only by directing her bow southward. Rounding Nelson's Head, at the southern extremity of Bank's Land, she then passed up the west side and round the north-west corner of the island, where her farther progress was stopped for the time-being, on the 20th of August.

Here, feeding quietly upon the shore, could be seen droves of musk-oxen and reindeer.

The "Investigator" slowly drifted eastward with the floe-ice, glaciers and icebergs being noticeably absent in the locality—a characteristic feature of all regions so far discovered west of the 85th meridian.

When on shore on the 27th, Lieutenant McClure observed a group of hills about three hundred feet high and covered from base to summit with an abundance of wood and

LAYERS OF TREES,

some of them protruding from twelve to fourteen feet above

the surface, and so firm that they could not be broken by several men jumping upon them. The largest of these measured one foot seven inches in diameter.

On September 5th a similar deposit of wood was observed on the north side of a ravine for a depth of forty feet from the surface. The total depth of the ravine was two hundred feet. The ground around the trees was of sand and shingle. Some of the wood was petrified and some was rotten.

Fresh-water lakes were also found and in one of them were salmon from three to twelve inches in length. Many ruins of Eskimo habitations long since abandoned attracted careful attention—but still no traces of the missing Franklin appeared.

Time passed and little that was new occurred till on the 19th of September two whales were observed, apparently traveling westward—possibly journeying from Baffin's Bay to the waters adjacent to Bering's Strait.

At length, on the 24th, after a perilous escape from an ice jam, the "Investigator" put safely into a bight on the north coast, which, in gratitude for their providential care, McClure named the

#### BAY OF GOD'S MERCY.

Here the winter of 1851-2 was spent, game, especially reindeer and hares, abounding in marvelous numbers.

Two ravens made the rigging of the vessel their home during the months of darkness, sharing with the dogs the refuse of the messes.

#### WISE BIRDS

they were, for, not allowed by the dogs to feed upon the same place with them, they would allure the dogs gradually from the food and when at a long distance would then dart suddenly back to the feeding ground, making way quickly with the choicest morsels, oftentimes leaving the deluded canines nothing but chagrin for their pains.

When hunting, in February, 1852, Mr. Kennedy, having shot and severely wounded a deer, returned to the ship without following up his trophy till after the lapse of several hours.

He then found the wolves in possession and could scarcely drive them away. They had devoured nearly the entire carcass, but, determined to save at least a portion, he seized a leg, at one end of which a gaunt wolf pulled while he tugged at the other.

From the 11th to the 23th of April, Lieutenant McClure was engaged in crossing the sea-ice of the strait, which now bears his name, to Melville Island. Here, in the Winter Harbor of Parry, he hoped to obtain provisions and information concerning the movements of others of the search expeditions. In both of these he was disappointed and returned again to the ship, arriving on the 11th of May.

Provisions became scarce about this time, but fortunately two musk-oxen were slain and six hundred forty-seven pounds of meat added to the supply of food. One of the animals killed was a bull, and when wounded made a mad attack upon the hunter, who was eventually compelled to fire his ramrod into the infuriated beast in order to save himself.

Again were the brave men of the "Investigator" compelled to pass another winter—1852-3—in the Bay of God's Mercy.

Fortunately, game was again abundant, the reindeer gathering in the vicinity of the ship for protection against the wolves, which continually harassed the defenseless creatures.

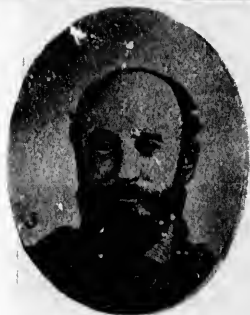
We now revert to the "Enterprise." Having passed the winter of 1850-1 in China, she made her way during the ensuing summer, as her consort, the "Investigator," had done in 1850, to the south entrance of Prince of Wales Strait. Here, in Walker Bay, on the Prince Albert Land side, she spent the winter of 1851-2, leaving which, in the course of the following summer, she made her way along the west coast of Baring's and Bark's lands, as the "Investigator" had done during the preceding summer.

Before arriving at the northwest corner of the island, however, her way was blocked by the ice, and although so near the Bay of God's Mercy, where her consort was still imprisoned, she was compelled to return to the south side of the island, and thence along the coast of Wollaston Land to Dolphin and

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(1.) Siberian Pheasant. (2.) Seal Catching Ducks. (3.) Sir George Nares.  
(4.) (a) Captain H. F. Stephenson, (b) Dr. F. L. Moss, (c) Commander A. H.  
Markham. (5.) At Divine Service. (6.) An Encampment. (See Chapters VII. and  
XXXVI.)





(1.) Crossing a Strait on a "Pontoon Bridge" of Kyals. (2.) Sledge Traveling with the Man Team. (3.) Danish Governor of South Greenland and His Family. (4.) "Oo-mi-ak" or Woman's Boat. (5.) At Dahrymple Rock for Ducks. (6.) Result of a Day's Hunt at the Duck Islands.

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Union Strait, where the winter of 1852-3 was spent in Cambridge Bay. During the winter, the vessel was visited by many Eskimos, one tribe numbering more than two hundred. The natives had in their possession a piece of iron which many still believe was obtained from some of Franklin's party. Game was found in abundance and about eleven hundred fishes were also secured. The "Enterprise" succeeded in making her way thence to England, returning by the route on which she had come, where she arrived safely in 1854.



CAPTAIN HALL, TOO-KOO-LI-TOO AND E-BIER-BING.

## CHAPTER XXIV.

BELCHER'S SEARCH SQUADRON.—RESCUE OF  
McCLURE.

The prolonged absence of both the "Enterprise" and the "Investigator" occasioned great anxiety in England, and the vessels which we have already noted as wintering in the ice in the vicinity of Beechey Island in 1850-5 having returned to England without further intelligence of either Franklin, Collinson, or McClure, a relief squadron was at once sent out under command of Captain Edward Belcher. The vessels sent were the "Assistance" and the "Resolute," under Captains Belcher and Kellett; the provision ship, "North Star," under Commander Pullen, who had returned to England from his trip to Bering's Strait and the Mackenzie River; and the steam-tugs "Pioneer" and "Intrepid."

These reached Barrow's Strait about September 1st, 1852, the "Resolute," Captain Kellett, and the "Intrepid," Commander McClintock, reaching Melville Island on the 5th. Here, in Winter Harbor, the famous winter quarters of Parry, in 1819-20, they were soon frozen in, the fall and winter months, however, being spent in endeavoring to discover traces of the missing ships.

On one occasion, Lieutenant Meacham chanced to inspect the large sandstone upon which Dr. Fisher had engraved the name of Parry's ship thirty-three years before, and there, upon its summit, he observed a document which, upon examination, was found to be a record left by Commander McClure on the occasion of his visit to that place in the early part of the summer of 1852.

This document narrated the practical accomplishment of

the northwest passage, and the location of the "Investigator" in the Bay of God's Mercy.

It, however, was inferred that Commander McClure had proceeded thence, during the summer of 1853, to the northwest of Melville Island, and accordingly McClintock and Meacham pursued routes calculated to intercept his supposed course.

On the 31st of May, while on

#### PRINCE PATRICK'S ISLAND,

Lieutenant Meacham came upon a quantity of petrified wood similar to that found by McClure, one hundred and twenty miles farther south, in Bank's Land. Some of the trunks of the trees found measured from two feet ten inches to three feet in circumference, and when sawed through presented a very compact, close-grained appearance. It appeared, too, that they had grown in the same locality, and this, together with the discovery of coal and coral growths in the Barrow's Strait region, as noted by the gallant and observant Sherard Osborn, points very clearly to a much warmer temperature in those regions during earlier geological ages.

While McClintock and Meacham were thus endeavoring to intercept the "Investigator" in a supposed cruise round Melville and Prince Patrick's islands, Lieutenant Pim and Dr. Donville, of the "Resolute," were engaged in a sledge journey to the Bay of God's Mercy.

#### AMID THE PRAYERS AND CHEERS

of their comrades at the ships, they had started on the 10th of March, 1853. Meanwhile, the courageous men on board the "Investigator" had fought their third battle with the Arctic night—a second one in the Bay of God's Mercy, without the loss of a single man. McClure had determined to abandon the ship, for the time being at any rate, and to divide his party into two sections, one to travel southward and to endeavor to escape by way of British America; the other, to travel eastward over the ice, by way of Barrow's Strait and Lancaster Sound.

On the 5th of April a fine reindeer was prepared for a hearty meal, of which all were to partake before the final departure.

And right here God's mercy was again poured upon these heroic men. Says McClure:

"While walking near the ship \* \* \* we perceived a figure walking rapidly toward us from the rough ice at the entrance of the bay. From his face and gestures we both naturally supposed at first that he was some one of our party,

PURSUED BY A BEAR,

but as we approached him, doubts arose as to who it could be. He was certainly unlike any of our men; but recollecting that it was possible someone might be trying a new traveling dress, preparatory to the departure of our sledges, and certain that no one else was near, we continued to advance; when within about two hundred yards of us, this strange figure threw up his arms, and made gesticulations resembling those of an Esquimaux, besides shouting at the top of his voice, words which, from the wind and intense excitement of the moment, sounded like a wild screech; and this brought us to a stand-still. The stranger came quietly on, and we saw that his face was black as ebony, and really at the moment we might be pardoned for wondering whether he was a denizen of this world or the other, and had he but given us a glimpse of a tail or a cloven hoof, we should assuredly have taken to our legs; as it was, we gallantly stood our ground, and, had the skies fallen upon us, we could hardly have been more astonished than when the dark-faced stranger called out:

'T M LIEUTENANT PIM,

'late of the "Herald," and now in the "Resolute." Captain Kellett is in her at Dealy Island.'

"To rush at, and seize him by the hand, was the first impulse, for the heart was too full for utterance. The announcement of relief at hand, when none was supposed to be even within the Arctic Circle, was too sudden, unexpected, and joy-

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ous, for our minds to comprehend at once. The news flew with lightning rapidity, the ship was all in commotion; the sick, forgetting their maladies, leapt from their hammocks; the artificers dropped their tools, and the lower deck was cleared of men, for they all rushed to the hatchway to be assured that a stranger was actually amongst them, and that his tale was true. Despondency fled from the ship, and Lieutenant Pim received a welcome—pure, hearty, and grateful—that he will assuredly remember and cherish to the end of his days.”

On this same day occurred the

#### FIRST DEATH

on board the “Investigator.” It, however, was through the man’s own folly, being occasioned by his drinking the washings from a number of medicine bottles.

McClure proceeded forthwith to endeavor to arrange with Captain Kellett for the removal of all the sick on board the “Investigator” to England, while he would remain another season rather than abandon his vessel. With what strange feelings must these men have met on this occasion. It was Captain Kellett, who, three years before, while in command of the “Plover” in Bering’s Strait had the authority to detain the “Investigator” till the arrival of her consort—and it was now he whose authority must be consulted respecting McClure’s future plans. A consultation was therefore held with Drs. Armstrong and Donville, who at once united in an unfavorable report concerning the health of McClure’s men, and his proposition to remain with his vessel another year was, for that reason, condemned. The “Investigator” was accordingly abandoned and the men were transferred to the “Resolute” and the “Intrepid,” arriving there on June 17th. Here they were destined to spend another winter—1853-4—the vessels of their rescuers continuing beset meanwhile. The manner of their final release we have now to consider.

While Captains Kellett and McClintock were thus engaged in the vicinity of Melville Island, the former, in the spring of 1854, received the following message from Captain Belcher,

whose squadron meanwhile continued in the vicinity of Beechey Island:

"Should Captain Collinson, of the 'Enterprise,' fortunately reach you, you will pursue the same course, and not, under any consideration, risk the detention of another season. These are the views of the government; and having so far explained myself, I will not hamper you with further instructions than, meet me at Beechey Island, with the crews of all vessels, before the 26th of August."

Greatly surprised at Belcher's directions, Captain Kellett dispatched Captain McClintock to inform the squadron commander of the almost absolute certainty of being able to save his ships; of the abundance of stores on hand; of the health of the men; and of his disapproval of such an unnecessary movement.

In turn, Belcher sent back a command for the abandonment of the "Resolute" and the "Intrepid," whereupon Kellett, and McClintock, and McClure conducted their deeply chagrined men as ordered. The brave crew of the "Investigator," who had lived through such trials and hardships for four winters,

#### STARED TO SEE

all hands gradually retreating upon Beechey Island, ready to return to England as speedy as possible.

Leaving the "Enterprise" to work out her own salvation, the combined crews of the "Resolute," the "Assistance," the "Intrepid," the "Pioneer," and the "Investigator," were embarked on board the provision ship "North Star," and amidst almost universal dissatisfaction returned to England, where they were received, in September of the same year, by a sympathizing but disappointed public. The "Enterprise" arrived there about the same time.

Captain McClure was formally

#### TRIED BY COURT MARTIAL,

but honorably acquitted. He and his crew were awarded

£50,000—half of the standing reward—for having discovered a northwest passage, while McClure was knighted by the Queen, and several of his officers were deservedly promoted.

Sir Edward Belcher was also court-martialed, but barely acquitted. At the conclusion of the trial, in significant silence, the venerable chairman of the judiciary committee handed him his sword.

Says a writer of the day:

“Meantime, it is sad to think of those

POOR DOOMED VESSELS,

which we have invested with so much personality in our nautical fashion, deserted thus in that lone white wilderness! We can fancy in the long coming winter, how weird and strange they will appear in the clear moonlight—the only dark objects in the dazzling plain around. How solemn and oppressive the silence and solitude all around them! No more broken by the voices, and full-toned shouts, and ringing laughter, which so often wake the echoes far and near; varied only by the unearthly sounds that sweep over these dreary regions when a fissure opens in the great ice fields, or the wild, mournful wailing of the wind among the slender shrouds and tall, tapering masts, that stand so sharply defined in their blackness upon the snowy background. And so, perchance, long years will pass, till the snow and ice may have crept round and over them, and they bear less resemblance to noble English sailers than to shapeless masses of crystal; or, more likely, some coming winter storm may rend the bars of their prison, and drive them out in its fury to toss upon the wave, until the angry ice gathers around its prey, and, crushing them like nut-shells in its mighty grasp, sends a sullen booming roar over the water—the knell of these intruders on the ancient Arctic solitudes.”

The loss of these vessels, through the rashness of one man, illustrates how essential in a commander are the qualities of patience, endurance, and willingness to regard the good opinions of competent inferior officers.



Recalling, too, the probable fate of Franklin's noble ships, the "Erebus" and the "Terror," the reader of these pages will not fail to appreciate, in this connection, the

GRAPHIC LINES

of the poet Montgomery:

"There lies a vessel in that realm of frost,  
 Not wrecked, not stranded, yet forever lost;  
 Its keel embedded in the solid mass;  
 Its glistening sails appear expanded glass;  
 The transverse ropes with pearls enormous strung,  
 The yards with icicles grotesquely hung,  
 Wrapt in the topmost shrouds there rests a boy,  
 His old sea-faring father's only joy;  
 Sprung from a race of rovers, ocean born,  
 Nursed at the helm, he trod dry land with scorn.  
 Through four-score years from port to port he veer'd;  
 Quicksand, nor rock, nor foe, nor tempest fear'd;  
 Now cast ashore, though like a hulk he lie,  
 His son at sea is ever in his eye.  
 He ne'er shall know in his Northumbrian cot,  
 How brief that son's career, how strange his lot;  
 Writhed round the mast, and sepulchered in air,  
 Him shall no worm devour, no vulture tear;  
 Congeal'd to adamant, his frame shall last,  
 Though empires change, till time and tide be past.  
 Morn shall return, and noon, and eve, and night  
 Meet here with interchanging shade and light;  
 But from that barque no timber shall decay,  
 Of these cold forms no feature pass away;  
 Perennial ice around th' encrusted bow,  
 The peopled deck, and full-rigg'd mast shall grow  
 Till from the sun himself the whole be hid,  
 Or spied beneath a crystal pyramid;  
 As in pure amber with divergent lines,  
 A rugged shell embossed with sea-weed, shines,  
 From age to age increased with annual snow,  
 This new Mont Blanc among the clouds may glow  
 Whose conic peak that earliest greets the dawn,  
 And latest from the sun's shut eye withdrawn,  
 Shall from the zenith, through incumbent gloom,  
 Burn like a lamp upon this naval tomb.  
 But when the archangel's trumpet sounds on high,  
 The pile shall burst to atoms through the sky,  
 And leave its dead, upstarting at the call,  
 Naked and pale, before the Judge of all."

## CHAPTER XXV.

## THE AMERICAN SEARCH EXPEDITION.

As already stated, the United States participated in the search for the missing expedition. This was through the liberality of one of nature's noblest men, Mr. Henry Grinnell, who, having at his own expense fitted out two small brigs, the "Advance," 120 tons and ten men, and the "Rescue," 90 tons, tendered the use of the vessels to the Government for the purpose of assisting in the search.

In the Congressional discussion, concerning the acceptance of the offer, Senator Miller said:

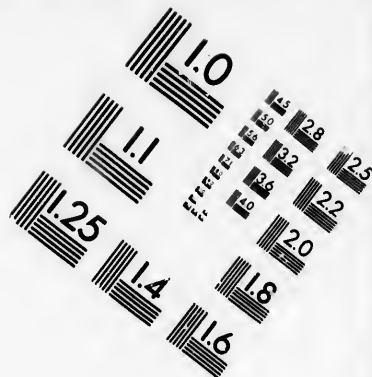
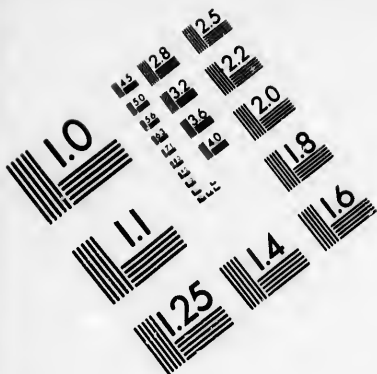
"I think it ought to receive the approbation of this and all other Christian nations, to see a merchant who, while the commercial world are encompassing the globe by sea and land in quest of profit and of gold, is dedicating himself to his great object, and devoting a part of his fortune to the cause of humanity. Sir, shall it be said that this Government has lost such an opportunity as this of exhibiting the deep interest which our people feel, both in the cause of science and humanity, and that, too, at the very time when we are entering into treaties and compacts with all the commercial nations of the world, for the purpose of extending commerce and civilization, and opening communications of trade from sea to sea?"

Senator William H. Seward, afterwards Secretary of State, among other things, said:

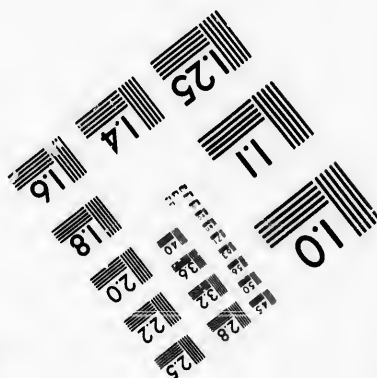
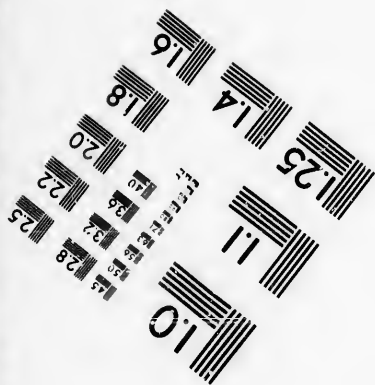
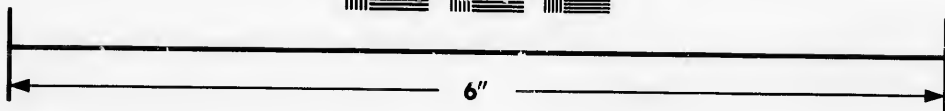
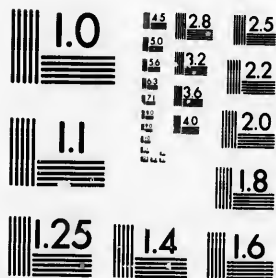
"True national glory is always safely attained by prosecuting beneficent designs, whatever may be their success.

"It is a transaction worthy of the nation, a spectacle deserving the contemplation and respect of mankind, to see that not only does the nation prosecute, but that it has citizens able and willing to contribute, voluntarily and without compulsion,





**IMAGE EVALUATION  
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to an enterprise so interesting to the cause of science and of humanity. It is indeed a new and distinct

CAUSE FOR NATIONAL PRIDE,

that an individual citizen, not a merchant prince, as he would be called in some other countries, but a republican merchant, comes forward in this way and moves the Government and cooperates with it. It illustrates the magnanimity of the nation and of the citizen."

The debate resulted in the acceptance of the gift, and the Government at once detailed from the navy, officers and men to take charge of the vessels. Among the officers were Lieutenant Edward De Haven, a young man who had accompanied the United States' Expedition under Commander Wilkes, in 1843, and was now placed in command of the "Advance" and the "Rescue"; Mr. S. P. Griffin, acting master, in charge of the "Rescue"; and Dr. Elisha Kent Kane, chief medical officer. Dr. Kane was summoned from his field of labor in Mexico, and although but thirty years of age and of almost lifelong bodily weakness, he was of that nervous, wiry physique which enables some persons to accomplish and endure in a way which surprises not only others but themselves as well. He was "a thorough American"—a "go-ahead" one—directly descended from four of the best races in the world, namely, Irish, Scotch, English, and Dutch.

We learn that he was called

"THE MAD YANKEE."

But his "madness" was of good blood and enabled him to do things in the midst of perils and in spite of physical weakness amounting almost to prostration.

Geology, botany, chemistry, and related sciences were his delight, and he became proficient in them, not from books alone but from actual observation and experiment.

Graduating in medicine at the age of twenty-two, he passed the examination for the position of assistant surgeon in the United States Navy and was duly appointed. He served with

distinction and great bravery in the war with Mexico, being summoned from that country to accompany the expedition under consideration, which, setting sail May 23d, 1850, directed its course northward, meeting icebergs, driftwood, and whales, till, on July 1st, the great

#### ICE-PACK OF MELVILLE BAY

was encountered. Here the voyagers remained fast for weeks, the polar bears visiting them in abundance. Later experience has shown that this great bay is not comparatively free from ice till in August.

On one occasion, when endeavoring to fasten an anchor to an iceberg, the berg split, precipitating

#### THE NIMBLE FRENCH COOK,

who was standing upon the mass of ice, into the gaping fissure and into the ice cold water some thirty feet below. The dismembered berg floated apart and the frightened little Frenchman was fortunately rescued, but more dead than alive.

The vessels were quite five weeks in crossing Melville Bay, a distance less than three hundred miles, and which might have been traversed in less than two days. Arriving at

#### CAPE YORK,

on the northern shore of the bay, frequent excursions were made from the vessels for the purpose of studying the plant and animal life of the region. Here were the wild blueberry, in full bloom and not larger than a hen's egg; the willow, lying

#### CLOSE TO MOTHER EARTH

for warmth and protection and reaching scarcely above the shoe-tops; the honey-suckle not larger than a tea-cup; mosses, lichens, etc. In many places Dr. Kane ascertained the accumulation of moss to be five feet in thickness and to consist of as high as sixty-eight layers, representing the work of that number of years.

Concerning the little auks, which build their nests upon lofty cliffs, Dr. Kane narrates;

"Urged by a wish to study the habits of these little Arctic emigrants at their homesteads, I foolishly clambered up to one of their most populous colonies, without thinking of my descent. The angle of deposit was already very great, not much less than 50°, and as I moved on, with a walking-pole substituted for my gun, I was not surprised to find the fragments receding under my feet, and rolling with a resounding crash, to the plain below. Stopping, however, to regain my breath, I found that everything—beneath, around, above me—was in motion. The entire surface seemed to be sliding down. Ridiculous as it may seem to dwell upon a matter apparently so trivial, my position became one of danger.

"The accelerated velocity of the masses caused them to leap off in deflected lines. Several uncomfortable fragments had already passed by me, some even over my head, and my walking-pole was jerked from my hands and buried in the ruins. Thus helpless, I commenced my own half-involuntary descent, expecting momentarily to follow my pole, when my eye caught a projecting outcrop of feldspar, against which the strong current split into two minor streams. This, with some hard jumps, I succeeded in reaching."

The author can readily appreciate Dr. Kane's predicament and give willing testimony as to the realistic nature of the incident.

When on the grand hunting trip for reindeer to Olrik's Bay in September, 1893, with Companions Entrikin, Clark, and Stokes, of Lieutenant Peary's North Greenland Expedition of 1893-4, the writer wandered alone nearly to the head of the bay and climbed for several hundred feet a similar rock-debris with other hundreds of feet of the same material still above him, but was compelled to desist from the complete ascent of the mountain for reasons the same as given by Dr. Kane.

Instead of studying the habitat of the little auk, however, the writer was endeavoring to follow the perilous path of the reindeer and to obtain a better view of the uppermost portion of the river-like bay, in which were discovered two glaciers,



one an active, discharging river of ice, the other, at the immediate head of the bay, a receding or retreating one.

From Cape York to Cape Dudley Digges the members of the Grinnell expedition were charmed by the sight of the celebrated crimson cliffs.

These are lofty crags of dark brown stone covered with snow having a crimson color given to it by a microscopic one-cell vegetable growth, consisting of brilliant garnet-like globules arranged on a gelatinous, or jelly-like substance, and penetrating the mass of the snow. These particular cliffs, it will be remembered, were first discovered by Ross, in 1818, although the eminent Swiss naturalist, Saussure, had observed the same red appearance of the snow in the Alps more than a quarter of a century previous.

Moreover, this interesting plant thrives in water quite as well as in snow. In the Baffin's Bay region, near Yaureke Bank, is the far-famed lake of blood. Concerning it, the author of "My Summer in the North" says:

"It is a lake of considerable extent, lying only a few feet above the level of the sea, and appears of a deep, dark, blood-red. \* \* \* Careful examination proved, however, that the water itself was as pure and clear as possible; the red effect being due to the fact that the bottom and sides of the lake, as well as the few stones which were scattered about in it, were coated most perfectly with the red snow-plant. In some places, where the water had evaporated, the withered red plants on the soil and rocks looked exactly like dried spots of blood."

The color of the

#### RED SEA

results from a like cause. Scientific observers have long noted the existence of the red vegetable matter within its waters, and varying in extent from a few square rods to many square miles. In the spring of the year this growth is very abundant and all such places then appear of an intense red. Wherever the plant is absent, the water is of a deep blue, varying to green in shoal places. Contrary to general belief, the Red

Sea is not very salt, containing but forty-one parts of saline matter in one thousand of water. The heavier, salt particles, sinking, escape as an outflowing current over the Mocha barrier and are replaced by means of an inflowing sheet of fresher water, the entire volume of the sea being changed every year in this manner, thereby promoting the growth of the little red plant.

Leaving the region of the crimson cliffs about the middle of August, the "Advance" and the "Rescue" were able to make their way across Davis Strait into Lancaster Sound, where, on the 21st, they overtook the "Felix," under Sir John Ross, who had preceded the other three vessels of the English search expedition.

Upon meeting the Americans, the voice of Sir John was heard to ring out, loud and clear above the creaking of the rigging and the noise of the wind: "You and I are ahead of them all!"

On the next day these were overtaken by the "Prince Albert," Captain Forsyth. The meeting of these vessels was an exceedingly pleasant one, the Americans leading the way through the ice in a way that elicited the admiration of the English. By reason of his daring exploits on this occasion, Dr. Kane was styled the "Mad Yankee" by his British associates.

August 27th found five vessels near Beechey Island, where a concerted plan of search was about to be put into execution when a messenger was seen to approach rapidly over the ice. Says Dr. Kane: "The news he brought was thrilling!

'GRAVES, CAPTAIN PENNY! GRAVES! FRANKLIN'S WINTER  
QUARTERS!'

"We were instantly in motion. Captain De Haven, Captain Penny, Commander Phillips, and myself, with a party from the 'Rescue,' hurried on over the rugged slope that extends from Beechey to the shore, and, scrambling over the ice, came after a weary walk to the crest of the isthmus. Here, amid the sterile uniformity of snow and slate, were the headboards of three graves, made after the orthodox fashion of gravestones

at home. The mounds which adjoined them were arranged with some pretensions to symmetry, coped and defended with limestone slabs. They occupied a line toward Cape Riley, which was distinctly visible across a little cove at the distance of some four hundred yards. Upon these stones were inscriptions which conveyed important information. The first, cut with a chisel, ran thus:

'Sacred  
to the  
memory  
of

Wm. Braine, R. M.  
H. M. S. Erebus.  
Died April 3d, 1846.  
aged 32 years.

Choose ye this day whom ye will serve. Joshua, chap. 24:15."

The above inscription appeared on the stone the most remote from the base of the slope.

Upon the board in the center was inscribed: "Sacred to the memory of John Hartwell, A. B., of her Majesty's ship Erebus; died, January 4th, 1846, aged 25 years. "Thus saith the Lord of Hosts, Consider your ways"; Haggai, chap. i., 5, 7."

Poor young Hartwell, how soon were the hopes and ambitions nurtured at Oxford or Cambridge to be brought to naught.

The inscription on the stone nearest the base of the slope read: "Sacred to the memory of John Torrington, who departed this life January 1st, A. D. 1846, on board her Majesty's ship Terror, aged 20 years."

"On board the ship" and other evidences made it clear that here Sir John Franklin had spent the winter of 1845-6 in safety and comfort. Here were found an anvil-block; traces of a forge and of the carpenter's shop; a key; a cask or tub in which had been washed a garment rudely-made from a blanket; a pair of officer's cashmere gloves laid out to dry with two small stones resting upon the palms; scraps of iron; a little garden spot containing transplanted anemones and

mosses; and a guide-board nailed to a pike eight feet long, but lying prostrate.

Strangely, however, no memorandum or documents containing the future plans or course of Sir John could be found.

On preceding pages has been indicated the manner in which the vessels of the various search expeditions spent the winter of 1850-51.

We now purpose to narrate briefly the

#### THRILLING EXPERIENCES

of the two American vessels during their drift of eight months in the ice—mere "sailing tubs," driven here and there and to and fro, through the "horrid Arctic night" and longer.

The first of September found the ships surrounded by blocks of ice fourteen feet thick and these heaped up in great hummocks, overtopping the decks and threatening destruction to the helpless crafts. In fact, one of these floating ice ruins struck the "Rescue" with such force that her cables parted, but she fortunately shot ahead into an open space without serious damage. On September 12th, in a storm, she again broke loose from her moorings and became separated from her consort.

The temperature was now but five degrees above zero, the Americans having no fires, while the British, abundantly supplied with fuel, kept their stoves in full blast.

The next day found the two American brigs again in company, and, on the 14th, while crunching through the ice, the motion of both became irregular, slow, and jerking, and finally stopped altogether. "Doctor,

#### THE ICE HAS CAUGHT US:

we are frozen up!" shouted De Haven, as he rushed below into the cabin, where Dr. Kane chanced to be.

The thermometer now touched the zero mark and the beams and walls of the ship became lined with the condensation of the men's breaths. A lard-lamp was now fitted up and the temperature of the cabin raised twelve degrees above the freezing point. This was considered a great luxury.

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Photo by Prof. Libbey. By permission of H. G. Bryant, Esq.  
**Godthaab, South Greenland, 1894.**  
(See page 94.)



1. Prof. A. E. Nordenskiöld.

3. Restored Siberian Mammoth.

5. Lieut. J. B. Lockwood.

2. Oscar II., King of Norway and Sweden.

4. The "Vega"—Winter Quarters.

6. Mr. S. A. Andrée.

(See Chapters XXXVIII., XL. and XLV.)

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During the fourth week in September both vessels became embedded in an accumulation of young ice and snow, which rose high above the decks. At length this became firm and afforded protection in the frequent collisions with drifting floes.

On October 1st, preparations for the winter were begun; the stoves and fuel were brought from the hold and fuel and stores deposited in embankments of snow and ice built against the sides of the ship. Scarcely had this been done when the floe began to break up, and the coal and stores were immediately replaced on board.

On the 19th, although the stoves were set up, they continued to warm their rooms by means of the lard lamp.

Races, games, and

#### SEAL HUNTING

afforded pastime during these trying months. "To shoot seals," says Dr. Kane, "one must practice the Esquimaux tactics, of much patience and complete immobility. It is no fun, I assure you, after full experience, to sit motionless and noiseless as a statue, with a cold iron musket in your hands, and the thermometer 10° below zero. By and by I was rewarded by seeing some overgrown

#### GREENLAND CALVES

come within shot. I missed. After another hour of cold expectation they came again. Very strange are these seals. A countenance between the dog and the wild African ape; an expression so like that of humanity, that it makes gun-murderers hesitate. At last, at long shot, I hit one. God forgive me!

"The ball did not kill outright. It was out of range, struck too low, and entered the lungs. The poor beast had risen breast-high out of water, like treading-water swimmers among ourselves. He was looking about with enrions and expectant eyes, when the ball entered his lungs.

"For a moment he oozed a little bright blood from his mouth, and looked toward me with a startled reproachfulness.

Then he dipped; an instant after he came up still nearer, looked again, bled again, and went down. \* \* \* And so I lost him.

"Have naturalists ever noticed the expression of the animal's phiz? Curiosity, contentment, pain, reproach, despair, even resignation, I thought I saw on this seal's face."

Final arrangements for the winter were completed by the 9th of November, the "Rescue" was for the time being abandoned, and the decks of the "Advance" having been covered with a housing of felt, became the home of both crews, numbering thirty-one men. The bulk-heads between the castle and fore-castle were removed and both apartments thrown into one. This the

#### OFFICERS AND MEN OCCUPIED IN COMMON.

The room was now heated by means of the cooking galley, three stoves, three bear's fat and four argand lamps. On the outside, the temperature of the air was 40° below zero.

During November and December the men slept with knapsacks upon their backs and with sledges laden with provisions upon the ice lest at any moment the vessel should be crushed, as frequently their peril was imminent.

The holidays were, nevertheless, spent in merry-making, and elaborate dinners served.

Meanwhile, Lieutenant De Haven became ill, and Mr. Griffin succeeded as sole commander. On January 12th

#### A SUDDEN SHOCK

brings all hands on deck. The ice-field has parted, and in the fissure thus formed comes a marble-like mass of ice bearing directly toward the stern of the vessel. It stops—then advances. Will it strike? God forbid. But if so, then no earthly power can save the defenseless ship from immediate destruction. On it comes until scarcely a yard of space remains before it must collide with the frail craft. But—it stops, and, becoming impacted, clings to the stern for months.



At length, on January 29th, the sun, after an absence of eighty-six days, reappeared—a great

#### BALL OF FIRE

visible on the south point of the gorgeously rose-colored southern horizon for about an hour—one short, sweet, glorious day, with sunrise, noon, and sunset all within the space of sixty minutes.

“I looked at him thankfully,” says Dr. Kane, “with a great globus in my throat. Then came the shout from the ship—three shouts—cheering the sun.”

The temperature still remained very low, but the north winds and currents gradually swept them southward into warmer latitudes. “Frost-smoke” or ice fog then began to rise from the great white plain about them.

Meanwhile, summer approached, the birds, seals, and whales appearing on every hand.

Finally, the ice floe upon which the vessels were drifting became reduced to a small area.

On May 29th, the coast of Greenland was sighted, and a week later the

#### GRAND BREAKUP OF ICE

occurred. Commander Griffin had just quitted the “Advance,” whither he had been to make a social call, and was returning to the “Rescue,” whose crew were again aboard her, when a great fissure in the ice appeared ahead of him and he had barely enough time to leap across and reach the ship before there was water all around. A half hour later the “Advance” was likewise liberated.

At this time the crews were suffering from the effects of scurvy, exhaustion, and debility. Lieutenant De Haven had, in the meantime, quite recovered and, again assuming command, determined to reconquer his forces at the Whale Fish Islands, Disco Bay, Greenland, and then to renew the search in Lancaster Sound and Barrow’s Strait.

Every man, though weary and worn from the nine months’ perilous besetment, heartily concurred in the plan.

Reaching the Greenland port on June 16th, Dr. Kane and five men went ashore, where they were greeted by the barking of dogs, the yelling of children, and the gazing of Eskimos. After remaining here five days, De Haven set sail for Melville Bay, stopping at all the principal Danish ports.

Off Pröven the voyagers were met by many of the natives, who dragged their kyaks over seven miles of ice to the narrow channel of water in which the vessels lay.

These kyakers greatly amused the crews by turning complete side somersaults in the water, boat, occupant and all his belongings together. This feat is performed by simply elevating the hands above the head, dipping suddenly to one side, haling with head toward the bottom of the sea, the watertight skin boat acting as a buoy, and then reappearing on the other side and returning to an upright position.

Here, too, the Americans celebrated the Fourth of July—simply, yet patriotically. Instead of firing gunpowder, huge boulders were rolled down the steep rock slopes or dropped from beetling cliffs, while, sailor-fashion, the main brace was "spliced" with eider-duck egg-nog, the festivities winding up with a ball, in which the Eskimo belles took conspicuous parts.

Sailing thence to Melville Bay the ice was found unusually late for August, and it was accordingly decided to return at once to New York, where both anchors were dropped before the close of the first week in October.



KEY-LOW-TIK AND KEN-TOON.

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## CHAPTER XXVI.

## RAE'S SEARCH AND DISCOVERIES.

Dr. Rae, repeating the operations of 1848-9, spent the winter of 1853-4 on the isthmus (Rae's) which divides the waters of Repulse Bay from those of Prince Regent's Inlet.

In the ensuing spring, when on the sledge journey to complete the survey of Boothia, on April 20th an Eskimo was met who reported that "a party of

## WHITE MEN HAD DIED OF STARVATION

a long distance to the west of where he then was, and beyond a large river." Also, that "in the spring, four winters since (1850), while some Esquimaux families were killing seals near the north coast of a large island, named in Arrowsmith's chart King William's Land, about forty white men were seen traveling in company southward over the ice, and dragging a boat and sledges with them. They were passing along the west shore of the above named island. None of the above party could speak the Esquimaux language so well as to be understood; but by signs the natives were led to believe that the ships had been crushed by ice, and that they were now going where they expected to find deer to shoot. From the appearance of the men, all of whom, with the exception of an officer, were hauling on the drag-ropes of the sledge, and looked thin, they were then supposed to be getting short of provisions; and they purchased a seal, or piece of seal, from the natives. The officer was described as being a tall, stout, middle-aged man. When their day's journey terminated they pitched tents to rest in.

"At a later date, the same season, but previous to the disruption of the ice, the

#### CORPSES OF SOME THIRTY PERSONS,

and some graves, were discovered on the continent, and five dead bodies on an island near it, about a day's journey to the northwest of the mouth of a large stream, which can be no other than Back's Great Fish River, as its description and that of the low shore in the neighborhood of Point Ogle and Montreal Island agree exactly with that of Sir George Back. Some of the bodies were in a tent or tents; others were under the boat, which had been turned over to form a shelter, and some lay scattered about in different directions. Of those seen on the island, one was supposed to have been an officer, as he had a telescope strapped over his shoulders, and a double-barrelled gun lay beneath him.

"From the mutilated state of many of the bodies, and the contents of the kettles, it is evident that our wretched countrymen had been driven to the

#### DREAD ALTERNATIVE OF CANNIBALISM

as a means of sustaining life. There must have been among this party a number of telescopes, guns, watches, compasses, etc., all of which seem to have been broken up, as I saw pieces of these articles with the natives, and I purchased as many as possible, together with some silver spoons and forks, an Order of Merit in the form of a star, and a small silver plate, engraved 'Sir John Franklin, K. C. B.'"

It was evident that the entire Franklin party, numbering 135 souls—the very flower of the British navy—had perished in a most miserable manner.

For his painful discovery, Dr. Rae received the Government reward of £50,000.

## CHAPTER XXVII.

## INGLEFIELD'S VOYAGE.

Among the surprisingly quick and successful voyages of the times was that of Captain E. A. Inglefield, in the small screw-schooner "Isabel," the property of Lady Franklin. The vessel was propelled by an high-pressure engine of 16 horsepower and was provisioned for five years for twelve men, but carried a crew of seventeen. Besides, she was also abundantly equipped with individual donations consisting of tents, traveling and cooking apparatus, sledges, and countless other useful items.

Among the officers was Dr. Sutherland, who, being well-versed in the sciences, proved a very valuable man aside from his profession.

Steaming away on the 4th of July, 1852, this gallant band of men arrived at Fiskernaes, off the west coast of South Greenland, on the 7th of August, where they were hospitably received by the Danish Governor and the Eskimo subjects. Here Inglefield observed that the natives made no use of sledges, but of kyaks and oomiaks instead. Doubtless, however, during the winter, when the sea-ice is solid, they did use sleds. The fire-wood of the natives consisted of willows a half inch in diameter, and gathered in the women's boats. The chief export was of codfish. A scene in the

## ESKIMO VILLAGE CHURCH

is best described in the language of Captain Inglefield himself:

"Softly, but rapidly, the little meeting-house filled, and then the door closed, and an Esquimaux with the most forbidding exterior of any I had seen, slowly rose, and with much

solemnity gave out a hymn, and in a few moments the melodious harmony of many well-tuned voices broke forth. I was delighted with the strain, for though not a word was intelligible to me, I could nevertheless feel that each person was lifting his heart to his Maker, and I unconsciously joined in the harmony with other words, which, having been learned in childhood, now rushed into my mind, and bade me mingle them with the hallelujahs of these poor semi-savages. \* \* \* A sermon followed, and there burst forth from the preacher's lips a flow of elocution that I have seldom heard equaled; without gesticulation he warmed to his subject till the large drops of perspiration fell on the sacred volume, and his tone and emphasis proved that he was gifted with eloquence of no ordinary nature."

From Fiskernaes, Inglefield proceeded to Upernavik, where dogs for the sledges were purchased, and thence made his way across Melville Bay into Wostenholm Sound, visiting the bay in which the "North Star" had passed the previous winter, discovered and named several islands within the bay, and then proceeded northward, discovering Northumberland and Herbert islands and Murchison Sound. From this point the "Isabel" steamed northward into Smith Sound, attaining latitude  $78^{\circ} 30'$ , a reckoning afterwards determined by Dr. Kane as being too high, inasmuch as Captain Inglefield had made the north coast of the sound trend too much to the north.

Stopped by the ice, the "Isabel" now proceeded southward along the west coast of Baffin's Bay, thence up Lancaster Sound to Beechey Island, where the "North Star," Sir Edward Belcher's depot-vessel, was at anchor. After leaving some of the stores, the officers of the "North Star" declining to take more in the absence of Sir Edward up Wellington Channel, and exchanging mail-pouches, Captain Inglefield returned to England, after an absence of four months. His success had been signal, his contributions to geographical science important, and he received the approbation of all competent authorities.

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## CHAPTER XXVIII.

## KANE'S EXPEDITION.

Once more we are brought to notice the idolized and chivalrous Dr. Kane, in connection with the second Grinnell Expedition, organized for the purpose of searching for Sir John Franklin "from the upper waters of Baffin's Bay to the shores of the Polar seas." Diligent scientific inquiry was also directed to be made.

To Mr. Grinnell's generosity in again placing the "Advance" at the disposal of the Naval Department for the purpose stated, was also added the liberality of Mr. George Peabody, the well-known philanthropist, and of various scientific institutions for contributions in money and equipment.

The crew consisted of ten officers and men detailed from the navy, besides seven chosen for special reasons. All, however, were volunteers. Strict subordination, no profanity, and abstinence from the use of intoxicants except when dispensed by order of the commanding officer, were the three grand rules enjoined upon all.

The "Advance" sailed from New York, May 30, 1853, and arrived at Fiskernaes, South Greenland, July 12th. Here Dr. Kane secured the services of Hans Christian, a Danish-Eskimo lad of nineteen, as interpreter and assistant. Proceeding northward, stops were made at all the principal ports where dogs and fur garments were secured, after which an outward passage was taken in order to avoid the ice of Melville Bay. On one occasion when anchored to an iceberg, small chunks of ice began to appear upon the surface of the water about the ship, and also to fall from the berg. They were signs of danger—the great ice-mountain was disintegrating! Not a moment was to be lost—the ship was cast off. With a crash and roar like the reverberations of thunder the great mass collapsed, lashing the ocean into a foam a great distance round.

Passing the Crimson Cliffs, and the rock-spired Hakluyt, on August 5th and 6th respectively, the "Advance" struggled on to Littleton Island, Smith Strait, where were deposited the life-boat, pemmican, blankets, and oil-cloths, to be used in case of retreat at some future period. Here were discovered the ruins of Eskimo huts, and burial cairns containing frozen corpses which, although doubtless deceased for a century, were still not decomposed.

About this time—August 19th—

#### A TERRIFIC GALE

arose. First, a six-inch hawser, then the whale-line, and finally the ten-inch manilla-cable parted, exposing the little vessel to the full fury of the storm.

"We allowed him to scud," says Dr. Kane, "under a reefed fore-top sail; all hands waiting the enemy, as we closed in silence.

"At 7 in the morning we were close onto the piling masses. We dropped the heaviest anchor with the desperate hope of winding the brig; but there was no withstanding the ice torrent which followed us. We had only time to fasten a spar as a buoy to the chain and let her slip. So went our best bower.

"Down we went upon the gale again, helplessly scraping along a lee of ice seldom less than thirty feet thick; one floe measured by a line as we tried to fasten to it, more than forty. I had seen such ice only once before, and never in such rapid motion. One upturned mass rose above our gunwale, smashing in our bulwarks, and depositing half a ton in a lump upon our decks. Our little brig bore herself through all this wild adventure as if she had a charmed life. But

#### A NEW ENEMY

came in sight. Directly in our way, just beyond the line of floe-ice against which we were alternately sliding and thumping, was a group of huge bergs. We had no power to avoid them; the only question was whether we were to be dashed

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in pieces against them, or whether they might not offer us some protection from the storm. But as we neared them we perceived that they were at some distance from the floe's edge, and separated from it by an interval of floe water. Our hopes rose, and the gale drove us toward the passage and into it; and we were ready to exult, when, from some unexplained cause, probably from an eddy of the wind against the lofty ice walls, we lost our headway. Almost at the same moment we saw that the bergs were not at rest; that, with a momentum of their own, they were bearing down upon the other ice, and that we were fated to be crushed between the two.

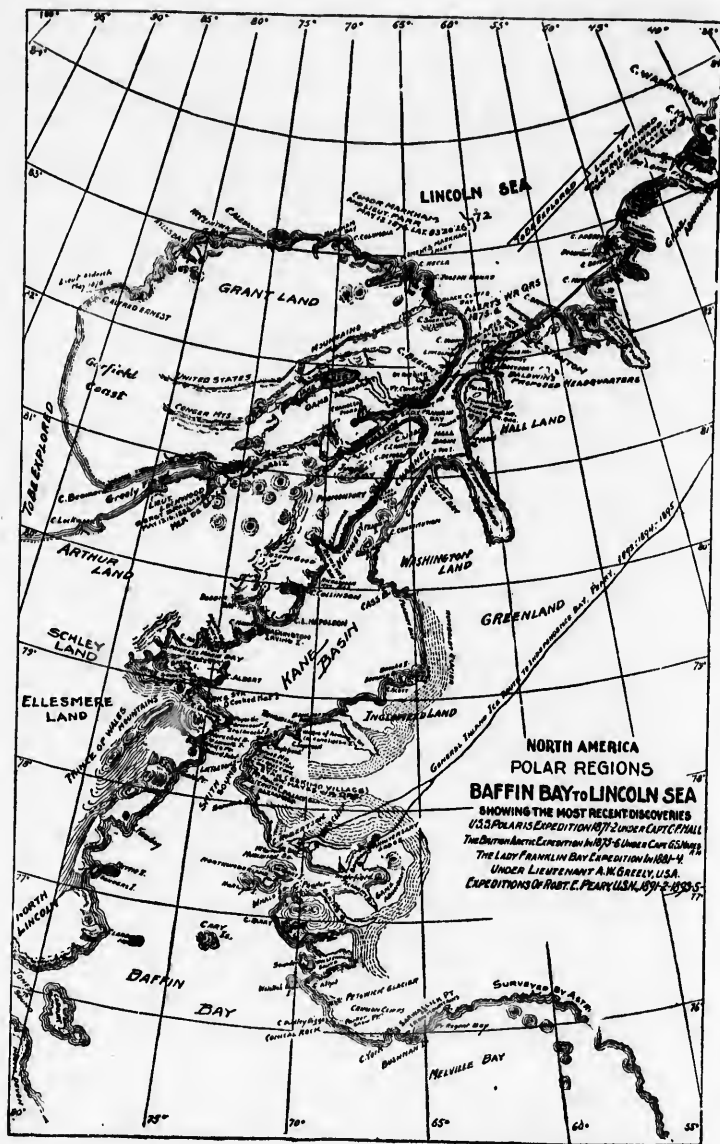
"Just then a broad sconce-piece, or low, water-washed berg, came driving up from the southward. The thought flashed upon me of one of our escapes in Melville Bay; and as the sconce moved rapidly alongside of us, McGary managed to plant an anchor on its slope, and hold onto it by a whale line. It was an anxious moment. Our noble tow-horse, whiter than

#### THE PALE HORSE

that seemed to be pursuing us, hauled us bravely on, the spray dashing over his windward flanks, and his forehead tearing up the lesser ice as if in scorn. The bergs encroached upon us as we advanced; our channel narrowed to a width of perhaps forty feet; we braced the yards to clear the impending ice wall.  
\* \* \* We passed clear, but it was a close shave—so close that our port water boat would have been crushed had we not taken it from the davits—and found ourselves under the lee of a berg in a comparatively open lead. Never did heart-tried men acknowledge with more gratitude their merciful deliverance from a wretched death."

In the course of this brave struggle several of the men were separated from the brig on a floe cake and were not rescued till after the storm had abated. Mr. Amos Bonsall saved himself from being horribly crushed by making a perilous leap to a floating ice pan.

The gale subsided at length on the 22d, and the "Advance" was finally made secure in Rensselaer Harbor, latitude 78° 41',



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up to that time the farthest north ever made on the American side, and exceeded only by Parry on the European side of the world.

From this point, leaving the "Advance" in charge of Mr. Ohlsen, Dr. Kane, with seven men, began a boat and sledge journey northward on the 29th of August. They had not proceeded far before the boat was deposited in a gorge and the sledge alone used. At the end of five days they found themselves but forty miles from the ship, whereupon the sledge was also left behind and the little party hastened forward on foot, in one day covering twenty-four miles.

During the journey careful observations on the geology, botany, and topography of the country were assiduously attended to. On one occasion a large river formed from the melting of the surface snows was traced for forty miles toward its source in the eternal ice of the interior, where, says the observant doctor, "fostered by the reverberations of solar heat from the rocks, we met a

#### FLOWER-GROWTH,

which, though drearily Arctic in its type, was rich in variety and coloring. Amid festuca and other tufted grasses twinkled the purple lychnis and the white star of the chickweed, and not without its pleasing associations, I recognized a single hesperis, the Arctic representative of the wall-flowers of home."

Finally, a rock headland, having an elevation of eleven hundred feet, was reached and made the termination of the journey. From it a vast extent of ice could be seen stretching beyond the 80° of north latitude.

Returning to the brig, winter-quarters were speedily prepared and thorough and systematic scientific observations begun.

Game being scarce, much of the salt meat was freshened by suspending it through the ice covering a fresh water lake discovered on a neighboring island.

On September 20th a depot party was sent out for the purpose of establishing three cachés of provisions to be used by



the sledge party the following spring. In spite of great care to render the cachés impregnable, the powerful polar bears destroyed the first depot shortly after it was made. The party returned to the ship after an absence of four weeks. Their lives had been greatly imperiled on one occasion by the sudden breaking up of the ice upon which they were sleeping. This was caused by the

#### CALVING OF THE GLACIERS

in the vicinity, which, giving birth to their giant progenies, forced them to try their strength as messengers of destruction in the world of ice lying before them.

Meanwhile, the party remaining at the ship narrowly averted a calamity which must have proved the destruction of the entire party. An attempt was made to

#### SMOKE OUT THE RATS

which infested the hold of the ship. A compound of leather, brimstone, and arsenic having been ignited and failing to effect the desired result, a quantity of carbolic acid gas was then substituted. Unfortunately, the cook carelessly ventured below and was dragged out more dead than alive. Fearing that something had caught fire below, Dr. Kane essayed to investigate the matter and was likewise rescued in nearly a lifeless condition. The fire, however, was located, and extinguished with great difficulty.

The cold, cold winter was now upon them. Says Dr. Kane:

"The great difficulty is to keep up a cheery tone among the men. Poor Hans has been sorely homesick. Three days ago he bundled up his clothes and took his rifle to bid us all good-bye. It turns out that besides his mother there is another one of the softer sex at Fiskernaes that the boy's heart is dreaming of. He looked as wretched as any lover of a milder clime. I hope I have treated his nostalgia successfully, by giving him first a dose of salts and, secondly, promotion. He now has all the dignity of henchman. He harnesses my dogs, builds my traps, and walks with me on my ice-tramps; and,

except hunting, is excused from all other duty. He is really attached to me, and as happy as a fat man ought to be."

Thus the winter wore on. The weather during February was intensely cold, spirit of naphtha freeziug at minus 54°, oil of sassafras, at minus 49°, and oil of wintergreen, at minns 63°. The temperature during March generally stood at minus 40°.

All but six of the dogs died of

#### PIB-LUCK-TOO, OR HYDROPHOBIA,

as Dr. Kane thinks. Undoubtedly, however, they died of the cause of this disease, namely, exposure, lack of exercise, and improper and insufficient food. It would appear that the dogs belonging to the natives who frequently visited the ship were unaffected by any malady.

At lengfh, on the 21st of February, the sun's rays became visible, and a preliminary party was sent out, to be followed by the doctor and others somewhat later. After an absence of eleven days, the advance party suddenly returned. "We were at work," says Dr. Kane, "cheerfully sewing away at the skins of some moccasins by the blaze of our lamps, when toward midnight, we heard the noise of steps above, and the next instant Sonntag, Ohlsen, and Peterson came down into the cabin. Their manner startled me even more than their unexpected appearance on board. They were swollen, haggard, and scarcely able to speak.

"Their story was a fearful one. They had left their companions in the ice, risking their own lives to bring us the news. Brooks, Baker, Wilson, and Pierce were all lying frozen and disabled; where, they could not tell. Somewhere in among the hummocks, to the north and east. It was drifting heavily around them when they parted.

#### IRISH TOM

had stayed by to feed and care for the rest, but the chances were sorely against them. It was vain to question them further. They had evidently traveled a great distance, for they were sinking with fatigue and hunger, and could hardly be

rallied enough to tell the direction in which they had come."

Immediately, Dr. Kane and a party of eight men started for the relief of the

#### PERISHING MEN.

Poor Ohlsen was the only one of those who had found their way back to the ship who was able to give any intelligible information as to the position of the imperiled men. He was accordingly wrapped heavily in robes, placed on a sledge, and returned with the rescuing party. Fortunately, after a toilsome journey of twenty-four hours over a distance of probably forty miles, Dr. Kane sighted the tent containing the suffering men. Of this circumstance the good doctor says:

"We at last came in sight of a small American flag fluttering from a hummock, and lower down a little Masonic banner hanging from a tent-pole hardly above the drift. It was the camp of our disabled comrades. We reached it after an unbroken march of twenty-one hours." With the confidence of fraternity "they had expected him; they were sure he would come!"

Now began the return journey, one of intense suffering and which resulted in nearly all the participants being more or less frozen, from the effects of which two of the men, Baker and Schubert, afterwards died. They were buried on shore near the winter-quarters. So great was the strain on Dr. Kane during this journey that he fainted twice.

About this time a party of Eskimos visited the ship and from them Dr. Kane purchased four dogs, which, being harnessed with three of the original pack, constituted a team which he himself trained and drove.

On April 27th a journey to the great

#### HUMBOLDT GLACIER

was begun. Arriving there, a vast wall of ice three hundred feet high and sixty miles long was found. Extending an unknown distance into the great interior ice-cap of North Greenland, this wonderful frozen river with its innumerable chasms

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Cumberland Sound Eskimo Woman.  
Etah Eskimos.  
My Pets: Ock-ah-mah-ding-wah  
and Kla-yu.

South Greenland Females.  
South Greenland Dogs.  
Polar Bear on Board.



Face of a Greenland Glacier.  
(See pages 458-9.)



Face of Glacier, showing Overthrust and Stratification.  
(See pages 458-9.)

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and frightful inequalities had boldly asserted its right to launch its countless floating castles of ice at times when and in places where the strongest vessels of man would be instantly shattered. On the journey thither a peculiar and solitary column of greenstone was discovered and named Tennyson's Monument.

The provision caches made by the autumn party had all been destroyed by bears.

Dr. Kane's strength signally failed him on this trip and he was carried to the brig in a dying condition by five of his companions.

For several days this plucky man struggled with death, but at length rallied, through the attention of Dr. Hayes and the influence of his own strong mind.

On the 20th of May Dr. Hayes and one companion set out with a dog team to the west side of Smith's Strait. Here they located more accurately Cape Sabine, named by Captain Inglefield, and destined, forty years later, to be the scene of the awful suffering and starvation of Lieutenant Greely's party.

From this point Hayes journeyed northward and explored more fully and named the channel

#### KENNEDY CHANNEL.

in honor of the honorable Secretary of the United States Navy.

Dr. Hayes and his companion—a very strong man—were badly used up by this trip. They had journeyed two hundred and seventy miles and made many valuable discoveries. The dogs became so hungry that they devoured their own harnesses. These, however, were repaired by means of slices cut from the driver's pantaloons.

June 4th Mr. Morton and Hans began a northward journey. They were accompanied as far as McGarry Island by Mr. Bon-sall, Mr. McGarry and others.

Finally, on the 22d, in latitude  $80^{\circ} 30'$ , was planted the Grinnell flag, at the highest point north at that time ever at-

tained in Greenland waters. From an eminence could be seen farther northward a stretch of open water—

#### THE SUPPOSED POLAR SEA.

Says Kane: "It must have been an imposing sight, as he stood at this termination of his journey, looking out upon the great waste of waters. Not a speck of ice, to use his own words, could be seen. There, from a height of 400 feet, commanding a horizon of almost forty miles, his ears were gladdened with the novel music of dashing waters, and a surf breaking in among the rocks at his feet stayed his further progress. The high ridges to the northeast dwindled away to the low blue knobs, which blended finally with the air. Morton called the cape which baffled his labors after his commander, but I have given it the more enduring name of Cape Constitution. I do not believe there was a man among us who did not long for the means of embarking upon these bright and lovely waters."

The ship was still beset in the ice, and being merely a sailing vessel, escape was utterly impossible. Half the men were on the sick list and accordingly Dr. Kane resolved to communicate with the squadron of Sir Edward Belcher, then supposed to be at Beechey Island.

Manning a small sailing craft but twenty-three feet long and six and a half feet wide in the beam, the resolute man and five companions proceeded to Littleton Island, where they were fortunate enough to secure a quantity of eider ducks. Putting again to sea in the endeavor to gain the west shore of Baffin's Bay, they were overtaken by a gale, to the fury of which they were exposed for twenty-two hours, and would all have perished but for the consummate skill of Mr. McGarry, second officer of the expedition. On July 23d Hakluyt Island was reached, from which point they directed their course toward the Cary Islands. When within ten miles of Cape Parry, however, their farther progress was effectually stopped by a great barrier of ice, which, loosened by the action of wind, tide, and the sun's heat from the Whale Sound region of Green-

land, had followed the coast on its journey southward and westward and united with a like ice-stream from Jones' Sound on the west coast of Baffin's Bay.

Having returned to the brig about the first of August, a last attempt was made to free themselves through blasting the ice by means of gunpowder. Frozen to a depth of sixty feet in this particular place, the solid mass could be broken but slowly and Dr. Kane decided to remain where the vessel then was and await more favorable conditions in the course of the next summer season. Fearing the worst, on the face of a bold rock facing west he had printed in large black letters,

"THE ADVANCE, 1853-54,"

and in a hole drilled into the rock was deposited a sealed bottle containing the records of the expedition. Hard by, too, and appropriately designated, were the graves of the two men, Baker and Schubert, who had died from the effects of frost-bites and exposure.

Dr. Kane now called the men together and stated to them the very unfortunate condition in which they then were and gave to those who might so desire the opportunity of endeavoring to make their escape while there yet remained a chance. He, however, advised all to remain with the brig, but assured them that, should any attempt to liberate themselves fail, they would nevertheless receive "a brother's welcome" upon their return to the ship.

Acting upon this assurance, Dr. Hayes and eight others took their departure on the 28th of August, but a few days later one of the men, George Riley, returned.

Those who remained now set to work to gather moss, chinking all the cracks about the ship and otherwise preparing for the approaching winter. Nearly all the men were sick and there was sore need of fresh meat. Accordingly, Dr. Kane and Hans set out to hunt seals. The ice breaking, both men, dogs, sledge, and all were precipitated into the freezing water. Guns, robes, tent, and sledge were lost, and but for the vigorous rub-

bing which Hans bestowed upon Dr. Kane, he, too, might have been numbered among the irrecoverables.

A friendly compact was now entered into with the natives, according to which Dr. Kane was to supply the Eskimos with needles, pins, knives, iron, wood, etc., in return for walrus and seal meats, the loan of dogs, etc. So just was Dr. Kane in his dealings that the agreement was never broken on the part of either side.

The men became accustomed to the change of diet, eating the flesh raw. The liver of the walrus was esteemed a luxury.

On December 7th several sledge loads of the natives visited the brig, bringing with them Messrs. Bonsall and Peterson of the Hayes party. These reported that they had left their companions two hundred miles south of the brig, and that they were in desperate circumstances and uncertain as to their future movements.

Now to relieve them was the first thought of Dr. Kane; but, alas! all but himself, Mr. McGarry and Hans were on the invalid list and the doctor could not leave his hospital. He was about to trust relief to the care of the Eskimos when, on the 12th, the unfortunate men returned in company with some Eskimos, who, while encamped in a miserable hovel, had visited them and given them meat, but to whom they would neither lend nor sell their dogs.

Dr. Hayes had thereupon invited them to partake of food mixed with a soporific substance, and, the invitation being accepted forthwith, it was not long ere the drowsy hunters of the north were driving

#### PHANTOM DOGS IN DREAMLAND,

while Dr. Hayes and companions were driving the realities in Greenland, on the return to the brig.

The unsuspecting Eskimos were, however, aroused through some accidental noise before the dogs were far away and the fleeing party were soon overtaken by the infuriated natives, who were not pacified until guns were leveled upon them. They then agreed to take the wanderers to the ship, where, as

we have seen, they arrived, telling an awful tale of privation and suffering.

"Poor fellows," says the big-hearted Kane, "I could only grasp them by the hand and give them a brother's welcome."

About this time two of the most able-bodied men of the party, when on the point of

#### DESERTING THEIR COMRADES,

were put in irons, and the instigator punished severely. He made fair promises of future good behavior, but, upon being released, again deserted within an hour.

Hans having gone out with the sledge and dogs a few days previous to this, it was supposed that the plan of the deserters was to seize these and to live thereafter among the natives, thus depriving the expedition of their necessary services. Dr. Kane, however, again apprehended the culprit and placed him in irons for a time.

Thus the winter wore away. Finally, a deer was killed, but the men were so much reduced in strength that it was brought to the ship with extreme difficulty.

Provisions were indeed low, and when at length but sufficient remained for thirty-six days, it was decided to abandon the brig. Everything having been made ready for the final departure, Dr. Kane read a portion of Scripture and then addressed the men upon the solemnity of the occasion and the gravity of their situation and the necessity of working in harmony. All then marched round the staunch little vessel which had so long been their home, and took from its bow the

#### FIGURE-HEAD

representing a little girl with painted cheeks.

Dr. Kane hesitated to add this as a burden, but the men reasoned that, should it prove too cumbersome, it could be used for fuel. That it neither proved too burdensome, nor was used for fuel, can be declared to by the many thousands of visitors to the Arctic exhibit in the Government Building during the United States Columbian Exposition, forty years later, where

"the little lady" looked sympathetically down upon Lieutenant Greely and his ice and snow-bound encampment.

Having thus left the "Advance," the party were accompanied to the open water by their friendly allies, the Eskimos. Says Kane: "My heart warms to these poor, dirty, miserable, yet happy beings, so long our neighbors, and of late so staunchly our friends. Theirs is

#### NO AFFECTATION

of regret. There are twenty-two of them around me, all busy in good offices to the 'Docto Kayens,' and there are only two women and the old blind patriarch, Kresuk (Kes-shu), left behind at the settlement."

Working their way southward with much exertion, they were fortunate enough to replenish their larder with a large number of eider ducks and eggs, which latter were gathered at the rate of twelve hundred a day.

The saddest occurrence of the journey was the

#### DEATH OF CHRISTIAN OHLSEN,

one of the most useful men in the party. This was caused by an internal straining of the body received in saving one of the sledges from being lost through a tide-hole. His body was laid to rest with due ceremony and great respect beneath a cairn of stones erected upon the shore. A sheet of lead duly inscribed was placed upon his breast.

As the party journeyed they became greatly exhausted. Difficult breathing, swollen feet, sleeplessness, and ravenous appetites pursued them continually. And here we again quote the graphic words of Kane: "It was at this crisis of our fortunes that we saw a large seal floating on a small patch of ice—as is the custom of these animals—and seemingly asleep. Signal was made for one of the boats to follow astern, and,

#### TREMBLING WITH ANXIETY,

we prepared to crawl down upon him. Peterson, with the large English rifle, was stationed in the bow, and stockings

were drawn over the oars as muffers. As we neared the animal our excitement became so intense that the men could hardly keep stroke.

"I had a set of signals for such occasions, which spared us the noise of the voice, and when about three hundred yards away the oars were taken off, and we moved on in silence with a single scull astern. He was not asleep, for he reared his head when we were almost within rifle shot, and to this day I can remember the hard, careworn, almost despairing expression upon

#### THE MEN'S THIN FACES.

as they saw him move. Their lives depended on his capture."

Peterson's aim was true and the seal fell, with his head resting upon the edge of the ice just above the water. With a shout of triumph the men urged the boat forward, secured the scarcely dead creature and instantly cut it into strips, gorging themselves with its life-saving flesh and blood. Not an ounce was wasted, the cartilaginous flippers and distended entrails being consumed. Passing

#### THE DEVIL'S THUMB.

the solitary sentinel of rock at the south entrance to Melville Bay, on August 1st they soon left the Duck Islands and Cape Shackleton also in the rear and then made for the mainland. Here, seeking eider-down found upon the islands along the coast, they met a single kyaker whom Peterson knew.

"Don't you know me? I'm Peterson!" said he.

"No; his wife says he's dead," replied the Greenlander, as he paddled away.

Two days later a distinct "Hello!" fell upon their ears. It came from one of the men on board the Danish oil-boat, then bound from Upernavik to Kingatok. From her crew was learned the chief events transpired since the departure of the "Advance" more than two years before.

Pushing on to Upernavik, where they were joyously welcomed by the Danish and Eskimo population, and thence to Godhaven, Disco, or Lievely, as the place is called, Dr. Kane

embarked on the Danish boat "Mariane," on the 11th of September, intending to return to America by way of England. Just as the steamer was leaving the harbor, a strange vessel was seen to approach. It was the "Arctic," under Captain Hartstene, then in search of the brave men who had just succeeded in making their own escape. Captain Hartstene had some weeks previous passed northward, but meeting the Eskimos learned of Dr. Kane's retreat and thereupon directed his course southward, overtaking them at Godhaven.

As the "Arctic" approached the "Mariane," Dr. Kane and men set off in their good boat "Faith" to meet their countrymen.

"Is that Dr. Kane?" inquired Captain Hartstene eagerly of a little man

IN A RAGGED FLANNEL SHIRT.

as the "Faith" was rowed alongside.

It is needless to say that it was, or to attempt to describe the greeting that awaited the men as they were received on board, or the joyous welcome given them upon their arrival in New York, on the 11th of October, 1855.

The results of the expedition were highly satisfactory: although no traces of the missing Franklin were discovered, yet it was made evident that the lost explorer had not pursued that route; more than a thousand miles of coast line were added to the geographies, an important knowledge of the northernmost Eskimos obtained, and other noteworthy scientific data secured.

Through Sir John Crampton, the British Ambassador at Washington, her Majesty's Government offered its cordial congratulations for the safe return of the expedition and expressed its sincere gratitude to Dr. Kane, Mr. Grinnell, and the United States for affording aid in searching for Sir John Franklin. Through Mr. Crampton the Queen's medal was struck for the officers and men of the "Advance," and a large and costly silver vase presented to Mr. Grinnell "for his exertions and munificence."

Two years later Dr. Kane's health quite failed and he went



to England, but becoming worse, he proceeded to Cuba, where he died, February 16, 1857, aged thirty-seven. His last words were:

"Let not your heart be troubled: ye believe in God, believe also in me. In my Father's house are many mansions; if it were not so, I would have told you. I go to prepare a place for you."

His mother and two brothers tenderly cared for him during his last hours, his body being taken from Havana to New Orleans, and thence to Philadelphia, where the funeral obsequies were held in the church of his boyhood and in the familiar Independence Hall, a vast throng, embracing the rich and the poor, the learned and the unlettered, assembling to pay sincere respect to his memory.

As may be inferred, Dr. Kane possessed a decidedly religious nature and frequently gave it public expression with all the eloquence of his soul. On one occasion he thus wrote:

"I never lost my hope; I looked to the coming spring as full of responsibilities, but I had bodily strength and moral tone enough to look through them to the end. A trust based on experience as well as on promises buoyed me up at the worst of times. Call it fatalism, as you ignorantly may, there is that in the story of every eventful life which teaches the inefficiency of human means and the present control of a Supreme agency. See how often relief has come at the moment of extremity, in forms strangely unsought, almost, at the time, unwelcome; see, still more, how the back has been strengthened to its increasing burden, and the heart cheered by some conscious influence of an unseen Power."

How well Dr. Kane acted upon these principles is well illustrated in the regulations which he maintained even during the retreat to Upernavik, for then were held "daily prayers, both morning and evening, all hands gathering round in a circle and standing uncovered." We have a more detailed account of this from Mr. Wilson, one of the party. He says:

"While the rest of the party surrounded the sledge with uncovered heads, Dr. Kane rendered thanks to the great Ruler

of human destinies for the goodness He had evinced in preserving our lives while struggling over the ice-desert, exposed to a blast almost as withering as that from a furnace. Our commander poured forth ready and eloquent sentences of gratitude in that lonely solitude, whose scenery offered nothing to cheer the mind and everything to depress it."

We are prepared, therefore, to account for the tranquillity with which this heroic man took his final journey from earth, and may well understand why shortly before this "two or three times every day he must hear the words of life from the lips of her who had taught his own to lisp his infant prayer," and at the last to breathe those very words as his last.



CAPTAIN HALL'S GRAVE.

## CHAPTER XXIX.

## M'CLINTOCK'S SUCCESSFUL VOYAGE.

So persistently was the search maintained that at length definite information concerning Franklin was obtained. In command of the expedition that secured this result was Captain Francis Leopold McClintock, already experienced in the details of Arctic service. His efforts were ably seconded by Captain Allen Young, who not only threw his whole soul into the enterprise, but also contributed £500. Lieutenant Hobson likewise performed excellent service as an explorer, while Dr. Walker, a skilled physician and scientist, rendered invaluable aid. The vessel, the "Fox," a steam yacht of 177 tons burden, carried a complement of twenty-five men, all volunteers, seventeen of whom had already participated in Arctic work.

The expenses of the expedition were shared by Lady Franklin, the Royal Society, and the London Board of Trade. The admiralty supplied more than three tons of pemmican, and the board of ordnance the guns, ammunition, etc. In fact McClintock had but to ask and everything necessary was freely given.

Among the men who joined was Carl Peterson, the interpreter, and concerning whom we have written in treating of Dr. Kane's expedition.

Setting sail on the 3d of June, 1857, the "Fox" arrived off the coast of Greenland on the 12th of July. Entering Baffin's Bay, she soon became ice-bound and remained beset for eight months, drifting southward meanwhile more than one thousand miles.

Arriving finally at Holsteinberg, Greenland, on the 28th of April, 1858, the crew refreshed themselves, supplies were

obtained, and again the "Fox" set sail on the 8th of May and directed her course by way of Melville Bay, Lancaster Sound, and Barrow's Strait to King William's Land, which the energetic and persevering men reached on May 24th, 1859, after a nearly two years' absence from England.

Certain articles which had belonged to Franklin's men having been obtained from the natives, systematic search was at once instituted. Near Cape Herschel, the south point of the island, Captain McClintock discovered a bleached skeleton lying at full length upon the beach, besides some clothing, a pocketbook, and a few letters.

At Point Victory Lieutenant Hobson found the following record:

"May 28, 1847.

"H. M. S. 'Erebus' and 'Terror' wintered in ice in latitude 70° 5' north, longitude 98° 23' west. Having wintered in 1846-7 (this date should evidently be 1845-6) at Beechey Island, in latitude 74° 43' 28" north, longitude 91° 39' 15" west, after having ascended Wellington Channel to 77° and returned by the west side of Cornwallis Island.

"Sir Jno. Franklin commanding the expedition.

"All well.

"Party consisting of two officers and six men left the ships on Monday, 24th May, 1847.

"Gr. Gore, Lieut.

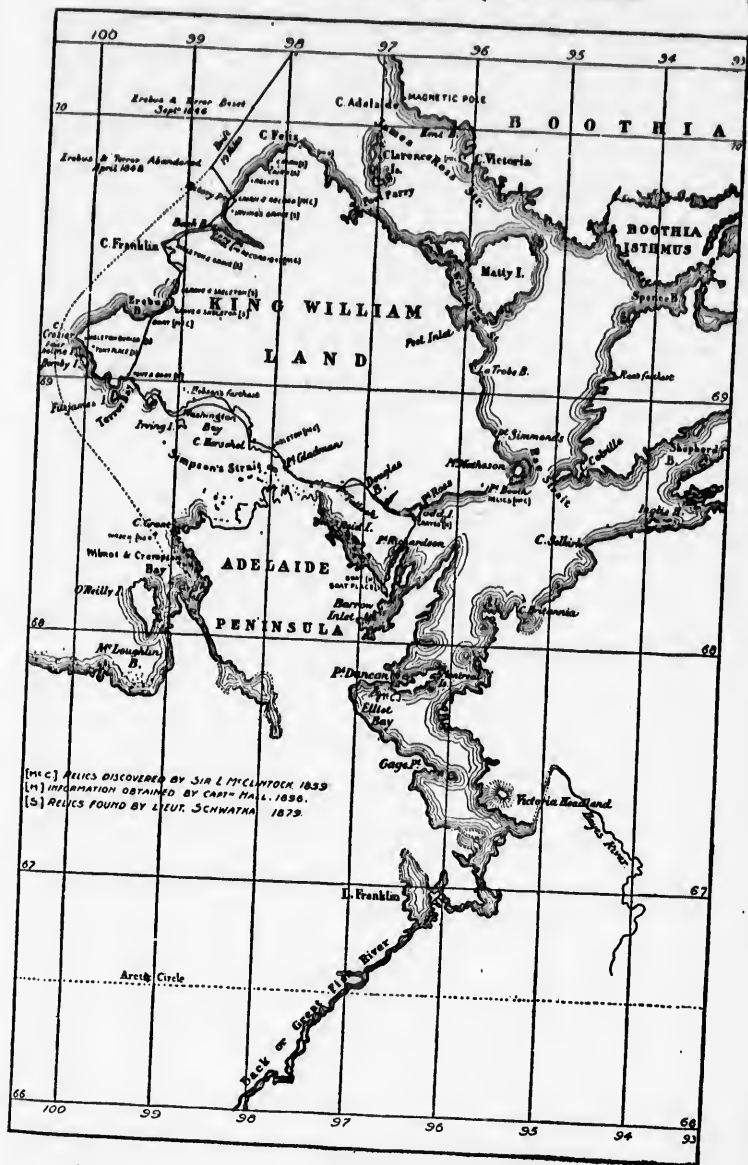
"Chas. De Voeux, Mate."

Around the margin of the above record were written, in another hand, the following

SAD WORDS:

"April 25, 1848.

"H. M. S. 'Terror' and 'Erebus' were deserted on the 22d of April, five leagues N. N. W. of this, having been beset since 12th of September, 1846. The officers and crews consisting of 105 souls, under the command of Captain Crozier, landed here in latitude 69° 37' 42" north, longitude 98° 41' west. Sir Jno.



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Franklin died on the 11th of June, 1847, and the total loss by deaths in the expedition has been to this date nine officers and fifteen men.

(Signed) "F. R. M. Crozier,  
"Capt. and Sr. Officer."

(Signed) "Jas. Fitzjames,  
"Capt. 'Erebus.'"

"And start (on) to-morrow, 26th, for Back's Fish River."

Still later on the western extremity of King William's Island was discovered a large boat containing

#### TWO GHASTLY SKELETONS,

one being that of a small-bodied young man, possibly an officer, and near which lay a pair of worked slippers, the other, that of a large, powerful person, the skeleton being in fair condition and covered with clothes and furs, close beside which were five watches and two double-barreled guns, one barrel of each being cocked and loaded, standing muzzle upward against the boat.

Here, too, were found five or six books, such as "Christian Melodies," which bore upon the title-page an inscription from the donor to G. G. (supposed to mean Lieutenant Graham Gore); the "Vicar of Wakefield;"

#### A SMALL BIBLE

containing numerous marginal notes and having entire passages underlined; besides others of a devotional or scriptural character.

There were also found the covers of a prayer book and of a New Testament.

Among a great quantity of articles picked up were boots, handkerchiefs—black, white, and figured—toilet articles, carpenter's tools, ammunition, knives, needles and thread, matches, bayonet scabbards made into knife-sheaths, etc., etc. These articles were carefully collected and placed in the Greenwich Hospital, where they may be seen to-day.

A small quantity of tea and about forty pounds of chocolate were the only provisions found.

Fuel was not scarce, for near the boat was a drift-tree lying upon the beach.

An old Eskimo woman was met with who stated that "the white men marched along toward the great river and fell dead as they marched."

Thus the statement contained in the record quoted above received living confirmation.

Besides these startling discoveries, other valuable results of a scientific character rewarded the labors of these indefatigable men. The zoölogy, botany, meteorology, and terrestrial magnetism of the regions traversed received careful attention. Geographically speaking, Bellot's Strait was proved to be navigable, from which waters the unknown coast of Boothia was delineated as far as the magnetic pole. The "Fox" spent the winter of 1858-59 at

PORT KENNEDY,

on the north side of Bellot's Strait, whence explorations were made resulting in the revelations referred to.

There was also discovered the strait which, in commemoration of the services of the gallant leader of this expedition, is called McClintock Channel. Setting sail on the 9th of August, 1859, the "Fox" arrived in England on the 20th of September following, where Captain McClintock was warmly congratulated and duly knighted. His name first appears in this volume on one of its first pages.



BONE-CHARMS OF IG-LOO-LIE.

## CHAPTER XXX.

## EXPEDITION OF HAYES.

When, in 1853-5, Dr. Kane made his famous voyage into northern waters, among those who accompanied him, as we have already learned, was Dr. Isaac Israel Hayes, but twenty-one years of age and just graduated in medicine at the time of departure of the expedition.

He, like Dr. Kane, believed in the existence of an "Open Polar Sea," and, like his inspiring leader, desired to launch upon its unknown expanse and to explore the contiguous lands.

Accordingly, he submitted his ideas and plans to the American Geographical and Statistical Society near the close of 1857, and, in the following April, to the American Association for the Advancement of Science.

The Association at once appointed a committee of sixteen on the subject, and similar action was soon taken by other societies.

In aid of the project,

## FOUR HUNDRED BUSINESS MEN

and firms of Albany, Boston, New York, and Philadelphia made liberal subscriptions, the aid thus received being supplemented by the proceeds of lectures delivered by Dr. Hayes. The Smithsonian Institution loaned the necessary instruments, and by June, 1860, the necessary funds and equipment had been secured.

The expedition, numbering fifteen persons, embarked at Boston in the staunch little merchant schooner, "Spring Hill," the name of which, however, had been changed by act of Congress to the "United States."

Setting sail on the 7th of July, the expedition arrived off



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Brig.-Gen'l A. W. Greely, Chief Signal Officer, U. S. A.  
(See Chapters I. and XL.)



Near Cape Dudley Digges, from Top of South End of Conical Rock.  
(See page 253, etc.)



South Greenland Sledge and Ancient Eskimo Sledge, found at Cape  
Baird, Latitude 81° 30' North, Grinnell Land.  
(See Chapter XL.)

Disco on the last day of the month, having made an average speed of one hundred miles a day since the departure from Boston.

"When off Svarten Huk, on the 2d of August, the long-favoring wind died completely away, the fog lifted and

#### ICEBERG AFTER ICEBERG

burst into view, like castles in a fairy tale. The sea was smooth as glass; not a ripple broke its dead surface; not a breath of air stirred. The dark headlands stood boldly out against the sky; the clouds, and sea, and bergs, and mountains were bathed in an atmosphere of crimson, and gold, and purple, most singularly beautiful. The air was warm almost as a summer's night at home; and yet there were the icebergs and the bleak mountains, with which the fancy of our land of green hills and waving forests can associate nothing but cold repulsiveness."

Four days later the ship was met off Pröven by a fleet of kayakers, while a cannon resting beneath the Danish flag on shore gave her loudest welcome.

Concerning the "skin canoe" of the natives, Hayes thus writes:

"The kayak of the Greenlander is the frailest specimen of marine architecture that ever carried human freight. It is eighteen feet long and as many inches wide at its middle and tapers, with an upward curving line, to a point at either end. The skeleton of the boat is made of light wood; the covering is of tanned sealskin, sewed together by the native women with

#### SINEW THREAD,

and with a strength and dexterity quite astonishing. Not a drop of water finds its way through their seams, and the skin itself is perfectly waterproof. The boat is about nine inches deep, and the top is covered like the bottom. There is no opening into it, except a round hole in the center, which admits the hunter as far as his hips. The hole is surrounded with a wooden rim, over which the kayaker laces the lower edge of

his water-tight jacket, and thus fastens himself in and keeps the water out. He propels himself with a single oar about six feet long, which terminates in a blade or paddle at either end.

"This instrument of locomotion is grasped in the center, and is dipped in the water alternately to right and left. The boat is graceful as a duck, and light as a feather. It has no ballast and no keel, and it rides afloat on the surface of the water. It is therefore necessarily top-heavy. Long practice is required to manage it, and no tight rope dancer ever needed more steady nerve and skill of balance than this same savage kyaker. Yet in this frail craft he does not hesitate to ride seas which would swamp an ordinary boat, or to break through surf which may sweep completely over him. But he is used to hard battles, and in spite of every fortune he keeps himself upright."

At Pröven, Hayes endeavored to secure dogs, but owing to an epidemic among them he could obtain but six old ones and a lesser number of young ones. The chief trader, Mr. Hansen, however, kindly placed at his disposal his own team.

Upernavik was reached on the 12th and farewell letters were despatched by the Danish oil-boat then about to sail for Copenhagen.

While at this place, Gilson Caruthers, the boatswain and carpenter of the schooner, was found dead in his bunk. In arranging for his burial Dr. Hayes called upon the village pastor and thus describes the occurrence:

"I tapped at the door, and was ushered into a cozy little apartment by the oddest specimen of womankind that ever answered bell. She was a full-blown Esquimaux, with coppery complexion and black hair, which was twisted into a knot on the top of her head. She wore a jacket which extended to her waist, sealskin pantaloons and boots reaching above the knees, dyed scarlet, and embroidered in a manner that would astonish the girls of Dresden. The room was redolent of the fragrant rose and mignonette and heliotrope, which nestled in the sunlight under the snow-white curtains. A canary chirped on its perch above the door, a cat was purring

on the hearth rug, and an unmistakable gentleman put out a soft white hand to give me welcome. It was the Rev. Mr. Anton, missionary of the place. Mrs. Anton soon emerged from a snug little chamber adjoining. Her sister came in immediately afterward and we were soon grouped about a home-like table."

Leaving Upernavik, the little ship was soon sailing among a mighty host of lofty icebergs, more than five hundred of which Dr. Hayes counted as the expedition proceeded northward.

On August 23d Melville Bay was entered and found clear of ice. It was crossed in fifty-five hours. On its north shore, at a point a little east of Cape York, was found Hans Hendricks of Dr. Kane's expedition. Having married a young woman of this northernmost tribe of Eskimos, he had continued to live among them. He now, together with his wife and child, accompanied Dr. Hayes towards the old headquarters of the "Advance" in 1853-55.

On the 28th, Cape Alexander, at the entrance to Smith Sound, was passed. Here, in a furious gale, the ship was greatly injured, but ultimately found security in Hartstene Bay, at a point eight miles northeast of the cape.

While the vessel was being repaired, Dr. Hayes and Mr. Dodge, the mate, made a whale-boat excursion to Littleton Island, latitude  $78^{\circ} 20'$ . Its solitary inhabitant, a reindeer, was killed by Mr. Dodge.

Meanwhile, Hans and the interpreter each killed two more deer in the vicinity of the ship. Upon his return, Dr. Hayes decided to establish himself in winter-quarters, naming the harbor

#### PORT FOULKE.

in grateful remembrance of his friend and patron, Mr. William Parker Foulke, of Philadelphia.

Hunting parties were now sent out and an abundant supply of foxes, hares, and reindeer secured. Mr. August Sonntag, the astronomer, and second in command of the expedition,

busied himself in the meantime with meteorological and magnetic observations, and pendulum experiments.

In October, Dr. Hayes and Mr. Sonntag examined and surveyed

"MY BROTHER JOHN'S GLACIER,"

discovered and named by Dr. Kane in honor of his brother, Mr. John P. Kane, who died in 1886. When on this trip, Dr. Hayes fell in with a drove of one hundred reindeer, he and his driver each killing two.

During their absence three of the men at the ship killed seventeen more of the same kind of game.

About this time was celebrated the birthday of Mr. McCormick, the sailing-master. A big "dinner" was served on the occasion. Similar proceedings were had on other like days as tending to promote contentment and good fellowship among the men.

From the 22d to the 27th of October Dr. Hayes was engaged in further explorations of Brother John's Glacier. He advanced upon it to a point seventy miles from the ship and at an elevation of five thousand feet above sea-level. Here the thermometer registered  $-34^{\circ}$ , but upon returning to the ship it was ascertained that the temperature had not been lower than  $-12^{\circ}$ .

Meanwhile, Sonntag had determined the distance from headquarters to Cape Isabella to be thirty-one miles, and to Cape Sabine, latitude  $78^{\circ} 45'$ , the easternmost point of Ellesmere Land, forty-two miles. By October 28th the following comprised the list of game obtained:

Ptarmigans, 1; auks, 6; dovekies, 8; eider ducks, 14; foxes, 21; hares, 12; seals, 1; reindeer, 74, besides 24 deposited in cachés.

In November appeared the first number of the "Port Foulke Weekly News." It originated at the suggestion of the commander, and its advent was duly celebrated. Mr. George F. Knorr, but eighteen years of age and Dr. Hayes' private secre-

tary, was selected as the "orator of the day." His address was as follows:

"FELLOW-CITIZENS:—

"Called by the unanimous voice of this unenlightened community to inaugurate the new era which has dawned upon a benighted region, it is my happy privilege to announce that we have, at the cost of much time, labor and means, supplied a want which has too long been felt by the people of Port Foulke. We are, fellow-citizens, no longer without that inalienable birthright of every American citizen—a free press and exponent of public opinion. Overcome with the gravity of my situation I feel myself unable to make you a speech befitting the solemnity and importance of the occasion. It is proper, however, that I should state, in behalf of myself and my Bohemian brother (Henry W. Dodge, the mate and editor-in-chief), that, in observance of a time-honored custom, we will keep our opinions for ourselves and our arguments for the public. The inhabitants of Port Foulke desire the speedy return of the sun; we will advocate and urge it. They wish light; we will address ourselves to the celestial orbs and point out the opportunities for reciprocity. \* \* \*

"Fellow-citizens, this is a memorable epoch in the history of Port Foulke. We are informed that its original name is Aunyeiqueipablaïtah, which means—after it is pronounced—'The Place of the Howling Winds,' \* \* \* on the remotest confines of our widespread country—a country, fellow-citizens, whose vast sides are bathed by the illimitable ocean. \* \* \* It now devolves upon us to bring the vexed question of national boundaries to a point—to a point, sirs. We must carry it to the pole itself, and there, sirs, we will nail the Stars and Stripes, and our flag-staff will become the spindle of the world, and the universal Yankee nation will go whirling round it like a top.

"Fellow-citizens and friends, in conclusion allow me to propose a sentiment befitting the occasion, A free press, and the universal Yankee nation. May the former continue in time to come as in times gone by, the hand maiden of liberty, and the

emblem of progress; and may the latter absorb 'all creation,' and become the grand celestial whirligig."

During the first three weeks in December twenty-seven of the thirty-six dogs died of the same disease that had decimated the packs in South Greenland.

During the period of Arctic night, the stars shone with almost equal brightness at all hours. Says Hayes:

"The moon, from its rising to its setting, shines continually, circling round the horizon, never setting until it has run its ten days of brightness; and it shines with a brilliancy which one will hardly observe elsewhere. The uniform whiteness of the landscape, and the general clearness of the atmosphere, add to the illumination of its rays, and one may see to read by its light with ease. The natives often use it as they do the sun, to guide their nomadic life, and to lead them to their hunting grounds."

On the 6th of January there were two brilliant auroral displays. By the middle of the month the snow-fall had increased to 53 3-4 inches.

#### A SAD OCCURRENCE

is now to be noted. Mr. Sonntag and Hans having set out on a journey on the 21st, news was brought back, eight days later, that Sonntag had fallen into the sea through a crack in the ice, and although rescued and vigorously rubbed by Hans, he became so thoroughly chilled that he died in the course of twenty-four hours.

Of this young man, his commander writes:

"Sonntag's familiar acquaintance with the physical sciences, and his earnest enthusiasm in everything that appertained to physical research, both in the field and study, made him an invaluable aid, while his genial disposition, and manly qualities gave him a deep hold upon my affections. Similarity of taste and disposition, equal age, a common object, and a mutual dependence for companionship, had cemented more and more closely a bond of friendship which had its origin in the dangers and fortunes of travel."



Early in March, Mr. Dodge, Hans, and Ka-lu-tu-nah brought back the remains of the unfortunate young man and they were then interred in the terrace of the observatory which he loved so well. The place was marked by the chiseled inscription:

"AUGUST SONNTAG,

died December 28, 1860, aged 28 years."

At Albany, New York, in the Dudley Observatory, hangs a portrait of the young scientist, and beneath it appear the following words:

"Perished in the ice at Port Foulke, latitude 78° 17' 14" north, December 28, 1860."

During the latter part of March the entire party were engaged in advancing supplies to Cairn Point, at the northeast angle of Smith Sound, or Strait, with Kane Sea. Here were found the cairn and records left by Lieutenant Hartstene on the 16th of August, 1855, when on the search for Dr. Kane.

From this headland the party bore northwest across Kane Sea, toward Grinnell Land. The route was an exceedingly rough one, over broken ice, and through great snow-filled spaces. Mr. Dodge likened the journey to an attempt "to cross New York over the house tops." A vast

#### PA-LE-O-CRYS-TIC ICE FLOE,

six miles long and four wide, elevated on an average twenty feet above the surface of the water and extending one hundred forty feet below, was met with. It was estimated to weigh six billion tons—a mere fragment, modern Arctic intelligence assumes, of the vast pa-le-o-crys-tic ice world, which extends over the "Open Polar Sea" of by-gone theories.

On April 28th, when half way across the sea, Hayes sent back all the men except Knorr, Jensen, and McDonald. With these and two sledges bearing eight hundred pounds of provisions drawn by fourteen dogs, he pushed on to

#### CAPE HAWKS,

eighty miles from Port Foulke. Here Jensen became disabled and was obliged to ride upon the sledge, Hayes, Knorr, and Mc-

Donald harnessing themselves to the sledge to assist the dogs.

In the vicinity of Gould Bay numerous traces of Eskimo encampments were observed.

On the 15th of May Jensen became completely disabled through additional injury to a leg that had once been broken. McDonald was left to take care of him, while Hayes and Knorr proceeded.

The coast-line was now one lofty rock-wall of scowling silurian rock. Contemplating his surroundings, Hayes writes:

"As the eye wandered from peak to peak of the mountains as they rose one above the other, and rested upon the dark and frost-degraded cliffs, and followed along the ice-foot, and overlooked the sea, and saw in every object the silent forces of nature moving on through the gloom of winter and the sparkle of summer, now, as they had moved for countless ages, unobserved save by the eye of God alone, I felt how puny indeed are all men's works and efforts; and when I sought for some token of living thing, some track of wild beast—a fox, or bear, or reindeer—which had elsewhere always crossed me on my journeyings, and saw nothing but two feeble men and our struggling dogs, it seemed indeed as if the Almighty had frowned upon the hills and seas."

Finally, on the 19th, Dr. Hayes ascended a cliff eight hundred feet high, overlooking Kennedy Channel on the east and a great bay, or fiord, on the north. He says:

"Standing against the dark sky at the north, there was seen in dim outline the white sloping summit of a noble headland—the most northern known land upon the globe. I judged it to be in latitude  $82^{\circ} 30'$ , or 450 miles from the North Pole. Nearer, another bold cape stood forth; and nearer still the headland for which I had been steering my course the day before rose majestically from the sea, as if pushing up into the very skies a lofty mountain peak, upon which the winter had dropped its diadem of snows. There was no land visible except the coast upon which I stood. The sea beneath me was a mottled sheet of white and dark patches, these latter being either soft, decaying ice, or places where the ice had wholly

disappeared. To proceed farther north was of course impossible."

The most distant north point visible he named Cape Union, while that upon which he stood was designated Cape Lieber. The bay at his feet was called after Lady Franklin. He also named the Peterman Fiord and Carl Ritter and Scoresby bays. At Cape Lieber Hayes planted the

#### STARS AND STRIPES,

besides the flags of various patrons of the expedition, and deposited within a cairn the following record:

"This point, the most northern land that has ever been reached, was visited by the undersigned May 18, 19, 1861, accompanied by George F. Knorr, traveling with a dog sledge. We arrived here, after a toilsome march of forty-six days from my winter harbor, near Cape Alexander, at the mouth of Smith Sound. My observations place us in latitude  $81^{\circ} 35'$ , longitude  $70^{\circ} 30'$  west. Our further progress was stopped by rotten ice and cracks. Kennedy Channel appears to expand into the polar basin; and, satisfied that it is navigable, at least during the months of July, August and September, I go hence to my winter harbor, to make another trial to get through Smith Sound with my vessel, after the ice breaks up this summer."

Well can the writer, from the personal bitter experience of April 10, 1894, when in company with Lieutenant Peary, and Comrades Enrikin and Clark, on the ice cap of North Greenland, appreciate the feelings of Dr. Hayes when he adds:

"Then our faces were turned homeward, but I quit the place with reluctance."

The 3d of June found the explorers again on board the ship.

Hayes was now of the firm conviction that, could he get the vessel to the latitude attained by sledge, during the same summer, he would, in the course of the next year, be able to journey to the pole itself.

Upon examination the schooner was found to be unsafe for the hazardous undertaking, and after a vain attempt to pass

through the ice north of Cape Isabella, on the west coast, she sailed southward and entered Whale Sound.

#### CAPE ISABELLA

is described by Hayes as being "a ragged mass of Plutonic rock, looking as if it had been turned out of nature's laboratory unfinished, and pushed up from the sea while it was yet hot, to crack and crumble to pieces in the cold air. Its surface is barren to the last degree; immense chasms or canyons cross it in all directions, in which there was not the remotest trace of vegetation—great yawning depths with jagged beds and crumbling sides—sunless as the cimmerican caverns of Averno."

Ten miles south of the cape were discovered traces of a recent Eskimo encampment.

In Whale Sound, Hayes named various islands, capes, and bays, and in particular Tyndall Glacier and Inglefield Gulf.

Sailing thence, the "United States" reached Boston October 21st, 1861, having been absent fifteen and a half months.

Dr. Hayes then entered the government service as a volunteer and was assigned to duty as an army surgeon. He died in 1881, in the fiftieth year of his age.



FUNERAL OF CAPTAIN HALL, NOV. 12, 1861.

## CHAPTER XXXI.

## HALL'S FIRST EXPEDITION.

An obscure correspondent for a Cincinnati paper and the son of a poor blacksmith, Charles Francis Hall longed to know more concerning the fate or fortune of Franklin and his men, as well as more concerning the deep mysteries of the polar world. He believed that some of the long-lost men were still to be found in King William's Land.

Divulging his plans to a few intimate friends and admirers in Cincinnati, he afterwards received aid, indorsements, and letters of introduction from such men as Senator Chase, Governor Dennison, Mayor Bishop, Miles Greenwood, and others.

Shortly after making known his plans, he received the following letter from the

## GENEROUS FIRM

of Williams & Havens, New London, Conn.:

"Charles Francis Hall:

"Dear Sir—As a testimonial of our personal regard and the interest we feel in the proposed expedition, we will convey it and its required outfit, boats, sledges, provisions, instruments, etc., free of charge, in the barque 'George Henry,' to Northumberland Inlet, and whenever desired we will give the same free passage home in our ships."

The offer was accepted, as also that of Mr. G. W. Rogers, of New London, who rebuilt the old "Rescue"—a smaller boat—as a consort to the "George Henry."

In his preparations Mr. Hall was steadfastly aided by the wise counsel of Mr. Henry Grinnell—in spite of harping critics, limited means, and the ill success of previous expeditions.

Soon letters of encouragement and more substantial tokens

of regard began to pour in. But funds were still lacking, and the determined Hall presented his cause to individuals, to scientific and to geographical societies—in fact wherever a dollar or other encouragement was to be obtained there he urged the cause of science and humanity.

Finally, about the 1st of June, 1860, both vessels sailed from New London, Captain Sydney O. Buddington, a veteran Arctic sea officer, commanding. Thirty-one comprised the number of persons on board both ships, including Mr. Hall and an Eskimo interpreter named Kud-la-go, who had accompanied Captain Buddington from the Cumberland Island region the previous season. All except Mr. Hall were experienced sailors, and for several days he alone was afflicted with sea-sickness.

On June 21st, Hall noted the sudden falling of the thermometer and predicted the near approach to an iceberg. The idea was laughed at by the captain, and an old sailor, who maintained that ice was not to be expected so soon. But Hall persisted with scientific reason and soon had the satisfaction of beholding a majestic berg rising 150 feet above the surface of the water. Others of all shapes and sizes were soon met with.

About midnight of the 26th, Mr. Hall observed the "Northern Lights"—not the Aurora Borealis, an electrical display, but

#### A BLAZE OF GLORY

all along the northern horizon, reflected by the sun, long since set.

The next morning, the Danish trading-ship "Marianne" was spoken. She had been on her annual voyage to Greenland and was now returning to her native port. This was the vessel, it will be remembered, upon which Dr. Kane had embarked after his perilous retreat from the "Advance," just as Lieutenant Hartstene arrived for his relief.

Somewhat later, Kud-la-go died of a severe cold caught while in Connecticut and was buried at sea. Mr. Hall conducted the religious services.

On July 7th the vessels anchored in the beautiful harbor of Holsteinberg, Greenland, where Mr. Hall was given a hearty welcome by the kind-hearted Danish Governor, Mr. Ehlberg. The Governor was daily expecting the arrival of his wife and child from Copenhagen, when the news came that the vessel had been wrecked and his loved ones lost.

Mr. Hall learned that there were but ten Europeans in Holsteinberg and about 250 in all Greenland. Among those at Holsteinberg were the pastor and two school teachers. He noted the advancement of morals and intelligence among the natives and that the boys and girls had been taught to read and write with remarkable proficiency.

The ships remaining here nearly two weeks and a half, the voyagers attended divine worship, schools, and dances. Finally, to celebrate the departure of the vessels, a

#### GRAND BALL

was given on deck, the natives attending en masse. Before leaving, the visitors sang several Danish church hymns.

Again sailing on July 24th, the ships were soon in the midst of Baffin's Bay, headed toward Northumberland Inlet.

By the laws of reflection and refraction, mountains visible along the coast at a distance of from seventy-five to one hundred miles, appeared raised high above the horizon, below which, by reason of the rotundity of the earth, they were in reality concealed; icebergs were made to stand as though inverted upon their apexes; verdant islands floated among the clouds; the rising moon appeared shattered and distorted, while the sea itself fell in ice-burdened swells in the thus strangely pictured sky.

On the 8th of August both vessels were again at anchor, in Grinnell Bay, Northumberland Inlet, in company with the "Black Eagle," a whaling vessel, Captain Allen. Here were numerous Eskimos whom Hall found to be scrupulously honest. Among them were the wife and little daughter of Kud-la-go. Both, upon hearing of his death, were greatly grieved. Poor Kud-la-go thought a great deal of his wife and child, and

had filled a chest with many bright-colored presents for them. As soon as this little girl, Kim-mi-loo by name, came aboard, Mr. Hall and Captain Buddington had her dressed in American costume. Her hair was combed for the first time, and when deprived of blubber, moss, and the hair of the seal and the reindeer, it fell in graceful black tresses about her shoulders. She was then washed, after which a more beautiful child could not be found anywhere. Rosy cheeks, red lips of exquisite outline, eyes of blue, and hair of jet black—what more could beauty possess?

When clad in a red dress with frills and furbelows, and provided with numerous brass finger rings, her Eskimo relatives laughed, shouted, and jumped about in great delight.

Another interesting character was

"BLIND GEORGE,"

or Pan-loo-yah in the Eskimo language. An expert with the needle he would seize the eye-end between the teeth, the thread having been placed upon the tip of the tongue, and then bring one end of the thread so as to pass through the eye of the needle, all by a skillful movement of the tongue.

The tribe were very eager to become acquainted with the American language and manners.

August 17th Hall's ship was in Nu-gum-mi-uke Bay, where she remained four days, whaling, while Mr. Hall devoted his attention personally to a study of the natives and visited some of the islands in the bay. On the 22d, anchor was cast in a small arm of Frobisher Strait, or rather Bay. This harbor was called Chappel Inlet, in honor of Mr. Richard H. Chappel, of New London. Upon landing, it was found that they were separated from the waters just left by a narrow strip of land about a mile wide and so low that high tides would probably cover it. Here were found many fossils. From Morgan's Hill a fine view was had of the so-called Frobisher's Strait, a beautiful body of water sailed upon by Frobisher two hundred eighty-two years before.

Forty miles beyond appeared the snow-capped shore named



by Queen Elizabeth, *Meta Incognita*. Later, this land was visited and found to be a vast glacier, which was named after Mr. Henry Grinnell. It was also ascertained that this long strip of water was not a strait, but a bay.

On August 23d many of the natives visited the ship, among them being *Kok-er-zhun*, the eldest daughter of *Kud-la-go*. Here she learned for the first time of her father's death and was deeply affected.

On the 24th, a native drew a chart of Northumberland Inlet, Bear Sound, and contiguous lands, and all asserted that the only water communication to Fox Channel was by way of Hudson's Strait. Six days later an island was visited upon which were fifty deserted huts, the natives then living in snow igloos. Here was observed a sledge having runners of one and a half inch plank, ten feet long and shod with the jawbone of a whale.

A chief article of diet was whale meat, the skin being especially prized, great pieces of which were bolted almost whole. This meat is declared by Hall to be "as white and delicious as the breast of a Thanksgiving turkey."

On September 5th, while on Lookout Island, a piece of iron ore weighing nineteen pounds was found. It was a relic of the Frobisher expedition.

On the night of September 27th a furious gale bore down upon the vessels and notwithstanding that the anchors were cast they were driven along directly towards the rocks.

The row-boat, Mr. Hall's main dependence for his future journey towards King William's Land, was instantly destroyed, and the "Rescue" left to pound herself to pieces upon her broadsides. The whaling vessel "*Georgiana*," under Captain Tyson, fortunately rounded a point in safety and soon afterwards secured herself in winter quarters in Northumberland Inlet.

During October and November Mr. Hall carefully studied the auroral displays, many of which were exceedingly brilliant.

On the 13th of October he was much surprised at the arrival of the steamer "*True Love*," Captain Parker, and the

sailing vessel "Lady Celia," Captain Parker's son. Mr. Hall visited Captain Parker and learned that he was then sixty-nine years of age and that he had been a constant visitor to the Arctic regions for forty-five years. His vessel was then a century old, having been built in Philadelphia, and had taken part in many of the search expeditions.

On November 2d, Mr. Hall was equally surprised to meet with Too-koo-li-too, an Eskimo woman, dressed in European costume and speaking fluently the English language. Her husband, E-bier-bing, could also speak English, but less readily. Both had spent twenty months in England. Their tent was found very home-like and comfortable, and in it when seen sat Too-koo-li-too knitting a pair of socks for her husband.

This interesting Eskimo woman had taught to her neighbors many European habits and customs. She, however, complained that many of the whalers were bad men, and in particular of the Americans, who swore more and worse than the Englishmen.

On the 6th of December the "George Henry" was secured in the ice for winter. On the 8th, the thermometer stood at zero, and on the next day fifteen degrees lower. The Eskimos now arrived at the ship in great numbers and exchanged heavy fur garments for knives and other useful articles.

On the 19th the thermometer stood at  $-20^{\circ}$ , the barometer at 30.175, with no wind. The weather did not seem colder than at freezing. The next day the thermometer registered  $-5^{\circ}$ , but at midnight  $14^{\circ}$ , rising during the day to  $21^{\circ}$ , the bay becoming almost clear of ice. Rain fell during the night, the thermometer standing by the following morning at  $32\frac{1}{2}^{\circ}$ , or half a degree above the melting point. The snow huts of the natives vanished, and the rain prevented them from catching seals. For the time being, destitution prevailed among these people, but their wants were supplied from the ship. On the 30th the thermometer again touched the zero mark, and six days later  $28^{\circ}$  below, the bay being again frozen over.

About this time it was discovered that the natives treat their sick with great cruelty—seemingly the result of custom

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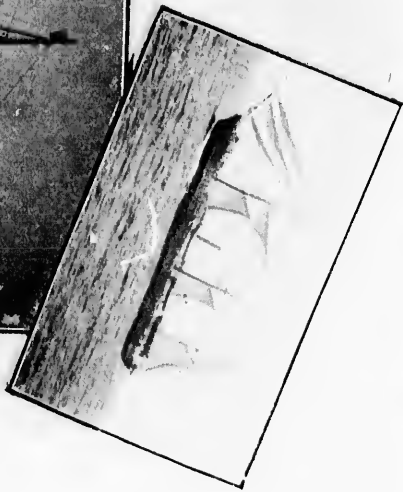
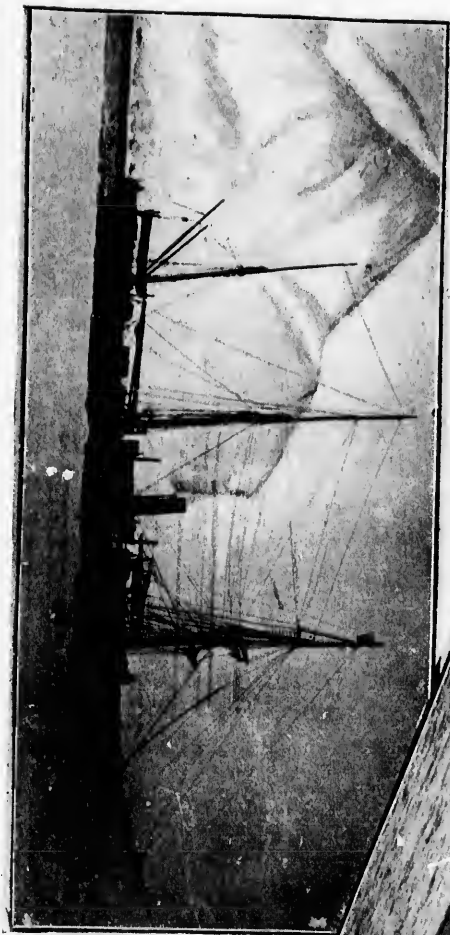
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Musk Calves Captured at Fort Conger. Pressed Up Floe-Ice.  
(See Chapter XI.)



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and not of a desire to torture. When at the point of death, the body is taken over the shoulder much as a person would carry a gun, and conveyed to a shallow grave dug in the snow and ice and there deposited, being covered with the material removed and with stones if at hand.

During January and February, Mr. Hall made trips to Cornelius Grinnell Bay and to Clark's Harbor, living meanwhile in native huts and upon native diet.

Upon returning to the ship, he found Messrs. Brown and Bruce sick of the scurvy, but soon sent them to live with the natives, believing that a diet of fresh meat would cure them.

Early in March a shot was fired at a reindeer, but without effect. The dogs then gave pursuit, one of them returning somewhat later, covered with blood. Search was therefore made and a fine deer soon found lying dead with its jugular vein and wind-pipe cut.

On the 17th, Brown started with some natives to return to the ship. His companions stopping to cache some provisions, he became irritated at the delay and, against every persuasion, started on alone. The next day his frozen body was found lying beside an iceberg seventeen miles from the ship. A little later, Bruce nearly met the same fate, his life having been barely saved by the utmost exertions of an Eskimo woman.

From April 22d to September 27th, Mr. Hall was engaged in the exploration of the region in and about Frobisher's Bay. At Cooper's Island he talked with an Eskimo woman who said that she had seen upon Ni-onn-te-lik Island, coal, bricks, and pieces of timber, and that when a little girl, she had heard, from the aged of her people, that strange ships had visited these regions and that some of the Eskimos were killed and others stolen by the people on board these vessels. She also said that five white men were captured by the natives, but that they afterwards built a large boat having masts and sails and effected their escape.

During his journeys, Hall observed great numbers of ducks,

rabbits, reindeer, seals, and bears. On one trip of ten days' duration, his party secured

9 seals (puisses) weighing.....	1800 lbs.
1 ooksook (largest seal) weighing.....	1500 lbs.
1 polar bear weighing.....	1000 lbs.
Total weighing .....	4300 lbs.

In August the party, while on Oo-pung-ue-wing Island, were greatly annoyed by mosquitoes. This was in latitude 63°, longitude 65°.

On Ni-o-au-te-lik Island more coal was found, remnants of what were left by Frobisher in 1578. On Iron Mountain, the rocks of which bore an oxidized appearance, was found a fine piece of live oak timber, doubtless a part of some wreck, and various Eskimo monumental marks. At Jones' Cape were found remarkably fine ones, one of them being six feet high and in the shape of a cross. On the summit of the mountain was found a great quantity of limestone.

Still later, a native was met who had seen, when a boy, pieces of iron, brick, and coal. At Cape Stevens were found shells and fossils.

On August 23d a fresh water stream was discovered and named Sylvia Grinnell River. It was fairly alive with salmon, and reindeer abounded in the vicinity.

A week later Hall landed upon and named Bishop's Island, from which could be seen the entire head of the bay, fourteen miles wide and a region of singular beauty. It was therefore very appropriately named in honor of Hall's friend, Greenwood Land. In this region, too, was discovered Jordan's River, on one side of which was a limestone mount half a mile long, one hundred feet high, and containing marine fossils.

On September 20th, when journeying toward headquarters, and upon Bishop's Island, one of the Eskimos thought that he had discovered gold, but the specimen was found to be spurious. Doubtless the lesson of Frobisher's day was recalled by Mr. Hall on this occasion and made him duly cautious.

A trench one hundred and ten feet long and sloping from

the surface of a rock to a depth of twenty-five feet at the water's edge, was also found, in which, the Eskimos said, a ship had been built by white men. On the top of this island were the ruins of a stone house, cemented with lime. It was twelve feet in diameter and coated thick with moss. Hard by was a sort of stone breastwork and a pile of stones, all doubtless indicating the work of some of Frobisher's men.

Near Cape Tik-koon was picked up a piece of iron, time-eaten and weighing fifteen or twenty pounds. On the next day more coal was found, and on Ni-o-nu-te-lik Island still another deposit was discovered, beneath an overgrowth of grasses, shrubs, and mosses. Hall believed this to be the landing place of Frobisher. Besides these relics, another piece of iron weighing twenty pounds and semi-spherical in shape, fragments of tile, etc., were found.

By September 27th Hall was again on board the "George Henry," the ensuing winter being spent living among the Eskimos and on the ship.

On the following 1st of April, Mr. Hall once more began his explorations, the most notable locality investigated being that of Grinnell Glacier, which was estimated to be one hundred miles in length.

Early in June a piece of brick and a musket ball were obtained from an Eskimo, who said that the ball was found before his people knew anything of the use of firearms.

Mr. Hall's expedition returned to New London, September 13, 1862, after an absence of two years, three and a half months. He was accompanied by E-bier-bing and Too-koo-li-too, the celebrated "Joe" and "Hannah" of his after voyages.

## CHAPTER XXXII.

## HALL'S SECOND EXPEDITION.

Hardly had the "George Henry" returned than plans for Mr. Hall's second expedition became public property.

Burning with intense desire for further exploration, he thus addresses Mr. Cist, a Saint Louis friend:

"My third voyage to the Arctic regions will be (D. V.) for discovery, to the northern axis of the great globe." This was even before the second voyage had been undertaken, and illustrates the far-reaching purpose of this grand man. "D. V.," *Deo volente*, or by the will of God, he says, and enters upon the great and important undertaking with a firm reliance upon a superhuman power for guidance. With

## UNFLAGGING ZEAL

he persevered in raising the necessary funds until, on June 30th, 1864, his little party sailed from New London, on the bark "Monticello," free transportation being furnished the explorers by the owner of the vessel, Mr. R. H. Chappell.

On the 20th of August, Mr. Hall was landed with his stores on Depot Island, to the southwest of the southern entrance to Roe's Welcome. A little later, Mr. Hall, Joe, Hannah, and a white man hired from the whaler, arrived at Whale Point, on the west coast of the Welcome. Here began the long residence among the natives, Hall assiduously applying himself to their customs, language, and traditions. He soon learned that some of Franklin's party had a conflict with a tribe of hostile Indians, and that later all the whites, except Captain Crozier and three companions, starved. When first seen, "Crozier was thin, but his three companions were very fat."



They had passed the ensuing winter with the very natives with whom Hall was then beginning his abode, and in the following spring Crozier and his men started south for the purpose of reaching the settlements of the Hudson's Bay Company, Crozier and one companion actually arriving among the Eskimos of Chesterfield Inlet.

The first winter in these regions over, Hall thus writes in his journal:

"April 14, 1865.—We are nearly all ready for the proposed removal. North, north, farther and farther north, I long to get. Though the locality of King William's Land is all I aspire to on this present journey, yet I never will be satisfied in voyaging and traveling in the Arctic regions until I shall reach that spot of this great and glorious orb of God's creation where there is no north, no east, no west. Of course, that mundane point is the one nearly under Polaris."

By September of this year Hall's party reached Fort Hope, at the head of Repulse Bay, where the winter was spent among the natives. Here an oven erected by Rae in 1845 was used as a store-house.

In the following spring Hall writes:

"March 4, 1866.—The end will soon be, I trust, when I shall have done what I came to this country to do, and then may God grant me the opportunity and the proper means to make my way to the north extreme of His glorious earth."

On the 31st of the month he started with the Eskimos for King William's Land, traveling by way of the chain of lakes connecting Repulse Bay with Committee Bay, called by the natives sea of "Ak-koo-lee."

When six miles above Cape Weynton, latitude 68°, on the west coast of Committee Bay, Hall met natives who had silver spoons given them by Captain Crozier, stamped "F. R. M. C." At this point, his Eskimo companions became alarmed at reports concerning hostile tribes beyond and would proceed no farther. He was therefore compelled to return to his encampment at the head of Repulse Bay, "disappointed, but not discouraged," as he says in his journal. The summer was

spent in the exploration of Repulse Bay, his party subsisting meanwhile by hunting and salmon fishing. A whale was also killed, the bone of which later became a source of considerable profit and assisted in defraying the expenses of the expedition.

During the winter a number of whaling vessels remained in the bay, and Hall held frequent intercourse with them. From them he hired five men to assist him in his future work.

During the spring of 1867 he made a sledge journey to Ig-loo-lik, where he spent a month in surveying the region about Parry's winter quarters of 1821-2-3. He also secured a number of dogs from the natives.

On the 23d of March, 1868, with Joe, Hannah, and a white companion, he again started on a journey, proceeding by nearly the route previously traveled. In latitude  $68^{\circ} 45'$ , longitude  $82^{\circ}$ , he discovered a lake about twenty-five miles in length. In it were found several species of fish. Among these were salmon, some of which measured six feet in length.

Advancing to a point on the mainland almost due west from Ig-loo-lik, he struck the mouth of Crozier River. Ascending this stream he found it to be an outlet of a lake about fifty miles in length and running parallel with the Fury and Hecla Strait. He applied to it the name of Grinnell. At the western end of this lake was discovered another outlet, which, flowing westward, empties into the Gulf of Boothia near the west end of the strait. Upon this stream Hall gratefully bestowed the name of his accomplished friend and admirer, Mr. J. Carson Brevoort, president of the Long Island Historical Society.

Following the coast south from the mouth of this river to Cape Crozier he came upon the monument which the natives had told him had been erected by some white men. Deep snow prevented his searching for records and he therefore again turned northward, carefully surveying the coast to the entrance to Fury and Hecla Strait. This part of the coast had never before been explored and its delineation at this time may be said to have completed the mapping of the north coast-line of the American mainland.

Passing thence to Gifford River, to the northeast of the east entrance to the strait, other relics of white men were found.

Returning to headquarters towards the close of June, Hall spent the remainder of the summer in laying in supplies for the following year, and in making surveys around Lyon's Inlet. By this means Parry's chart was corrected and a new inlet placed upon the map.

The ensuing winter was spent as usual among the Eskimos, of whom there were at least one hundred twenty-two in the encampment. Food was plentiful, and Hall appears to have been in a happy and resolute frame of mind, notwithstanding the white men had declined to renew their term of service with him. He writes:

"February 16, 1869.—I must (Deo volente) do up all my work for which I came into this country this spring and coming summer, for I long to return to America, to prepare at once for my expedition to the North Pole. Night and day, day and night, weeks, months and years, find my heart and purposes fixed, without a shadow of wavering, on making that voyage. May Heaven spare my life to perform it."

Again following the chain of lakes to Committee Bay he arrived on the 2d of April near Cape Weynton, where he found his caché undisturbed, but some of the provisions damaged from exposure.

A week later he reached the ice of Pelly Bay. Here the natives showed him many articles belonging to the Franklin expedition.

Traveling thence almost due west he was fortunate in killing musk-oxen and reindeer, and arrived in the vicinity of King William's Land about the 1st of May. Here he found other relics of the Franklin party and learned from the Eskimos that one of Franklin's ships had been abandoned and that it drifted southward to O'Reilly's Island, in Wilmot and Crampton Bay, off the west coast of Adelaide Peninsula, where it was visited by some of the natives, who were convinced that some white men had passed a winter in the ship at that place.

From the wreck the natives had obtained a large quantity of wood, and, upon breaking into the cabin of the ship had there found the body of a very large man—dead. The ship was afterwards broken up by the ice, and sank.

Hall became convinced that he knew where were to be found the bodies of seventy-nine of the unfortunate men, and accordingly visited Todd's Island, and the shores of King William's Land.

He succeeded in finding many relics and human bones in several places. One skeleton was found entire, and this, Hall brought home and placed in the custody of an English official. Over the remains of the other bodies he erected monuments, and fired salutes in their memory.

The Eskimos of Shepherd's Bay reported that they had seen Crozier and a party of forty-five men just above Cape Herschel in July, 1848; that to the whites they gave meat; that they erected a tent in which they lay down to sleep; that when the white men were yet asleep the natives departed; and that in the following spring all the dead bodies of the men except that of Crozier were found.

Hall then returned to headquarters, killing on the way, two seals, eighteen reindeer, and seventy-nine musk-oxen.

On the 26th of August, he embarked on the whaler "Ansell Gibbs," Captain Fisher, and arrived at New Bedford just a month later. He was accompanied by Joe, Hannah, and their little adopted daughter. Free transportation was provided by Mr. J. Bourns, Jr., the proprietor of the vessel.

## CHAPTER XXXIII.

## GERMAN EXPEDITIONS.

Not to Americans nor to Englishmen alone has the subject of polar research been of absorbing interest. With characteristic enthusiasm and patriotic devotion the second German expedition to the east coast of Greenland was organized by representatives of her scientific devotees. This was immediately upon the return of the preliminary voyage of Captain Karl Koldewey, and Dr. Petermann, the eminent German geographer.

An appeal for funds and donations having been made to various towns of the Fatherland, liberal responses were at once received by those immediately connected with the organization of the expedition. The equipment was made complete and plentiful, every article having been carefully selected.

Even the King of Prussia showed a warm personal appreciation of the efforts of his subjects in the matter of pure sciences, and witnessed its departure from Bremerhaven on the 15th of June, 1869, in a manner at once indicative of a great mind and a kind heart.

The expedition vessels were two—the "Germania," named with just pride after the Fatherland, and the "Hansa."

Doctors Petermann and Breusing assisted greatly in the perfections of all plans pertaining to the contemplated voyage.

Captain Karl Koldewey, assisted by Lieutenant Julius Payer, were the very able chief officers, while Dr. Karl Börgen, Dr. R. Copeland, an Englishman of German education, and Dr. Panish, ship's surgeon, together with Lieutenant Payer, constituted the scientific corps on board the "Germania." On

board the "Hansa," Dr. Buchholtz, surgeon, and Dr. Gustavus Laube, of Vienna, represented the departments of ethnology, anthropology, and zoölogy.

The vessels kept in company till Jan Mayen Island was passed. At length, on the 15th of July, the

#### GREAT ICE BARRIER

off the east coast of Greenland was approached. Says Koldewey:

"Nearer and nearer comes the rushing noise. Every man is on deck; when, as with the touch of a magic wand, the mist divides, and a few hundred yards before us lies the ice, in long lines, like a deep indented rocky coast; with walls glittering blue, in the sun, and the foaming waves mounting high, with the top covered with blinding white snow. The eyes of all rested with amazement on this grand panorama; it was a glorious but serious moment, stirred as we were by new thoughts and feelings, by hopes and doubts, by bold and far-reaching expectations."

The ships having become separated came again together on the 18th, but, owing to a misunderstanding of signals, soon parted company never again to meet.

The "Hansa" experienced good weather till the 10th of August, but, four days later, became completely beset. Finally, land was seen ahead at the distance of about thirty-five miles, and a boat journey thither over the ice was contemplated.

At length, on the 19th of October, in latitude 71°, in anticipation of being compelled to abandon the "Hansa," all the articles of clothing, instruments, journals, fuel, provisions, medicines, etc., were deposited upon the ice-floe. A house was constructed of coal, and the ship's routine of daily life begun.

An occasional walrus was slain and the meat eaten to prevent scurvy, of which, however, not a trace was discernible.

#### SAD CHANGES

overtook the party in January. "On the 11th there were heavy storms from the northeast, with driving snow. At six

in the morning Hilderbrandt, who happened to have the watch, burst in with the alarm, 'All hands turn out!' An indescribable tumult was heard outside. With furs and knapsacks all rushed out. But the outer entrance was snowed up, so to gain the outside quickly we broke through the snow roof of the front hall. The tumult of the elements which met us there was beyond anything we had already experienced. Scarcely able to leave the spot, we stood huddled together for protection from the bad weather. Suddenly we heard, 'Water on the floe close by!' The floe surrounding us split up; a heavy sea arose. Our field began again to break up, on all sides. On the spot between our house and the piled up store of wood, which was about twenty-five paces distant, there suddenly opened a large gap. Washed by the powerful waves, it seemed as if the piece just broken off was about to fall upon us. \* \* \* We bade each other good-bye with a farewell shake of the hand, for the next moment we might go down. Deep despondency had taken hold of our scientific friends; the crew were quiet, but desperate. It was a miracle that just that part of the floe on which we stood should, from its soundness, hold together."

The house was utterly demolished and obliged them to construct a new one.

Thus they continued to drift, the 1st of May, 1870, finding them in latitude 61°, about seven hundred miles south of the point where the "Hansa" was abandoned. A month later, they arrived upon a small island called Il-lu-id-lek, upon which they hoped to find the descendants of the Eskimos mentioned as residing there by the old voyager Graah. Their search, however, was in vain.

Animal life there was scarce and shy. Finally, open water becoming more prevalent, they took to the boat and made for Frederichstahl, the nearest Danish port on the southwest coast of Greenland. Here, on the 13th of June, they were welcomed by their brethren, the open-hearted, self-sacrificing German missionaries of the Moravian brotherhood.

From this point they returned to Germany, arriving there via Copenhagen on the 3d of September.

Meanwhile, the "Germania" pursued a thrilling, yet successful career. She had searched in vain for the "Hansa," but had met with a whaling vessel, the "Bie-nen-korb," of Bremerhaven, by which letters were dispatched home. "On her deck, confined in a large cage, was a bear and her two cubs; fortunately for them, on board a whaler they were not likely to want for food. One would think that a creature so powerful and active could never be taken alive, but on its hunting expeditions among the drift-ice, it frequently trusts itself to the water, and here, in spite of its endurance, man is more active and clever, and with a well-managed boat, a lucky cast of the noose generally falls on the neck of the swimming bear, when, half-dragged and half-swimming, he is hoisted on deck like any other animal, the noose around its neck being a guarantee for its good behavior. On their return they are generally sold to some menagerie or zoölogical garden, the price of a full-grown bear being 100 thalers (75 American dollars)."

Proceeding, the "Germania" was headed much of the time against the strong northwest winds. These were varied by winds from the east, which drove the ice together upon the shore. Thus was her progress greatly retarded, and not until August 5th was her gallant crew able to plant the flag of Germany upon the East Greenland shore. This was upon one of the Pendulum Islands, visited by Clavering and Sabine, in 1823.

To the south of her position lay Sabine Island, and far to the north, Shannon Island. Both were ice locked and farther progress could not be made that season.

#### WINTER QUARTERS

were therefore established on Sabine Island. Thence research was conducted by sledge during their imprisonment in the ice.

The first of these exploring parties left the ship on the 14th of September. The sledge was drawn by Captain Kol-



dewey, Lieutenant Payer, Trauwitz, Krauschner, Kleutzner, and Ellinger, all of whom together dragged a sledge containing six hundred pounds burden. By them Fligely Fiord and Kuhn Island were carefully explored and surveyed. Says Dr. Copeland:

"The shore of the fiord was surrounded by beautiful mountain-chains—to the north gneiss—and granite cliffs at the foot of which were slopes covered with soft grassy vegetation; to the south rose ice-crowned rocks, the highest of which (we will call it Domberg) was certainly more than 3,900 feet high. Reindeer came from all sides of the strand in a state of wonder; but this time we withstood the desire to hunt, in order to lose no time. Only once was the journey interrupted by a slight topographical incident. A bear which came near us we frightened away by shooting, after which Kleutzner fell through the ice; he was pulled out, and had to cross a long, broad beach."

On Kuhn Island, Lieutenant Payer discovered a very light-colored stone, which, on the south side of the island, formed a solid mass of overhanging crystals at least two hundred feet high. Besides this he found

#### A BED OF COAL

alternating with strata of sandstone. Still later, other deposits of the carboniferous age were met with in large quantities, and thus an important factor in the future history of East Greenland was made known. The party traveled altogether one hundred thirty-three miles.

The only traces of natives found were a few skeletons and rude implements seen on Clavering Island, where, it will be recalled, Clavering had seen Eskimos in 1823.

The expedition not being supplied with dogs and reindeer, the labor of surveying and investigating the regions was very severe. Nevertheless, several degrees of the east coast of Greenland were accurately mapped.

The journeys made were varied almost constantly by thrill-

ing experiences with the animal life of the North, this being especially the case with

#### HUGE POLAR BEARS.

An incident in which Dr. Børgen nearly lost his life is thus detailed by Lieutenant Payer:

"We were sitting, fortunately silent, in the cabin, when Koldewey suddenly heard a faint cry for help. We all hurriedly tumbled up the companion-ladder to the deck, when an exclamation from Børgen, 'A bear is carrying me off,' struck painfully on our ears.

"It was quite dark; we could scarcely see anything, but we made directly for the quarter whence the cry proceeded, armed with poles, weapons, etc., over hummocks and drifts, when an alarm shot which we fired into the air seemed to make some impression, as the bear dropped his prey, and ran forward a few paces. He turned again, however, dragging his victim over the broken shore-ice, close to a field which stretched in a southerly direction. All depended upon our coming up with him before he should reach this field, as he would carry his prey over the open plain with the speed of a horse, and thus escape. We succeeded. The bear turned upon us for a moment, and then, scared by our continuous fire, let fall his prey.

"We lifted our poor comrade upon the ice to bear him to his cabin, a task which was rendered difficult by the slippery and uneven surface of the ice. But after we had gone a little way, Børgen implored us to make as much haste as possible. On procuring a light the coldest nature would have been shocked by the spectacle which poor Børgen presented. The bear had torn his scalp in several places, and he had received several injuries in other parts of his body. His clothes and hair were saturated with blood. We improvised a couch for him in the rear of our own cabin, as his own was not large enough.

"The first operation was performed upon him on the cabin table. And here we may briefly notice the singular fact that, although he had been carried more than one hundred paces

with his skull almost laid bare, at a temperature of  $-13^{\circ}$  Fahrenheit, his scalp healed so perfectly that not a portion was missing."

With characteristic zeal the scientific work was prosecuted by the German scholars. Actual contact with the land and sea life afforded opportunities of generalizing and particularizing upon the character, habits, and conditions of Northern animation.

In the hunt, however, great danger often attended their efforts. Thus is described an encounter with the walrus:

"If any creature deserves the name of monster, it is the walrus. It is from nine feet six inches to sixteen feet six inches in length, weighs about two thousand pounds, and its skin is three and a half inches thick (a sort of massive coat of mail), with large eye, and a head of infinite ugliness.

"Should one of these monsters see a boat, it raises itself, astonished, above the surface, utters at once a cry of alarm, swimming toward it as quickly as possible. This call brings up others, awakens the sleepers which the boat had carefully avoided, and in a short time the vessel is followed by a number of these monsters, blustering in apparent or real fury in all their hideousness.

"The creatures may possibly be only actuated by curiosity, but their manner of showing it is so ill-chosen that one feels obliged to act on the defensive. The bellowing, jerking and diving herd is now but a short distance from the boat. The first shot strikes, thus inflaming their wrath, and now begins a wild fight, in which some of the black sphinxes are struck with axes on the flippers with which they threaten to overturn the boat."

Once on the ice, however, the unwieldy monster is easily managed.

On the 1st of July the "Germania" became free of ice, and, after an examination of Shannon Island, directed her course homeward, arriving once more in the joyous Fatherland, after a voyage of but three weeks, on the 11th of September, 1870.

## CHAPTER XXXIV.

HALL'S LAST VOYAGE.—HIS DEATH.—MIRACULOUS  
PRESERVATION OF LIFE.

With feelings of intermingled sorrow and pleasure we now turn to Captain Hall's third expedition.

Upon the return from his second sojourn within the Arctic regions Hall labored for months in another project for more extended excursions. The following extracts illustrate his purpose of mind and heart:

Replying to Mr. A. B. Johnson, president of the Hamilton County (Ohio) Teachers' Institute, accepting an invitation to lecture before the Institute, he writes:

"Although the primary object of my voyage to the North has not been for geography, yet I have been enabled to make considerable advance in geographical discoveries. There is a great sad blot upon the present age, which ought to be wiped out, and this is the blank on our maps and artificial globes from about the parallel of 80° north up to the North Pole. I, for one, hang my head in shame, when I think how many thousands of years ago it was that God gave to man this beautiful world—the whole of it—to subdue, and yet that part of it which must be most interesting and glorious, at least so to me, remains as unknown to us as though it had never been created.  
\* \* \* Shortly, I expect to apply to our Government for its aid, feeling that the day has come when the great problem of ages on ages must be solved under the Stars and Stripes."

On the 8th of March, 1870, he thus addresses Mr. Grinnell:

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. Grinnell:

Cain Containing Greely Records:  
Launch "Lady Greely," Lady Franklin Bay.  
(See Chapter XL.)



Eskimo Kayakers.  
A Bit of Greenland Coast.



Distant View of Godhavn.  
Greely Relief Vessels North of the Most Western of the Duck Islands.  
Greenlanders Visit the "Bear" off Tessuisak.  
(See Chapter XL.)

"In three to five years, I doubt not, with the same aid and protection of high Heaven as on my two previous Arctic voyages, I would fully accomplish the determination of my burning soul, which determination, my dear Mr. Grinnell, you know to be to put my foot on the north extremity of the axis of the globe."

In writing to the Senate Committee on Foreign Relations he adds:

"Neither glory nor money has caused me to devote my very life and soul to Arctic exploration."

In his efforts to organize the expedition, Hall received the active support of President Grant, Senators John Sherman, Charles Sumner, and many others, and at length Congress came to his aid with an appropriation of \$50,000.

A schooner-rigged steamer, the "Periwinkle," rechristened the "Polaris," was then purchased and equipped for the voyage.

All-told, seventeen persons constituted the party, one-half of whom were Germans and Scandinavians. The chief personages were: Captain Hall, commander; Sydney O. Buntington, for thirty years in the whaling service, sailing master; George E. Tyson, assistant navigator; H. Chester, first mate; William Morton, twenty years previous Kane's best man, second mate; Emil Bessels, physician and director of scientific work; Emil Schuman, chief engineer; F. Meyer, meteorologist; R. D. W. Bryan, astronomer and chaplain; besides, Joe, Hannah, and their child, "Puny." To these were added in Greenland, Hans, hunter and interpreter of the Kane and Hayes expeditions, with his wife and three children.

Sailing from New York on June 29th, 1871, the "Polaris" arrived at

TES-SI-U-SAK,

Greenland, August 22d. This is the most northern permanent civilized settlement in the world and is in latitude 70° 39'. Steps had previously been made along the Greenland coast for the purpose of purchasing dogs, fur suits, and other Arctic supplies.

Leaving Tessiusak, the "Polaris" met with very little ice and entered the body of water thought by Kane, Morton, and Hayes to be an open polar sea, but which was found by Hall to be a mere expansion of Smith's Sound or Robeson Channel, and now known as Kane's Basin.

In a week's time the "Polaris" had attained her highest latitude,  $82^{\circ} 29'$ , according to Hall, but  $13'$ , or about fifteen miles, less, by Meyer's calculation.

Robeson Channel becoming filled with heavy ice, the "Polaris" was drifted southward, until, on the 3d of September, an indentation on the Greenland side was entered. It was named

#### THANK GOD HARBOR,

a cove of Polaris Bay, in latitude  $81^{\circ} 38'$ . Here winter quarters were established. This was two hundred miles north of Kane's headquarters, and about three miles farther north than the last point reached by Hayes. The "Polaris" was moored to a huge island of ice named Providenceberg.

On the 10th of October, Captain Hall, with Chester, Joe, and Hans, started on a trip north with two sledges and fourteen dogs. On the 13th, the long Arctic night set in, with a temperature of  $7^{\circ}$ .

Ten days after leaving the ship, the party reached the termination of their journey, in about latitude  $83^{\circ} 5'$ . They had covered a distance of seventy miles in six marches.

A point of land seemed to be visible still north of them, but the appearance of a cloud prevented a settlement of the question. Excepting a glacier in latitude  $80^{\circ} 30'$ , the mountains of Kennedy Channel and Robeson Strait appeared to be free from ice and snow.

Seals, ducks, geese, hares, lemmings, foxes, wolves, bears, ptarmigans, and musk-cattle were found in abundance.

Much of this journey was made over the ice of a bay, which Captain Hall named in honor of the celebrated Rev. J. P. Newman. The cape at the southern extremity of its mouth he



named Sumner Headland, as a slight token of his appreciation of the services of the great orator and statesman; to the one at its northern extremity, and near the last encampment, he applied the name of Mr. Brevoort. The strait into which the bay opens he named in honor of the Honorable Secretary of the United States Navy, George M. Robeson.

Having written a dispatch to Secretary Robeson, Hall deposited a copy of it at Cape Brevoort. This was the last ever penned by him.

Setting out upon the return, the "Polaris" was reached in four days. Captain Hall appeared to be in usual health, but the sudden change from open-air temperatures of  $-15^{\circ}$  and  $-20^{\circ}$  to  $60^{\circ}$  and  $70^{\circ}$  in the cabin had a bad effect upon him, and he partook of no refreshment except a cup of coffee.

After taking a hot sponge bath, he retired for the night.

In the morning he was much worse, suffering with a burning sensation in the throat, and with vomiting. He steadily grew worse for a week, became delirious and partially paralytic. He, however, nearly recovered and began to resume his work.

On the 8th of November he was found in his cabin by Mr. Tyson, insensible and breathing heavily. That same night he died.

#### A SHALLOW GRAVE

but twenty-six inches deep was dug with great difficulty in the frozen soil, and, at mid-day on the 10th of November, 1871, all that was mortal of the gallant Charles Francis Hall was laid to rest. Slowly and with deep sorrow the ship's company picked its way by the aid of lanterns to the lonely spot. Over the body, covered with the flag he loved so well, was read a Christian burial service; and then followed the doleful sound of the frozen clods as they struck upon the coffin, intermingled with lamentations of poor Joe and Hannah, to whom he had been as a father for more than ten years.

In July of the next year, the grave was marked by means

of a pine board one and a half inches thick, upon which was cut this inscription:

In memory of  
**CHARLES FRANCIS HALL,**  
 Late commander  
 U. S. Steamer *Polaris*, North Pole Expedition.

Died  
 Nov. 8, 1871. Aged 50 years.

"I am the resurrection and the life; he that believeth on me, though he were dead, yet shall he live."

The grave was also surrounded with stones enclosing a quantity of soil to which were transferred some plants.

Within the grave was also buried a cylinder containing a history of the expedition.

Four years later, the English expedition under Nares erected a more substantial monument in the same place to commemorate the services of him who had so long and so faithfully sought for further light regarding their countrymen.

It was a brass tablet prepared in England and bearing this inscription:

Sacred to the Memory of  
**CAPTAIN C. F. HALL,**  
 Of the U. S. S. '*Polaris*,'  
 Who sacrificed his life in the advancement of science,  
 November 8, 1871.

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

It was placed at the foot of the grave, upon which was found still alive the willow planted by Captain Tyson, in 1872.

Upon the death of Captain Hall, the control of the ship and the direction of its movements devolved upon Captain Bullington, while all sledge journeys and scientific operations were in charge of Dr. Bessels. This was agreeable to instructions from the Government. The two men therefore held a consultation and prepared and signed the following:

"It is our honest intention to honor our dear flag, and to

hoist her on the most northern part of the earth, to complete the enterprise upon which the eyes of the whole civilized world are raised, and to do all in our power to reach our proposed goal."

The ensuing winter was spent as usual in the Arctic regions and there was no lack of food or fuel. Joe and Hans hunted with great success and fur clothing was obtained in abundance. The storerooms, already partly filled with skeletons of animals and birds, with eggs, and other specimens of natural history, became well supplied.

A large number of very beautiful fossils was collected on Offley Island, near the mouth of the Petermann Fiord. They were of a tropical vegetation resembling bamboo and were found in a crumbling embankment. Interesting remains of Eskimo habitations were also seen on this island. In the immediate vicinity of Thank God Harbor were collected fossils from erratic boulders.

Quite a quantity of driftwood was also gathered. It had doubtless been borne thither by the current coming from the north.

Early in June, 1872, Chester and Tyson attempted a boat journey northward, but failed to get as far as did Captain Hall. They were, however, recalled by Captain Buddington, who had determined to return home.

On the 12th of August, Mrs. Hans Hendrick was delivered of a son, very appropriately named by the crew

CHARLES POLARIS HENDRICK.

The little stranger was gladly welcomed and much petted by all at Thank God Harbor. This, it may be remarked, was the first babe ever born to civilized parents at so high a latitude, viz., 81° 37' north.

The "Polaris" becoming free of ice, on the evening of that same day, the vessel steamed slowly southward along the western shore of Kennedy Channel.

Four days later, in latitude 80° 2', she made fast to a floe and drifted hither and thither in Kane Sea and Smith Strait for

nearly two months without gaining more than one hundred twenty miles south, being, at the end of that time, in the vicinity of Littleton Island, latitude  $78^{\circ} 20'$ .

On the 15th of October, the "Polaris" encountered a terrific gale from the south. Provisions and other stores were hastily placed on the ice. At midnight, in the midst of the storm, while nineteen of the party were upon the floe, the

#### SHIP BROKE LOOSE

and immediately disappeared. The next morning she was seen under steam and sail, but soon changed her course and again disappeared. A few hours later, another glimpse was caught of her, but upon once more disappearing, the party upon the ice floe supposed that they had been abandoned.

The unfortunate castaways made several vain attempts to reach the shore, and soon became scattered on different pieces of ice. Finally, however, by means of the row-boats, which they fortunately retained, they were again collected upon the main floe. Here snow-houses were built in which they took refuge.

For several days they continued to see land, but soon that disappeared and on they were carried by the great white wilderness into the dread silence of the Arctic night.

On several occasions they were upon the point of actual starvation, and cannibalism was thought of. But each time, the sea relented and gave them food.

#### ON NEW YEAR'S EVE

Meyer's observation showed their position to be in latitude  $72^{\circ} 10'$ , longitude  $60^{\circ} 40'$ , off the coast from Pond's Inlet. They had therefore drifted five hundred twenty-five miles in nine weeks. The thermometer indicated a temperature of  $-39^{\circ}$  F.

February was stormy and very cold. Towards the close of the month provisions were nearly exhausted.

During March a number of seals were secured and food became abundant. Innumerable icebergs surrounded the floe

and frequently broke up with a noise resembling that of artillery and musketry in battle. On the 31st they had drifted to latitude  $59^{\circ} 41'$ , off the north peninsula of Labrador. They were then in clear water and upon a small piece of ice.

The 1st of April brought a gale and the party were obliged to take refuge in one of the boats. This leaked badly and was loaded too heavily. The meat and clothing were therefore thrown overboard, the tent, skins for covering, and a little bread and pemmican being all that was retained.

#### GALE AFTER GALE

pursued them and they were compelled frequently to seek refuge on the clashing ice floes. On the night of April 7th, the mass upon which they were broke in two, one section carrying with it the boat, the kyak, and Mr. Meyers. Amidst great peril these were finally saved, and the entire party continued to drift, wet, cold, and suffering almost the agonies of starvation.

On the 18th a seal was killed and eaten raw, each person receiving an equal portion.

On the 20th, an observation showed them to be in latitude  $53^{\circ} 57'$ —nearly opposite Hamilton Inlet and nearly nineteen hundred miles directly south of the point whence they began to drift.

On the 22d, a bear was seen coming toward the party. Joe and Hans, secreting themselves behind an ice hummock, awaited its approach with great anxiety. Almost simultaneously two shots were fired and the creature fell dead. With shouts of joy the party rushed upon it, and drank to satiety of its warm blood. All were greatly revived thereafter and took fresh courage.

By the 26th, they were in the midst of fine sealing grounds and obtained a plentiful supply of food.

At last, in the afternoon of the 28th, a steamer carrying the American colors was sighted and an effort was made to attract her attention, but in vain. A fire was kept during the night for the same purpose. Early in the morning she was

again sighted; it was the "Eagle," of St. John's, N. F., Captain Jackman. She was signalled, but failed to respond, as the shots were not heard. That evening, while endeavoring again to attract her attention, another steamer hove in sight.

When now the fog broke, on the morning of the 30th,

#### A GLORIOUS SIGHT

met their eyes; the strange vessel was close at hand, and bore steadily down upon them. As she neared the overjoyed wretches, three cheers they gave, and three cheers gave one hundred strong voices on the deck and in the rigging of the staunch little vessel.

They were saved! The ship was the barkentine steamer "Tigress," Captain Joseph Bartlett, of Conception Bay, Newfoundland.

This thrilling but happy event took place in latitude 53° 35', off Grady Harbor, Labrador. The party, nineteen persons, including two women and five children, the youngest of whom was but two months old when the separation on the ice-floe began, had drifted south nearly two thousand miles.

They eventually arrived in Washington on the 5th of June and soon regained their usual good health.

"Joe" and "Hannah" repaired to their home, in Groton, Conn., which Captain Hall had purchased for them. There

#### HANNAH DIED

of consumption on the last day of December, 1876, aged thirty-eight. In June, 1878, Joe returned to the Arctic seas with Lieutenant Schwatka and remained there.

In the Groton cemetery are tombstones bearing inscriptions to the memory of the following Eskimos who have either visited or died there: Hannah—Too-koo-li-too; Knd-la-go, July 1, 1860; On-se-gong (Jeannie), July 1, 1867, aged 28; Tu-ke-ik-ta, February 28, 1863, aged 18 months (Hannah's first-born, died in New York); Sylvia Grinnell Ebierbing ("Punny"), born at Ig-loo-lik, July, 1866, and died March 18, 1875. Sylvia was the adopted daughter of Joe and Hannah.

While the above narrated events were transpiring with the floe party, the

LITTLE COMPANY ON BOARD THE "POLARIS"

were likewise engaged amidst stirring scenes. Fourteen they numbered, among them being Captain Buddington, Mates Chester and Morton, Dr. Bessels, and Messrs. Bryan and Schumann.

At the time of separation the vessel had sustained an injury and the water began to pour in so rapidly that it was feared it would reach the fires before steam could be generated to work the pump. All hands were therefore put to work upon the four pumps on the main deck.

"NOW WORK FOR YOUR LIVES, BOYS!"

exclaims the captain, as every man lays hold and streams rush from the pumps. Standing deep in the ice-cold water the imperiled men work incessantly, and insensible to the exposure because in mortal combat with death himself.

The leak steadily gains; engineers and firemen work as they never had worked before. Should the water rise to the fire-plates, all will be lost! Ten—twenty—thirty minutes elapse! Still the brave men urge themselves to the utmost! Must they raise the sea himself? God be merciful! Now forty—fifty—sixty minutes drag along! Will the steam never generate? The water rises rapidly! Ten minutes more pass painfully, yet hopefully—prayerfully! The ice-cold flood begins to steal its way over the floor of the engine-room! Soon the fires will be submerged and all will be lost! But behold—the great pump begins to move! Quick speeds the word among the tired men. They redouble their efforts. The engine now becomes a thing of life! It gains upon the leak, slowly at first, and then rapidly so that all anxiety for the time-being is removed.

On the following afternoon, October 16th, the "Polaris" reached the land and was secured by means of heavy hawsers.

On this day, too, the sun was seen for the last time in several months.

On the next day the crew began to remove stores and provisions to the shore. Life in the vessel was no longer secure. Everything available about her was made to contribute to the erection and furnishing of new quarters for the homeless men. She was stripped to a mere hulk and a comfortable structure called

POLARIS HOUSE,

built of her timbers. In this work the men were greatly assisted by the natives, who came from Etah with their dogs and sledges for that very purpose. They worked diligently, good naturedly and were ever ready for a hearty laugh. Among them were Ah-wah-tah and Mi-ouk, mentioned by Dr. Kane. They seemed to recollect Mr. Morton.

On the 25th an Eskimo living at the head of Foulke Fiord arrived with his wife and two children, a boy of four, and a girl of two years of age. The woman had her face tattooed and said that she came from the land on the west side of Smith Strait—Ellesmere Land—being one of a party that had crossed over four or five years before, in an oo-mi-ak, and five ky-aks. This family were the only survivors. They had introduced among the East-land, or Whale Sound natives, the use of the bow and arrow. Both Kane and Hayes state that these people did not use that weapon at the time of their voyages.

Some of these same immigrants from the West-land and their descendants were living among their kinsmen of the East-land at the time of our residence among them in 1893-4. By these same immigrants too were taught to the East-landers the construction and use of the kyak.

During the winter Polaris House was seldom without its Eskimo visitors. They not only brought with them a great quantity of walrus and seal meat, but good cheer and never-ending sources of entertainment. To illustrate: one afternoon with song, and dance, and tin-pan drum they engaged in many of their sports, E-took-e-sha, or

"JIMMY."

a man from the West-land, dressed in a white navy-frock, his



long jet-black hair falling gracefully upon his shoulders from beneath a small round hat, dancing a regular "break-down" to the airs of Mr. Chester's violin.

Some of the white men, however, treated these kind-hearted people with disdain; but to those who were kind to them they in turn were agreeable and very useful. Jimmy in particular did good service, always bringing the ice to be melted whenever necessary, and otherwise assisting in the daily routine.

From him Captain Buddington learned that there were many Eskimos living in the vicinity of Cape Isabella and all along the coast of Ellesmere Land. Jim's father-in-law lived there, he said; and in the winter-time they frequently visited each other, crossing the strait on the ice. This land, he also stated, is an island called by the natives Oo-ming-mung, from the number of musk-cattle to be found there. He himself had frequently gone round it.

E-took-e-sha's (Jim's) wife, E-val-loo, meaning thread, did not belie the appropriateness of her name; for she did excellent service with that article, making many garments for the men, out of skins. Their little children greatly amused all, and many pleasant hours passed in playing with them. The pretty and affectionate little girl was a general pet.

E-val-loo was particularly bright—possessing a woman's world-wide power of intuition—and could make herself more clearly understood than her husband, who looked upon her with

#### UNCONCEALED ADMIRATION

as she conversed. From her more was learned concerning the West-land people of which she and her family were a part. Having crossed over with some of her tribe to the place where Dr. Hayes had left his iron boat, which was found to be broken and useless, they picked up everything, including the oars, and passed on to the mainland where was found Dr. Hayes' observatory. Here they remained several days examining the many strange things which they had discovered. One night,

when sleeping in the house, some fire was dropped into a cask containing powder and

#### A TERRIFIC EXPLOSION

followed. Four or five of the party were killed, among them being "Jim's" father. The survivors returned to their native shore, leaving Jim and his family.

When on his hunting trips Jim almost invariably reserved the walrus liver for his white friends. It is the choice part of the animal and particularly valuable as either a preventive or cure for the scurvy.

On the 27th of February the returning sun was seen from the deck of the vessel.

About this time Mr. Chester, assisted by Messrs. Coffin and Booth, began the erection of two boats in which the party were to endeavor to make their escape with the advent of open water. These boats when completed, three months later, were twenty-five feet in length, five in width and two feet four inches in depth. The material used was from the provision-lockers and the ceiling of the main cabin.

Early in the morning of March 2d

#### OLD AH-WAH-TAH

caught sight of a bear and immediately gave chase with sledge and dogs. His only weapon was a spear four feet in length. He remained out all night, but returned late the next day with the bear's carcass upon the sled. Meanwhile the weather was bitter cold with a strong gale blowing from the north-east. He, however, seemed as indifferent to the weather as to his encounter with the bear. When the old fellow took off his skin jacket, or koo-le-tah, to dry it, his frightfully scarred back showed plainly that he had previously engaged in similar contests with the same enemies. Notwithstanding his age and wounds he could throw a spear farther and more accurately than any other man of the tribe.

Among the strangers who came to Polaris House was

#### AN ESKIMO WITH A WOODEN LEG.

He related that when a boy he was hunting birds on a hill and

was seriously injured by a stone rolling upon his foot. His mother cut off his leg about six inches below the knee. The surgeon of the English ship "North Star" made a wooden leg for him in 1849-50. This was repaired and renewed by L. Hayes. The one he then had was provided with an ankle-joint of his own manufacture. This man was a widower and somewhat later expressed a wish to make a trip to the west coast in search of a wife, as, he said, the women on the east side did not quite suit him.

On the 3d of May, after a brief illness of inflammation of the lungs, Mionk died.

This occurred at E-tah On-ah-tah-ny, or Sar-fal-ik. He it was who had been the first to help the white men to remove their stores from the disabled ship; and he it was who, somewhat later and during a period of great scarcity of meat at E-tah, had visited the ship to beg for bread and blubber for his starving family.

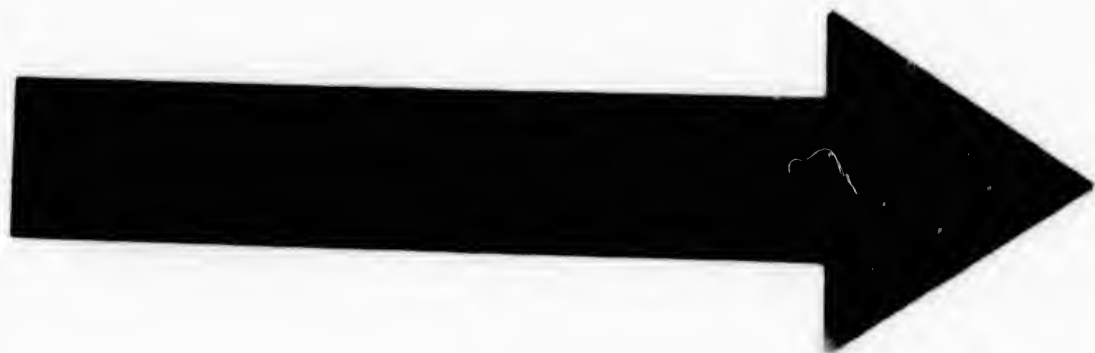
At the time of his death Messrs. Campbell and Hayes were at Sar-fal-ik and witnessed the

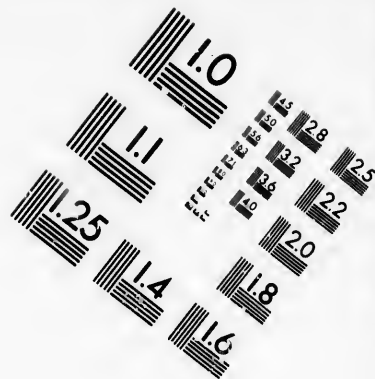
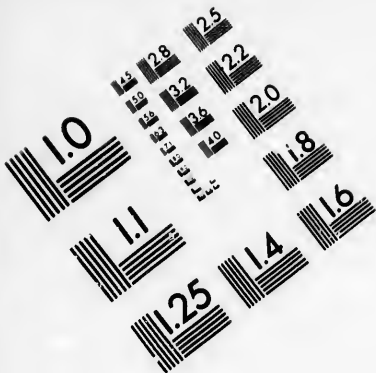
#### BURIAL CEREMONIES.

Shortly after Mi-onk's death, the body was wrapped in skins and, with all his hunting implements, placed on a sledge and drawn up the slope back of the settlement and then placed in a hole dug in the snow, in a sitting posture, facing the west. His sled and other personal property were then placed over him. All the men carried a bunch of dried grass in the right nostril, the women in the left. Their sorrow was manifested in their peculiar way—that of the widow in an insane manner. Says Buddington: "As I understand, the widow of Mi-onk killed the youngest child, a baby about six months old. One of our men had prevented her from committing this crime on the day of Mi-onk's death; but Jim's wife, E-val-loo, informed me to-day that it was really done while our men were out on the ice. These natives are indeed

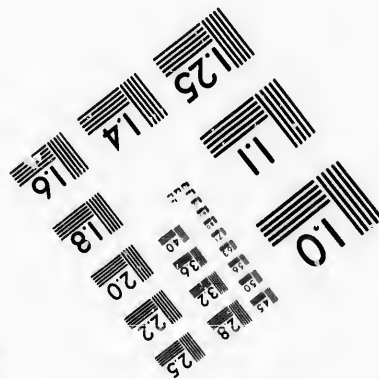
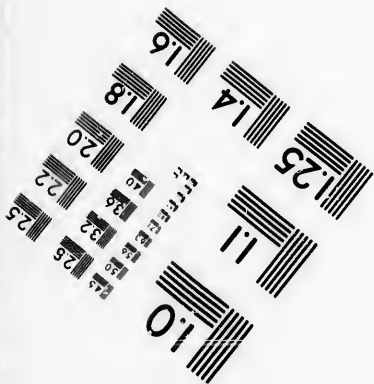
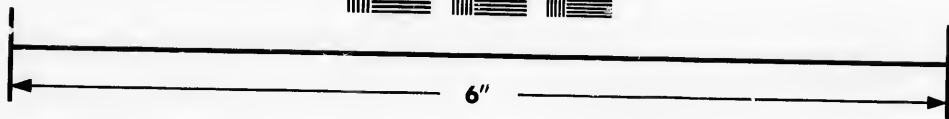
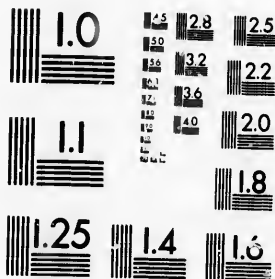
#### TO BE PITIED,

and a mission station erected among these savages would be a good work."





**IMAGE EVALUATION  
TEST TARGET (MT-3)**



**Photographic  
Sciences  
Corporation**

23 WEST MAIN STREET  
WEBSTER, N.Y. 14580  
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Thus is added to the commiseration expressed on behalf of these people by Dr. Kane, the willing testimony of the big-hearted Buddington—a fit successor, indeed, to the compassionate Hall, whose very soul went out toward the entire Eskimo race—his “untamed eagles” of the distant North. The men also witnessed the proceedings for

#### A DIVORCE.

Mun-nee, a good-looking girl, had been forced by her father to marry E-noo, a youth in good circumstances, notwithstanding she loved one whose wealth was not in worldly possessions. The marriage was, of course, an unhappy one.

After a time the condition of the unfortunate lover improved and Mun-nee accordingly resolved upon securing a divorce. This was obtained in this manner: Mun-nee lay upon her back in one of the igloos, her knees drawn up, while one end of a cord was fastened around her head. A very old woman, Ka-rush-neck, stood over her, holding in her hand the cord and uttering what appeared to be a form of words. The tone and measure of her voice frequently varied, and with the cord she often raised Mun-nee's head. This ceremony lasted about two hours, there being no other person in the igloo save Mun-nee's brother-in-law, Shu-kok by name. At the end of the performance Shu-kok took her on his sled to one of the settlements farther south where she was met by her sister and by her lover, who immediately proposed and was accepted.

During the proceedings for the divorce the discarded husband remained crying bitterly in a neighboring igloo, and would not be comforted. After his wife's departure he went about complaining “Mun-nee pe-ter-ahng-ee-too”—Mun-nee's gone.

Twenty years later the writer observed a similar though greatly abridged performance. A husband tiring of his wife, proposed to the wife of another man that, with the concurrence of her husband, she become his (the dissatisfied husband's) wife, the second husband acquiring the discarded wife. With much secret parleying the exchange was amicably effected—

only to be undone some days later by a settlement of what had evidently caused the separation in the first place—viz., a family quarrel.

On the 13th of May, Mr. Bryan, accompanied by E-took-asha, or "Jim," with sled and dog-team, made a trip to Dr. Kane's old headquarters in Rensselaer Harbor, the distance, seventy-one miles, being accomplished in sixteen hours. An amusing incident happened on the way. Mr. Bryan, who was sitting on the sled behind Jim, fell asleep. He was suddenly awakened by a sharp sting caused by the end of Jim's cutting lash striking his face. He began to expostulate in a kind way with the driver, but found that he, too, was fast asleep. The dogs were meanwhile working their way through the snow, being urged forward by the continuous lashing administered by the unconscious teamster.

At Rensselaer Harbor Mr. Bryan found the copper bolt set in lead by Dr. Kane to mark the site of his observatory, besides a great many pieces of iron, glass, wood, leather, cloth, rope, etc., lying about the island and on the mainland.

At the place where Baker and Schubert were buried but few words could be made out of the names and inscriptions painted upon the rock to indicate their final resting-places.

A few days later Mr. Bryan accompanied Ah-wah-tah nearly to the head of Foulke Fiord, whither the native was desirous to go for the purpose of

#### CATCHING LITTLE AUKS.

There, the sloping side of Dodge Mountain, which was covered with large rocks, fairly swarmed with the chirping creatures. The view at times was fairly obstructed by them, and the rocks were whitened by their breasts. Having fastened the dogs at the base of the mountain, the men made a partial ascent of the slope until in the midst of the whirring thousands, when, with a net of sinew fastened upon a hoop a foot and a half in diameter, attached to a pole about ten feet in length, Ah-wah-tah soon captured a large quantity of them as they flew almost constantly within his reach.



Of the delicious birds the dogs were given a hearty meal, and then the two men proceeded to the very head of the fiord, where they found Dr. Bessels, who had gone there to examine "Brother John's Glacier" and to make some observations relative to its rate of motion.

Thence Mr. Bryan and Dr. Bessels proceeded to Port Foulke, where the grave of poor Sonntag was visited. It had been despoiled by the natives, who had sought the wood of which the coffin had been constructed. They collected and replaced all the bones, including his

#### FINE LARGE SKULL,

and refilled the grave. They also reset the headstone. The relics were not numerous, consisting of a few pieces of glass, wood, and a bit of rope.

The 29th of May found all hands busy at Polaris House making final preparations for departure in the boats, which had been completed two days previous. Each man was allowed but eight pounds of baggage. The fuel chopped from the ship's rigging and provisions for two and a half months carefully bagged, were got in readiness.

On the next day nearly all the land ice broke away, and with it the "Polaris" went adrift. The ship, however, grounded after moving about two hundred yards toward the south. At high tide the water stood about two feet above her upper deck. She was made fast to the rocks on the shore, it being thought that she would ultimately beach herself in the autumn and thereby furnish the Eskimos with wood. The

#### POSITION OF POLARIS HOUSE

was determined by Mr. Bryan to be latitude  $78^{\circ} 23' 30''$  north, and longitude  $73^{\circ} 21' 10''$  west.

On the 2d of June the large Arctic library of Captain Hall was carefully packed in his trunk, and, together with instruments, two log books, and a statement of what had been done by the expedition and the prospects of the present party reaching either a Scotch whaler at Cape York, or some of the Danish

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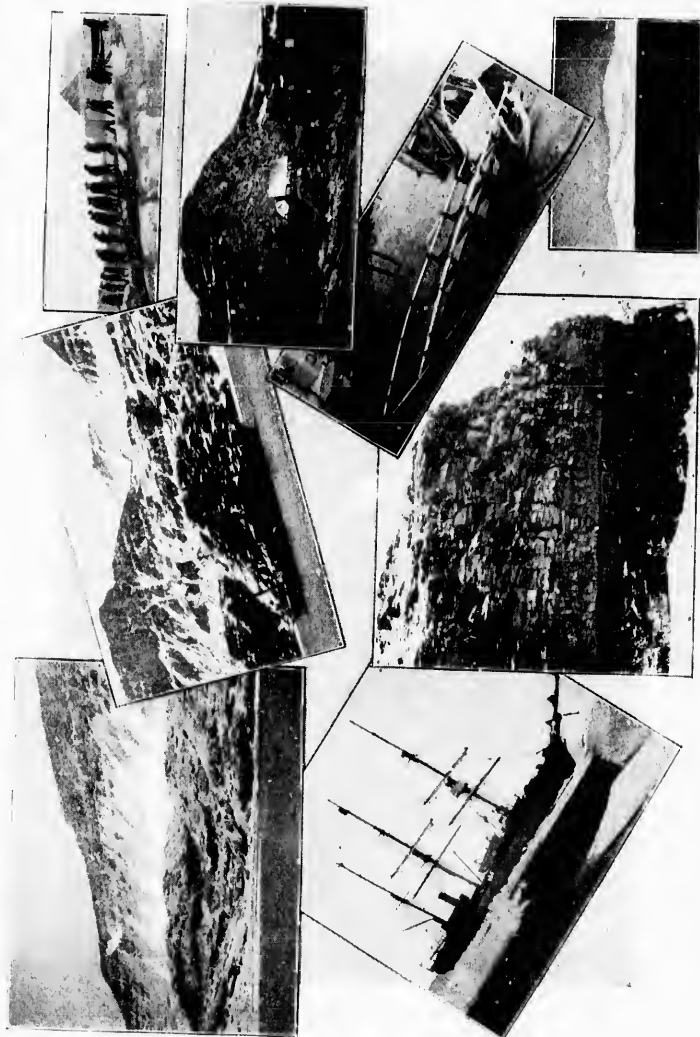
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Burial of Christiansen.  
Upernavik.  
Arctic Sledge.  
Distant View of Iceberg.

Windy Vale, Godhavn.  
Coal Vein, Ft. Conger.

(See Chapter XL.)

Views near Godhavn,  
or Disco.



Whilder, Ellis, Council, Braemar, Cross, Frederick, Lynn, Biotorbick, Henry, Long, Ralston, Salor, Dr. Pavy, Gardiner, Ellison, Lt. Kisingbury, Lt. Greedy, Lt. Lockwood, Israel, Jewell, Rice, Members of the Lady Franklin Bay Expedition, 1881-4. (From a photograph by Rice.)

(See Chapter XL.)

settlements, taken about a fourth of a mile in a direction E. S. E. of the house and there cached.

On the afternoon of June 3d final leave was taken of Polaris House. Poor E-took-e-sha and his family expressed great sorrow at being thus left. The other natives, however, were not visibly affected, the difference being attributed to their coming suddenly into possession of so much property.

Twenty days later the party arrived in safety at a point about twenty miles south by east of Cape York. Here, when the party were at rest, Messrs. Chester and Bryan being on watch duty, Mr. Chester suddenly aroused the company with a thrill of joy, shouting,

"SHIP AHOY."

It was not cruel deception that called every man instantly to his feet. There, southward about ten miles, were three masts and the smoke-stack of a bark—the anxiously looked-for Scotch whaler. Hoisting the Stars and Stripes on two oars lashed together, the strange vessel signaled in return by running up her ensign that the boat party were observed.

A few hours later all were aboard the "Ravensraig," of Kirkealdy, Scotland, Captain Allen. The ship lay in latitude 75° 38' north, and longitude 65° 35' west. The rescued party received from the crew of the "Ravensraig" genuine Scotch hospitality and also with gratitude the information that the ice-floe party under Captain Tyson had been picked up by Captain Bartlett of the "Tigress."

Shortly afterwards the "Ravensraig" proceeded to Lancaster Sound and Barrow's Strait, where the whaling-vessels, the "Arctic," Captains Adams and Markham; the "Intrepid," Captain Soutar, and the "Eric," Captain Walker, assisted in entertaining the rescued men and in giving them passage to Dundee, whence all returned to the United States in October of the same year—1873.

Of the above-mentioned British officers we shall learn more concerning Captain Markham in succeeding pages.

While Captain Buddington and party were thus being cared

Whistler, Ellis, Cunnell, Brauner, Cross, Frederick, Lynn, Biederbick, Henry, Louis, Balston, Sailor, Dr. Pavy, Gardiner, Ellison, Israel, Jewell, Rice.

Members of the Lady Franklin Bay Expedition, 1881-4. (From a photograph by Rice.)  
(See Chapter XL.)

Whistler, Ellis, Cunnell.

for by their generous rescuers, the United States Government was not idle in prosecuting search for them. Upon the arrival of the ice-floe party in Washington, the owners of the "Tigress" offered her to the Navy Department for the purpose of seeking the remainder of the party. The proposition was accepted, and, accompanied by the "Juniata," Commanders Greer and Braine respectively, proceeded to the West Greenland waters. On board the "Juniata" was Lieutenant G. W. De Long, whose after history and tragic end will be related at a later period in our Arctic narrative. Commander Greer was accompanied by Captain Tyson as acting lieutenant. They proceeded on board the "Tigress" to Polaris House without acquiring information concerning Captain Buddington and party till their arrival among the Eskimos, whom they found in possession of the house. The "Polaris," the chief speaker among the Eskimos said, had been forced by a gale which occurred a short time after the departure of Captain Buddington and company, about a mile and a half toward the channel separating Littleton Island from the mainland, and there sunk. Her loss was much regretted by the natives. Commander Greer observed two small icebergs stranded upon the wreck. All articles remaining undestroyed by the natives were placed on board, and the "Tigress," which then continued the search southward, returned to New York on the 10th of November.

While the "Tigress" was absent on the northern portion of her voyage, the "Juniata," being merely a supply vessel for the former, remained at Godhaven, Disco Island. Here on the north side of the island, in the Arctic latitude of 70°, Commander Braine inspected the

#### WEST GREENLAND COAL MINES.

He says: "The coal proved frail in its structure, not bearing much handling, and was obtained in lumps. It was experimented with for fifteen hours' steaming in the 'Little Juniata,' using salt water. It ignites easily, burns freely, and forms very little clinker. The fine coal burns nearly as well as the lump. A regular pressure of steam was kept up, twenty

pounds to the square inch, with the furnace doors open part of the time, and at no time was the saturation above 2-32. By weight I judge it requires about one-fourth more of this coal to be consumed in any given time to produce a mechanical effect equal to the best Welsh coal. This coal is bituminous in its nature. It produces very little smoke, of a brownish color, and requires but little labor in stoking. The best results, as obtained, are from a thick and level fire.

"While in this locality several veins were found which indicated good coal, and large quantities of it; so easily was the coal mined that our men, nine in number, would have removed and carried to the beach one hundred tons in eight days with the tools which we used."

These mines were located upon the Waigat—the strait lying between the island and the mainland on the north—a short distance from the beach and at an elevation of about one hundred feet above the sea.

The "Juniata" preceded the "Tigress" to New York about two weeks. Both had previously been confirmed of the safety of the "Polaris" party on board the whaling-vessels.

Thus happily ended the expedition so sorrowfully begun. Of the thirty-four persons related to the enterprise proper, all but one—its deeply lamented brain, and heart, and soul, the intrepid Hall, were restored to health and home. They had not been unmindful of Him who controlled their destinies, in their religious devotions, and He had not deserted them in peril.

But for the untimely death of Hall it can scarcely be doubted that he would have achieved wonderful success. Even as it was, he advanced farther north than ever yet man had gone. With him the myth of the open polar sea disappeared; Robeson Strait, the great ice-hydra of the North Greenland Arctic, was made to take its place, and geographical science became enriched by a generous contribution with which the donor also freely gave a consecrated life. Botany, geology, astronomy, meteorology—all received persistent devotion by enthusiastic assistants. But perhaps greater than all else was

the knowledge of the Eskimos of that region—those hardy, but affectionate,

MOST DISTANT DWELLERS OF THE NORTH,

that Highland nest of "untamed eagles," as Hall had styled them, and whom he loved so long and so well.

Surely, as there is in the Great Beyond a place for every tribe and nation, will this humane race meet there a gallant Franklin, a lion-hearted Parry, a courageous McClure, a chivalrous Kane, and an heroic Hall—unsullied array of Christian champions who may indeed sing from over the battlements of Heaven,

"Waft, waft, ye winds, His story  
And you, ye waters, roll,  
Till, like a sea of glory,  
It spreads from pole to pole."



LIEUTENANT CHARLES W. CHIPP, U. S. N.



DR. J. M. ANDLER, U. S. N.

## CHAPTER XXXV.

## THE DISCOVERY OF FRANZ-JOSEF LAND.

The result of the German expedition under Koldewey induced navigators to keep away from the ice-pack of East Greenland and to try the more open waters of Nova Zembla. There the Austrians sought and found an accessible gateway to the far north. In aid of the project, a truly noble nobleman subscribed at once 40,000 florins. Preliminary to this, a pioneer expedition under the joint command of Lieutenants Payer and Weyprecht, each of whom had seen service in the previous German expedition, was sent out in June, 1771, in a light sailing vessel, the "Isbjorn," but 55 feet in length, 17 in width, 6 in draught, and of 50 tons burden. She was commanded by her proprietor, Captain Kjelsen, and carried a crew consisting of four sailors, a carpenter, a cook, and an harpooner.

The results of the voyage were highly satisfactory.

It was shown,

First. That the Nova Zembla Sea is open every year as high, probably, as 78° north, and connected with the Sea of Kara; also to be unusually free of ice.

Second. That these waters contained the least ice during the last days of August and all through September.

Third. That Nova Zembla Sea is very shallow, being a submarine extension of the North Siberian plains. In its extreme north part it was only 100 fathoms deep.

Fourth. That the earlier expeditions had failed to penetrate the ice northwest of Nova Zembla because they had arrived in the ice too early in the season—before the ice had broken up—and because they lacked steam power.

Fifth. That the gulf stream appeared to have great influ-



ence in weakening the ice in that region. The main expedition was therefore at once fitted out under the name of the

AUSTRO-HUNGARIAN EXPEDITION.

The vessel secured was the "Tegetthoff," a small steamer of only 220 tons, having a steam engine of 100-horse power. She carried fuel and provisions for two and a half years, being overburdened by about thirty tons. But even then, says Lieutenant Payer, the historian of the voyage, she was "far more commodious than the miserable hole in which eight of us had been crowded together on our Greenland tour."

The plan was to penetrate the ice extending to Nova Zembla during the latter part of August, and to establish headquarters according to circumstances, and in case of the loss of the ship, to gain the interior of Siberia by the use of row-boats. No communication with Europe was to be depended upon. Says Payer:

"The motives of an undertaking so long and laborious cannot be found in the mere love of distinction or adventure. The object must not be the admiration of men, but the extension of the domain of knowledge. The grandeur of one's purpose alone can support him, for otherwise the dreary void of things without can only be an image of the void within."

Sailing from Bremerhaven on the 13th of June, 1872, the "Tegetthoff" took her final departure a few days later, from the northern Norwegian port of Tromsøe, and was soon in Arctic ice. The crew, numbering twenty-four, consisted of Germans, Italians, and Hungarians, the orders being given in Italian.

On August 1st the vessel became beset in latitude  $74^{\circ} 39'$ , longitude  $53^{\circ}$ . On the next day she broke through into a belt of open water surrounding Nova Zembla. Behind her was a field of ice 105 miles wide. Sailing northward along the west coast of Nova Zembla, the staunch little vessel came to another ice field near latitude  $75^{\circ} 30'$ .

In this vicinity on the 12th of August another vessel was suddenly descried on the horizon. It proved to be their old friend, the "Isbjorn." She had been chartered and despatched

by the generous patron of the expedition, Comt Wilezek, for the purpose of depositing a supply of provisions in case of accident to the "Tegetthoff" at a place on the Nova Zembla coast known as the "Three Coffins," near Cape Nassau, on the northern shore of the island. All were greatly astonished that so small a sailing craft should be able to penetrate the ice to such a distance.

On the 18th the crews of both vessels celebrated the birth of the King and Emperor of the Austrians, Franz-Josef I. Two days later the ships parted company, the "Isbjorn" returning south, the "Tegetthoff" proceeding northward.

When but a few miles off the cape, on the evening of the same day, the further progress of the "Tegetthoff" was effectually stopped by an ice-barrier, in latitude  $76^{\circ} 22'$ , longitude  $63^{\circ} 3'$  east.

"Ominous were the events of that day," says Payer, "for immediately after we had made the "Tegetthoff" fast to that floe, the ice closed in upon us from all sides, and we became prisoners in its grasp. No water was to be seen around us, and never again were we destined to see our vessel in water. From day to day we hoped for the hour of our deliverance. At first we expected it hourly, then daily, then from week to week; then at the seasons of the year and change of the weather, then in the changes of new years. But that hour never came, yet the light of hope which supports man in all his sufferings, and raises him above them all, never forsook us, amid all the depressing influences of expectations cherished only to be disappointed."

Drifting steadily northward, the 13th of October found this motley, yet enthusiastic crew in great peril. The superstitions among them regarded the number

with much alarm and recalled the circumstance that the committee of the expedition had been selected on February 13th; that the keel of the "Tegetthoff" had been laid on January 13th; that she was launched April 13th; that the expedition embarked on June 13th; that it left Tromsøe July 13th; that

thirteen days later the vessel stuck in the ice, and that now, on October 13th, the temperature was at minus 13° Centigrade, the ship being in great danger for the first time.

Their perilous situation is thus described by the ever-graphic Payer:

"Rushing on deck we discovered that we were surrounded and squeezed by the ice; the afterpart of the ship was already nipped and pressed, and the rudder, which was the first to encounter its assault, shook and groaned; but as its great weight did not admit of its being shipped, we were content to lash it firmly. Noise and confusion reigned supreme, and step by step destruction drew nigh in the crushing together of the fields of ice. \* \* \* According to our usual custom, a portion of the Bible was read on deck, and this day quite accidentally the portion read was the history of Joshua; but if in his day the sun showed any inclination to stand still it was more than could be said of the ice at this time."

Immediate danger, however, passed and a house of refuge was constructed upon the ice-floe to be used in case of accident to the ship. Time passed and the holidays were celebrated with much display. Even the dogs were allowed the privilege of the cabin. "The poor animals,"

SAYS THE KIND-HEARTED PAYER,

"were so dazzled by looking at our lamps, that they almost took it for the sun itself; but by and by their attention was directed exclusively to the rich remains of our dinner, the sight of which appeared completely to satisfy their notions of the wonders of the cabin. After behaving themselves with great propriety they again quietly withdrew, all except 'Jubinal,' who appeared to be indignant at the deceitfulness of our conduct, inasmuch as we had allowed him to starve so long on dried horseflesh and on crushed bear's head, while we reveled in luxury. He accordingly made his way into Lieutenant Brosch's cabin, where, discovering

A MOUNTAIN OF MACARONI,

he immediately attacked it, and warned us off from every

attempt to rescue it, by growling fiercely till he had finished it. 'Sumbu,' however, with much levity, suffered himself to be made drunk by the sailors with rum, and everything which he had scraped together for weeks and buried in the snow and so carefully watched, was stolen from him by other dogs in one night."

Thus the drift continued through an unbroken Arctic night of 111 days. The spring and summer of 1873 also passed, and still no release was apparent, and the thought of new discoveries had passed from the minds of all. Finally, on August 31st,

#### A JOYFUL SURPRISE

awaited the courageous men. Let Payer himself relate it:

"At mid-day, as we were leaning on the bulwarks of the ship and scanning the gliding mists, through which the rays of the sun broke ever and anon, a wall of mist, lifting itself up suddenly, revealed to us afar off in the northwest the outlines of bold rocks, which in a few minutes seemed to grow into a radiant Alpine land. At first we all stood transfixed, and hardly believing what we saw. Then, carried away by the reality of our good fortune, we burst forth into shouts of joy—

LAND, LAND, LAND AT LAST!

\* \* \* For thousands of years this land had lain buried from the knowledge of men, and now its discovery had fallen into the lap of a small band, themselves almost lost to the world, who, far from their home, remembered the homage due to their sovereign, and gave to the newly-discovered territory the name Kaiser Franz-Josef's Land."

Toward the close of October the vessel had drifted to within three miles of the southernmost island of the group. Upon it the elated men succeeded in effecting a landing, fairly racing with one another in their efforts to gain the shore, after their long imprisonment of fifteen months.

In recognition of the services of the

BIG-HEARTED WILCZEK,

the island was justly named in his honor. Its geographical location was ascertained to be in latitude 79° 54'.

During the ensuing winter—1873-4—the intellectual and religious faculties of the men were not left untrained. School was established, Payer taking his class upon the deck, the “pupils” frequently warming their hands by rubbing them vigorously in the snow while the “teacher” was often enveloped in a frost-cloud—the condensation of his own breath.

“EVERY SUNDAY,”

says Payer, “at noon we celebrated divine service. Under the shelter of the deck-tent, the Gospel was read to the little band of Christians gathered together by the sound of the ship’s bell, in all that grave simplicity which marked the worship of the early Christian Church.”

The sun was absent 125 days and during that time sixty-seven polar bears were killed, furnishing the party with an abundance of fresh meat. Mercury remained frozen many days at a time, brandy being solid.

On one occasion the dog “Ma-tosch-kin” was killed and eaten by a bear. A few hours later “Sumbu,” who had witnessed the fate of his fellow-dog, led some of the men to the place where were found the bones of the poor dog, and the bear near by them. The shaggy brute was immediately slain, much to the delight of “Sumbu.”

Concerning the dogs used on this expedition it is interesting to learn something more.

Two of them were brought from Lapland, the rest from much farther south. During the besetment and drift of the vessel, on one occasion the dogs in great alarm betook themselves to a lot of chests and stared at the huge, angry waves of ice as they rose and roared; every trace of the fox had disappeared from “Sumbu” and he timidly and humbly offered his paw to all passers by; the Lapland dog “Pekel” licked Lieutenant Payer’s hand and looked at the ice as if to ask, “What does all this confusion mean?” while the large Newfoundlanders stood motionless, like scared chamois, on the piles of chests.

Of the other dogs there were “Jubinal,” the red giant, with

paws as huge as those of a bear, and who had been brought by a Siberian Israelite from the north of Asia, over the Ural, and so powerful that he was the victor in every fight and could easily draw four men on a sled over a hard level surface; every summer he changed his coat and was then clad in a dress of canvas-cloth; and "Bop," the weak, but wise one; "Ma-toschkin," the grave, whose fate we noted above, and who, for hours at a time, would sit upon a pile of chests looking demurely upon the great white wilderness; the two Newfoundland bitches "No-vay-a" and "Zem-ly-a," the first of which died in the course of the first year, the second, too lazy to die, redeeming herself by giving birth to "To-ros-sy," the pride of the crew; he was a good sledge dog and a good tail-wagger besides—for he wagged it on deck—wagged it as he followed on the ice—wagged it when "Sumbu" stole his dinner—and even wagged it before the mouth of a bear; then there was "Gillis," the quarrelsome one, with body covered with scars, and the lives of the two ship's cats brought from Lapland charged against him—a good scrapper, but a veritable sham in the sledge; and "Pekel," the smallest of the Lapp dogs, also a quarrelsome creature, especially with "Sumbu," the hypocrite—who always made a great demonstration of friendship, but invariably hid when the other dogs were being hitched into the sledges; a greedy and dissatisfied being he, whose redeeming quality was to be found only in his intense hatred of bears.

With the advent of the spring of 1874 sledging parties, under the immediate command of Lieutenant Payer, began the work of exploring the coast-line and the interior of the newly-discovered lands. The first of these started on the 10th of March. Traveling in a northwest direction, Hall Island was discovered and named and Capes Tegetthoff and McClintock were designated. They were found to be 2,500 feet high. No signs of life were met with, but the party were absent only six days. On the 16th

#### THE FIRST DEATH

among the members of the expedition occurred. It was poor

Krisch, the engineer, whose emaciated body, worn away by a pulmonary complaint, was sorrowfully placed in a coffin, covered with a flag and a cross, and deposited in a fissure between basaltic columns and then covered with stones—his the first and perhaps the only human grave in all that desolate land.

On the 24th Payer crossed the channel separating the two main divisions of Franz-Josef Land, namely, Wilczek and Zichy islands. The channel was named Anstria Sonnd. Here were observed the terraced beaches containing the debris of organic remains—undoubted evidence of the gradual elevation of this group of islands just as North Greenland, Nova Zembla and North Siberia are also known to be rising to greater heights above the sea. On the journey Payer followed along the coast of Crown Prince Rudolf's Island, and, on April 12th, attained the highest latitude made by this expedition, namely  $82^{\circ} 5'$ , about 160 miles from the ship. The party were absent but twelve days.

On the 29th of April Payer made his third and last sledge trip, this time exploring the western portion of the islands, notably McClintock Island. The loftiest elevation seen was named by him Riechthofen Peak and found to be 5,000 feet high. The party were absent less than a week.

On these journeys Payer was greatly assisted by the two Tyrolese mountaineers. On one occasion, when examining the  
GREAT MIDDENDORF GLACIER,

the party narrowly escaped a terrible destruction, the sledge, together with dogs and driver, suddenly breaking through the snow and falling precipitately into a vast yawning chasm. The barking and howling of the dogs and the shouting of the man at the bottom of the great crevasse many feet below first arrested the attention of Payer, who says:

“All this was the impression of a moment, while I felt myself drawn backward by the rope. Staggering back, and seeing the dark abyss beneath me, I could not doubt that I should be precipitated into it the next instant.

“A WONDERFUL PROVIDENCE

arrested the fall of the sledge; at a depth of about thirty feet

it struck just between the sides of the crevasse, just as I was being dragged to the abyss by its weight. The sledge having jammed itself in, I lay on my stomach close to the awful brink, the rope which attached me to the sledge tightly strained, and cutting deeply into the snow."

Payer dexterously freed himself and hastened to the tent where most of the men were and all then ran to the scene of disaster, finding the unfortunate driver nearly dead but sufficiently conscious to be pulled up over the ice-cliff. The dogs were uninjured and lay quietly asleep beside their master. Upon being pulled up they made great demonstration of their gratitude.

Speaking of the driver, Payer writes: "It was

#### A NOBLE PROOF

how duty and discipline assert themselves even in such situations, that the first word of the sailor saved from being frozen to death, was not a complaint, but thanks, accompanied with a request that I would pardon him if he, in order to save himself from being frozen, had ventured to drink a portion of the rum which had fallen down in its case with the sledge to his ledge of snow."

With feelings by no means pleasant, but with deep gratitude for its fortunate issue, the writer recalls a personal experience of the same nature, when crossing, for the purpose of obtaining measurements, the great Bowdoin Glacier of North Greenland in the summer of 1894. Having been sent on this errand by Lieutenant Peary, with the Eskimos, Im-me-nia and Poi-doo-nah as assistants, we had neared the opposite side of the great frozen river, the width of which we found to be nearly two miles, and were endeavoring to make our way to a point on the frowning rock wall about one hundred yards distant upon which the border of the glacier was impinging in wild confusion. Beneath our feet a continuous trembling sensation was felt as the long ice mass of the higher slope pressed against that portion upon which we were standing, fearing to move lest some unfortunate step might involve us in immediate



disaster. Quick, sharp, deep-tingling, ringing, shrieking sounds frightful enough, came, not as sound usually does, horizontally, but vertically up to our ears, seeming to vibrate through our feet, our limbs, our very bodies, spitefully shouting in our ears: Why, presumptuous man, hast thou set disturbing foot upon my chaste bosom? Beware! Beware! Beware! Split—jingle—crash—Off! Away! Away!

Who would not have been alarmed? With deep, subdued tones peculiar to the hardy dwellers of the north the natives first gave expression to their feelings and then burst into the oft-repeated exclamations, "Ca-pé Wung-ah! Ca-pé Wung-ah!"—"I am afraid! I am afraid!" and although individual danger was lessened by means of a long ag-loo-nah, or line of walrus hide, fastened, at one end about the waist of Poi-doo-nah, a bright young fellow of about sixteen years, and at the middle point about the waist of old Im-me-nia, no amount of persuasion could induce them to advance, as the writer endeavored to direct their movements toward a particular point and in line with Lieutenant Peary's theodolite, erected on the opposite shore of the glacier, and now nearly two miles distant. Less guarded than the natives, for the reason that I followed in their tracks, I simply held the other end of the line in one hand and an Alpine-stock in the other. Suddenly Poi-doo-nah dropped more than waist-deep into a snow-filled fissure, and hardly was his alarm expressed in a round of frightful Eskimo than—whish! down went the snow-bridge upon which the writer was standing in the very tracks made by the natives but a moment before. My feet struck and broke the icicles which were clinging to the edges of the crevasse-walls and away they went in broken, jingling jangling confusion, striking ever and anon against the deep walls of the chasm until the sound died away like the distant tinkling of sleigh-bells. What on firmer footing, or indeed any footing at all, would have reminded one of happy hours at our distant home, served on this occasion to awaken feelings of the solemn death-knell. Fortunately the Alpine-stock struck the edges of the fissure transversely and the right hand involuntarily grasped it tightly; the left hand,

too, not knowing what the right hand did, remained true to the God-given impulse of self-preservation and clung tightly to the end of the line. With words of encouragement Im-me-nia quickly disengaged himself and came to the rescue. And when all was over and we were at a safe distance, we looked back upon a round black hole on the snow which seemed to say, Ah, presumptuous man, thou didst not after all find the pure-white bosom so chaste—so guileless! Ah-ha! Ah-ha! tingle, jingle! jingle-jangle! beware! beware!

In the exploration of Franz-Josef Land it was found that both the vegetable and animal life were less conspicuous than in any other Arctic locality yet discovered. The deep snows and vast glacier-sheets covering the land-masses doubtless account for this.

Notwithstanding there were many and great glaciers, moraines were very infrequently observed and no scratching or polishing of the rocks was seen anywhere; the dolerite over which they forced their way was too hard to be affected by the weather, and the cold black walls were often seen covered with a clear sheet of ice. Nevertheless there were found patches of this grass, *saxifraga oppositifolia*, *silene acaulis*, *cerastium-Alpinum*, *papaver nudicale*, and thick tufts of mosses. Driftwood of old date was also gathered. Among the pieces collected was a log of pine, which, from its rings, was known to be of many years in growth and doubtless a fugitive from the forests of Southern Siberia.

Although neither reindeer nor musk-ox was seen, they are doubtless to be found—especially in the western part of the group. Fresh tracks and the excrements of foxes were seen along the north coast, and, on the Island of Hohenlohe, the excrements of an Arctic hare. There were also seen vast assemblages of penguins and other birds, many seals, and a drove of white whales.

Here, too, were seen many icebergs, and as but few are ever to be seen in the vicinity of Nova Zembla, it is reasonable to conclude that they came from some undiscovered land lying north of Franz-Josef Land, and therefore nearer the pole. Ac-

cordingly, with what deep interest every friend to Arctic research awaits intelligence from Dr. Nansen and the Jackson-Harmsworth Expedition, who seek directly to answer the question. The writer confidently expects successful results from each.

The land and its parts having been explored and named in honor of the chief patrons of the expedition as a slight testimonial of the regard in which the explorers held their friends, and having already spent two winters in the ice, it was decided to leave the "Tegetthoff" and to make their way south by means of sledge and boat.

Accordingly, on the 20th of May, 1874, just twenty years to a day after Dr. Kane had abandoned the "Advance" on the northwest coast of Greenland, the party began their retreat. Leaving also, but safely deposited, their instruments and the little museum collected with so much care, they took their sorrowful, yet joyous departure. After having struggled southward for two months a south wind arose and drove them again northward to a position but nine miles south of the ship. The following month, however, was more propitious and the 15th of August found them in latitude  $77^{\circ} 49'$ —free of ice and on the pleasant waters of Nova Zembla Sea. But the

#### POOR DOGS—

there was no room for them in the boats, and with deep sorrow the men whom they had served so faithfully were obliged to kill them.

At length, on the 24th of August, when near Ganse, or Goose, Land, in the southern part of Nova Zembla, two Russian vessels hunting for fish and Nova Zembla reindeer, rescued them, and on the 3d of September they were landed at Vardö, Norway, where, two days later, they embarked for Hamburg and in due time landed among their countrymen, who received them with patriotic demonstrations of great joy.

Before leaving this chapter let us thank Lieutenant Weyprecht for the skillful manner in which he managed the navigation of the "Tegetthoff," and also the Norwegian walrus-hunt-

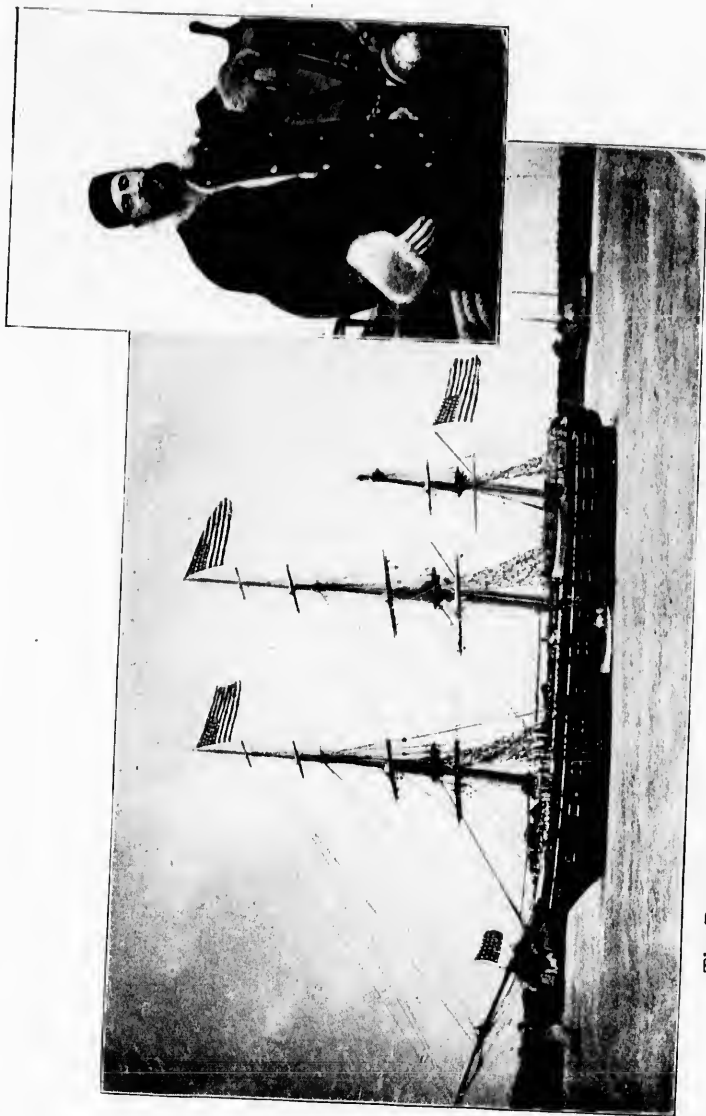
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The Return of the Greely Relief Expedition. Entering Portsmouth Harbor, N. H.  
Lieut. Greely Just After His Rescue.  
(See Chapter XL.)



Lieut. R. E. Peary, C. E., U. S. N.  
(See Chapter XLII.)



Little Auks on Sea Ice.  
(See page 335, etc.)

er, Skipper Carlsen, for his able assistance; and let us also note that it was he who, on the 9th of September, 1871, discovered on the northeast coast of Nova Zembla, in latitude  $76^{\circ} 7'$ , the ruins of Barents' house, a roofless structure ten feet long, six wide, and filled with ice and gravel containing household articles, boxes, books, etc., and which he sold for 10,800 crowns, as may be verified by viewing the collection in the restored house of the old ice-pilot at The Hague. Referring to this, Markham writes:

"No man had entered the lonely dwelling where the famous discoverer sojourned during the long winter of 1596 for nearly three centuries. There stood the cooking-pans over the fire-place, the old clock against the wall, the arms, the tools, the drinking-vessels, the instruments and the books that beguiled the weary hours of that long night 275 years before. Perhaps the most touching relic is the pair of small shoes. There was a little cabin-boy among the crew, who died, as Gerrit de Vere tells us, during the winter. This accounts for the shoes having been left behind. There was a flute, too, once played by that poor boy, which still gives out a few notes."



GEORGE W. MELVILLE, CHIEF ENGINEER, U.S.N.



LIEUTENANT JOHN W. DANENHOWER, U.S.R.

## CHAPTER XXXVI.

## THE ENGLISH EXPEDITION OF 1875-6.

Fast losing her laurels for the discovery and exploration of northern lands and attendant scientific investigation, England once more roused the Lion of Patriotism from the lethargy into which it had fallen as regards Arctic matters ever since the great activity in sending out the various Franklin Search Expeditions. America, Germany, Austria, Sweden—all had now surpassed her in the acquisition of a scientific knowledge of the unknown North.

But there was still within her the spirit of try again, and roused to action through the efforts of that princely Christian gentleman, Admiral Sherard Osborn, himself an Arctic explorer; by Sir Roderick I. Murchison, president of the Royal Geographical Society, and an eminent geologist and geographer as well; by Lady Franklin, whose interest in Arctic subjects continued unabated till her death in 1875; and by many others of great influence, the government gave its sanction to an expedition. It consisted of two vessels, the steam-sloop "Alert," of 751 tons and 100-horse power, and of the steam-whaler "Discovery," purchased of a Dundee firm. In command of the expedition and in immediate charge of the "Alert" was Captain, afterwards Sir, George Nares.

Second in command was Commander A. H. Markham, whom we previously met on board the "Arctic," one of the whaling-vessels that had helped to entertain the rescued party of the Hall expedition. Immediately in charge of the "Discovery" was Captain H. F. Stephenson. All told, the complement of

men numbered 120, many of whom had seen previous Arctic service.

By the 24th of July, 1875, both vessels were beyond the ice of Melville Bay, having steamed to the northwest from Disco, across Baffin's Bay, where, on the date mentioned, the great central ice-pack was struck, but which, in thirty-four hours, they succeeded in boring through, thus performing a feat never before accomplished and that proved the great utility of steam for Arctic navigation.

A month later, August 24th, the ships arrived in safety at Cape Lieber, the limit reached by Hayes in 1860. Rounding that point a good harbor sheltered by an island was found in Lady Franklin Bay.

Here, on the following morning, was seen a herd of nine musk cattle peacefully grazing on the fresh Arctic vegetation. By the 10th of October thirty-two of these animals had been secured and at one time more than a ton and a half of their flesh was hanging frozen for use. On this day the sun disappeared and remained absent 135 days. In this harbor the "Discovery" remained frozen in for ten and a half months. The temperature of the lower decks was maintained at from 48° to 56° above zero throughout the winter.

Meanwhile, the "Alert" established herself in quarters farther north. On the 31st of August she attained latitude 82° 24', in Robeson Channel, the highest latitude ever reached by ship, and only 21' south of Parry's limit by sledge in 1827, viz., 82° 45', north of Spitzbergen.

In Robeson Channel the sea and land-ice were separated by a narrow lane of water which, off Cape Sheridan, entirely disappeared, the hoped-for northern exit into the Polar sea being thereby completely locked by the union of the two great ice masses.

The coast-ice was in the form of a jagged parapet, fringing the shelving ledges which rose to an average height of twenty feet and were broken here and there by deep, glistening ravines.

Having passed the northeast point of Grant Land, which



Hayes had so longed to reach, Nares found, not an "open polar sea," but instead a

"SEA OF ANCIENT ICE,"

of great age and of great thickness; for, in place of being five or six feet thick, as had been the case of the new floes, or ten or twelve feet of the old floes encountered in the channel, it rose to a height of fifteen or twenty feet above the surface of the water and had a total depth of from eighty to one hundred twenty feet, and resembled a connected chain of low, flat-topped icebergs. In the midst of such ice, where the submerged portion extending to the land left a sufficient waterway for the ship, the "Alert" found safe winter-quarters and was soon frozen in by the newly-formed shore ice.

On the 21st of September, Lieutenant Aldrich, accompanied by Adam Ayles, left the "Alert" with two sledges drawn by dogs, to lay out a route round Cape Joseph Henry, on the north side of Grant Land, for a large party which was to follow.

On the 25th Commander Markham, with Lieutenants Parr and May, started with three sledges to establish a depot of provisions to the northwestward as far as might be found practicable.

On the 27th Aldrich and Ayles reached latitude  $82^{\circ} 48'$ , and from the summit of a mountain two thousand feet high, descried a wide expanse of land to the northwestward as far as  $83^{\circ} 7'$ , with high mountains on the south. They returned to the ship on the 5th of October.

After an absence of nineteen days Markham's party also returned. They had established a depot in latitude  $82^{\circ} 44'$  and traced the coast two miles farther to what may be considered the exact latitude reached by Parry, north of Spitzbergen, nearly a half century before. The thermometer ranged, during this trip, from  $15^{\circ}$  to  $22^{\circ}$  below zero. The party numbered twenty-four men, eight of whom were severely frost-bitten.

Meanwhile, Lieutenant Rawson sought to communicate with the "Discovery," in Lady Franklin Bay. The ice in the channel, however, was found rotten and unsafe within nine miles of the ship and piled up thirty feet high along the shore,

the deep snow-drifts in the ravines also rendering the overland route impassable.

The winter was very pleasantly passed on both vessels. Of the fifty-five men composing the crew of the "Alert" only two could be found who could not read. Besides a school for instruction, there were also lectures, readings, concerts, and theatrical entertainments arranged for the enjoyment of all.

Each vessel carried a printing press, and from these were issued the programs, bills of fare on the occasions of great dinners, etc.

On November 5th, the anniversary of the "Gunpowder plot," Guy Fawkes was burned in effigy upon the ice.

On the 9th of November Captain Nares writes:

"To-day the moon reappeared above the southern horizon. Her movements are so important to us that a monthly bulletin is published giving the precise account of when she will appear and when depart. She is truly the 'presiding goddess' of the long Arctic night; reflecting, during the event of her visit, the light of the totally absent sun for ten consecutive days and nights as she circles round the heavens without ever setting. During some part of her stay, full moon occurs, and she displays her greatest beauty. At the time of new moon, when her light would be of least value, she is absent in southern latitudes."

Christmas was spent as is here related:

"First of all, in the morning we had Christmas waits in the usual manner. A sergeant of marines, the chief boatswain's mate, and three others, went around the ship singing Christmas carols suited to the occasion, and made a special stay outside the captain's cabin. On the lower deck in the forenoon there were prayers, and after that, captain and officers visited the mess in the lower deck, tasted the pudding, inspected the decorations which had been made, and so on. Then the

#### BOXES OF PRESENTS

by friends in England were brought out, the name of him for whom it was intended having been already fixed to each box, and the presents were then distributed by the captain. Ring-

ing cheers, which sounded strange enough in that lone place, were given for the donors, some of them very dear indeed to the men who were so far away from their homes. Cheers were also given for the captain, and for absent comrades on the "Alert." A choir was then formed, and 'The Roast Beef of Old England' had its virtues praised again."

Fresh meat was had in abundance on each ship. Fish, beef, and mutton brought from England hung upon the masts, frozen hard. Sheep had also been brought and these were killed from time to time.

#### HUNTING PARTIES

were also quite successful. Those from the "Alert" secured six musk-cattle, three foxes, twenty hares, ten ptarmigans, twenty-six ducks, and seventy geese.

Those from the "Discovery" were even more successful, especially as relates to securing musk-oxen, hares, and seals.

On the 29th of February the sun reappeared.

On March 12th Lieutenants Egerton and Rawson, with Christian Petersen, the interpreter, attempted to open communication with the "Discovery," but returned on the 16th, Petersen having completely broken down. His hands were paralyzed and his feet so badly frozen that it became necessary to amputate them. Three months later the unfortunate man died.

Somewhat later the attempt was resumed with two seamen, this time with success, and the coöperation of sledge parties from both vessels thereafter established.

#### FROM THE "DISCOVERY"

an exploring party of eight men under Lieutenant Beaumont crossed Robeson Channel on the broken and moving ice and explored the Greenland coast to latitude 82° 18'. Two of the men died of scurvy before reaching Polaris Bay.

Having reached the limit of his journey, Beaumont turned toward the ship, but four more of the men soon yielded to fatigue. The three not disabled now hauled not only their

four exhausted comrades, but also the provisions, on a single sledge, making the journey often twice and thrice over the same piece of rough ice, advancing the burden in separate loads. Says Nares:

"The gallant band struggled manfully onward, thankful if they made one mile a day, but never losing heart."

Opportunely, a relief party consisting of Rawson, Dr. Copping, and the

#### FAMOUS ESKIMO HANS,

of the Kane, Hayes, and Hall expeditions, found them and saved their lives. Arriving at Polaris Bay, the depot of provisions left by the "Polaris" was found, game was killed, and thus their distress relieved. Lieutenant Fulford and Dr. Copping explored Petermann Fiord, and found it to terminate in a deep glacier front. The party remained absent from the ship 132 days.

At Discovery Harbor some good coal was found.

Lieutenant Archer surveyed Lady Franklin Bay and found its head sixty-five miles inland, and to be surrounded by lofty mountains and glacier-filled valleys.

#### FROM THE "ALERT"

Lieutenant Aldrich, with seven men, explored 220 miles to the west side of Grant Land, but found nothing in sight beyond except the wide ice-covered sea. Setting out upon the return he was fortunately met by Lieutenant May, who found the party in an exhausted condition, with only one man able to assist in hauling four disabled companions, the other two struggling along by the side of the sledge.

The great event of the sledge journey is now to be related, namely,

#### MARKHAM'S SLEDGE JOURNEY

over the sea-ice.

Setting out on the 3d of April, the party consisted of Captain Markham, Lieutenant Parr, Dr. Moss, Mr. White, one of the engineers, and twenty-eight men. The outfit consisted of four sledges each drawn by seven men, and accompanied by an officer, two boats, four tents eleven feet long and four feet

wide, and about nine-tenths of a ton of provisions to each sledge.

For the first few days good progress was made. Upon reaching the depot of provisions left at Cape Joseph Henry in the previous season the party were rearranged, Markham and Parr pushing on over the rough and hummocky "sea of ancient ice" with fifteen men and three sledges.

The difficulties of the journey will be inferred from a few of Markham's journal entries:

"April 10th: Distance made good, one mile; distance marched, seven.

"12th.  $1\frac{1}{2}$  made good; 9 traveled.

"17th.  $1\frac{1}{4}$  made good; 9 traveled.

"18th. 1 made good; 10 traveled and ten hours to do it."

On the 19th, one of the boats, weighing eight hundred pounds, was left behind, it being necessary to lighten the loads owing to the disablement of two of the men by an attack of the scurvy, thus making it necessary to haul them.

Upon quitting the boat its mast was decorated with red cloths to serve as signals upon the return of the party.

Thus the snail-like journey was continued. Says Nares:

"The journey was consequently an incessant battle to overcome ever-recurring obstacles, each hard-worn success stimulating them for the next struggle. A passage-way had always to be cut through the squeezed-up ice with pickaxes, an extra one being carried for the purpose, and an incline picked out of the perpendicular side of the high floes, or roadway built up, before the sledges—generally one at a time—could be brought on. Instead of advancing with a steady walk, the usual means of progression, more than half of each day was expended by the whole party facing the sledge and pulling it forward a few feet at a time."

On the 30th of April a dense fog was encountered and threatened to entangle them in a labyrinth of hummocks. They, however, struggled on for ten days, when a stop was made and a camp for the invalids established and left in charge of the cooks.

On the 12th Markham and Parr again set out with such of the men as were able to venture forward, in order to make a dash for the highest point attainable. This last march is thus related by Markham:

"We had some very severe walking, through which the labor of dragging a sledge would be interminable, and occasionally almost disappearing through cracks and fissures, until twenty minutes to noon, when a halt was called. The artificial horizon was set up, and the

FLAGS AND BANNERS WERE DISPLAYED,

these fluttering out bravely before a southwest wind, which latter, however, was decidedly cold and unpleasant. At noon we obtained a good altitude and proclaimed our latitude to be  $83^{\circ} 20' 26''$  north, exactly three hundred and ninety-nine and one-half miles from the North Pole. On this being duly announced, three cheers were given, with one more for Captain Nares; then the whole party, in the exuberance of their spirits at having reached their turning point, sang 'The Union Jack of Old England,' by the grand paleocrystic sledging chorus, winding up, like loyal subjects, with 'God Save the Queen.' They had traveled seventy miles north of Grant Land over the paleocrystic ice.

Both Markham and Parr were eager to push on, but the salvation of the party depended upon a speedy return, for nearly all of the men were stricken with the scurvy. Forced marches carried them to Depot Point, near Cape Joseph Henry, on the 7th of June. Here, while Markham watched and labored for the comfort of his men, Parr set out alone for the "Alert," thirty miles distant. Stimulated with the consciousness that upon his exertions depended the lives of the stricken men, he proved himself equal to the emergency and reached the ship in twenty-four hours.

Before midnight of the 8th Captain Nares was on the way to Depot Point, at the head of a relieving party. Lieutenant May, Dr. Moss, and a seaman, with a light dog sledge, were sent forward as a lightly-equipped advance party and reached

the camp fifty hours from Parr's departure. In that short interval George Porter, one of the afflicted, had died and was buried in the snow. No other life was lost.

Of the fifteen men who, two months before, had left Depot Point, only three were able to assist in dragging back the sledges; nine had to be hauled and three struggled along of themselves.

Meanwhile, Captain Stephenson, of the "Discovery," crossed Robeson Channel and, in the presence of twenty-four officers and men, on the 13th of May, erected at Hall's grave the brass tablet referred to in preceding pages. It was indeed a graceful act and one that all Americans gratefully acknowledge.

In taking leave of the narrative of the Nares expedition it is interesting to note that close to Cape Beechey, six or seven miles from the eighty-second parallel of latitude, were found the

#### MOST NORTHERN TRACES OF MAN

yet discovered. These were a stone lamp, a very perfect snow-scraper made of walrus tusk, and the framework of a large wood sledge.

Upon the return of Markham's sledging party, Captain Nares returned to England, arriving there October 27, 1876, after an absence of sixteen months, with both ships in good condition and with a loss of but four men.

Captain Nares proved himself to be a brave and efficient officer. With Kellet and McClintock he had seen previous service in the search for Franklin. The expedition under his immediate command must be granted to have been a marked success, only a few closet critics, paper philosophers, and ne'er do anything navigators, urging the contrary.

The only possible criticism that may be offered lies in the fact that the men of the expedition had not been fortified against the attacks of the scurvy as had been the officers. Had they continued in as good condition as the officers it is not difficult to foresee that much more might have been accomplished.

## CHAPTER XXXVII.

## SCHWATKA'S EXPEDITION TO KING WILLIAM'S LAND.

Among the noteworthy efforts made to fathom the mysteries of Sir John Franklin's fate, and to recover documents pertaining to the history of the unfortunate enterprise, the Schwatka "search" expedition elicits our grateful appreciation.

Ever since his boyhood days Lieutenant Frederick Schwatka, of the United States Navy, had taken an intense interest in the matter of the search. The vague and unsatisfactory knowledge already acquired—the individual decease of Franklin, determined by McClintock in 1859, the scanty records of Gore and Crozier, the hypothesis of Rae, and its confirmation by Hall, that most of the party died of starvation—all served to arouse within Schwatka a desire to make known the actual course of Franklin and the fate of his ships.

Having obtained leave-of-absence from duty on the plains, he went to New York and asked permission to organize a party to search for the supposed records of Franklin's last voyage. In this he received the assistance of Judge Daly, President of the Geographical Society, who endorsed his application to be detailed as commander of the proposed expedition. This was readily granted by General Sherman.

## PRIVATE SUBSCRIPTIONS

having provided the necessary provisions and equipment, Messrs. Morrison and Brown, ship-owners, kindly placed at the disposal of the expedition for transportation purposes, the "Eothen," Captain T. F. Barry. She was a stout, though small vessel, of only one hundred two tons of burden.



The exploring party consisted of but five men—Lieutenant Schwatka, in command; Mr. William H. Gilder, second in command; Messrs. Klut-schak and Melms, already experienced in Arctic ice, and of Joseph E-bier-bing, the faithful "Joe," the ally and friend of Captain Hall.

Before sailing, Lieutenant Schwatka received the following instructions from Mr. Morrison:

"Upon your arrival at Repulse Bay you will prepare for your inland journey by building your sledges and taking such provisions as are necessary. As soon as sufficient snow is on the ground you will start for King William's Land and the Gulf of Boothia. Take daily observations, and whenever you discover any error in any of the charts you will correct the same, marking thereon also any new discoveries you may be fortunate enough to make."

On the 7th of August, 1878, the "Eothen" reached Whale Point, at the entrance to Roe's Welcome. Here the explorers were soon visited by several of Hall's former Eskimo companions, notably Ah-mou (the wolf), Ik-ah-mah (the fire), and Pa-pa-tew-ah, or Too-goo-lan.

In this vicinity, latitude  $63^{\circ} 51'$  north, longitude  $90^{\circ} 26' 15''$  west, Schwatka's little band spent the winter of 1878-9, inuring themselves to the Eskimo mode of life, as Hall had done fifteen years previous.

During the winter and early spring various sledge trips were made in preparation for the summer's journey

#### TO KING WILLIAM'S LAND.

On one of these Mr. Gilder visited the friendly Kin-ne-pa-toos, a tribe of Eskimos, many of whom had never before seen a white person. Lieutenant Schwatka also made a preliminary sledge journey northward.

On April 1st the party, accompanied by thirteen Eskimos, men, women, and children, began the long journey northward. The sledges, burdened with two and a half tons of provisions, were drawn by forty-two dogs.

Six weeks later, on a branch of Back's River, a small party

of Ook-joo-likes were met with, and from them it was learned that some years previous a ship had been found in the ice off the west coast of Adelaide Peninsula; that from it knives, spoons, and utensils had been taken by cutting a hole through the side of the ship on a level with the ice, as the natives did not know how to get in through the doors; that they saw no bread; that books were found and left on board; and that, with the breaking up of the ice in the following summer, the water filled the ship through the hole cut in her side and caused her to sink.

Somewhat later a party of Neit-chil-lis were met and the foregoing information concerning the ship was confirmed by them. The place where she sank was also pointed out. Captain Hall had determined this to be in latitude  $68^{\circ} 30'$  north, longitude  $99^{\circ}$  west.

Early in June the site of the camp probably occupied by Captain Crozier was reached. This was on the mainland of King William's Land. Here were found cooking stoves, kettles, clothing, blankets, etc., and in

#### AN OPEN GRAVE

some canvas, gilt buttons, the object-glass of a telescope, and a quantity of blue cloth, wrapped about a body, the head of which rested upon a figured silk pocket-handkerchief remarkably preserved.

Upon a stone, at the foot of the grave, was discovered a thickly begrimed silver medal two and a half inches in diameter, bearing upon its obverse a bas-relief of George IV., surrounded by the words "Georgius III., D. G. Britanniarum Rex, 1820," and upon its reverse, a laurel wreath, and the words "Awarded to John Irving, Midsummer, 1830," being enclosed by the inscription "Second Mathematical Prize, Royal Naval College."

And thus was identified the grave of the gallant young Lieutenant Irving, third officer of the "Terror." Carefully were the sacred ashes gathered, and in due time sent to grate-

ful relatives in Scotland, where they were reinterred with honor, in their native soil.

July was spent in as thorough an examination of the island as was possible, the party advancing about ten miles each day, and subsisting upon ducks, geese, and reindeer, the flesh being eaten almost as soon as killed. The use of so much raw meat brought on frequent attacks of diarrhoea. Numerous cairns, previously erected by white men, were found, but they contained no important relics.

At Erebus Bay were found the wreck of a ship's boat, cloths, iron, and human bones. Portions of four skeletons were buried here.

The ice now breaking up, the party were compelled to carry everything on their backs as they marched. Terror Bay was reached on August 3d, and on September 19th, near Gladman Point, on Simpson's Strait, winter quarters were established. Reindeer were seen in

#### IMMENSE HERDS.

In ten minutes Too-loo-ah killed seven of the summer-fattened creatures, kissing his rifle for its good behavior. On the 30th, twenty-six were killed. By the middle of October no more were seen.

On the 10th of December the party began the return journey, subsisting upon salmon, a species of herring, and reindeer. Half of the dogs died and they were obliged to defend themselves against the wolves.

The winter, too, the natives said, was unusually severe, the following temperatures (Fahrenheit) being recorded:

	Dec.	Jan.	Feb.
Average .....	-50°	-53°	-45°
Minimum .....	-69°	-71°	-69°

Having left the river, the party struck directly across the country for Depot Island. The region fairly

#### SWARMED WITH WOLVES,

which attacked the natives and killed some of the dogs. On

the 23d of February a pack of twenty attacked Too-loo-ah, who, however, killed one with the butt of his gun and made good his escape while the pack were fighting over and devouring the carcass.

Thus, through snow and gale and darkness, the little band struggled on till, on March 4th, Depot Island was again reached. Here Schwatka was amazed to learn that Captain Barry had failed to leave supplies with the faithful Ah-mou as he had promised to do. Accordingly, the weary men were compelled to proceed to Marble Island, which was not reached till on the 21st, thus terminating the long sledge and foot journey of 3,251 statute miles, during an absence of nearly a year. At Marble Island was found the only vessel in the bay. This was the whaler "George Mary," and on her the explorers took passage, arriving home September 22, 1880.

Not only in America, but in Europe, the great services which Lieutenant Schwatka had thus rendered to the cause of science and humanity received substantial and honorable reward.

Wise foresight, executive ability, and undaunted iron will everywhere assert themselves in the career of this explorer.



AORWA BASTURD BY HALL



COLD WEATHER

## CHAPTER XXXVIII.

## NORDENSKIOLD'S WONDERFUL VOYAGE.

The discovery of the northeast passage forms one of the most interesting and instructive of all Arctic narratives. Its accomplishment may be said to have formed the culmination of long years of study and effort within Arctic ice on the part of Prof. A. E. Nordenskiöld.

Indeed, as Turner truly said concerning one of his paintings, that it had required "all of his life" in which to execute it, so might this persevering scholar have said of his attainment of the northeast passage, that it, too, was the work of a lifetime.

He, the son of a naturalist, was born in 1832, and sprang from a long line of ardent students of nature, all of whom were travelers as well.

Besides, they were philanthropists, and devotedly advocated the maintenance of peace among all Christian nations, and took active part in efforts for the abolition of slavery.

The mother of Adolf, the subject of this sketch, possessed a fearless character and was of a respectable but by no means illustrious family. The striking and original type of character exhibited by this afterwards-celebrated son was certainly an inheritance in the strictest sense. Its originality was of a family likeness.

Having left, for political reasons, his native Russian Finland, he was made State mineralogist of Sweden in 1858. In the course of the next twenty years he was engaged either as leader or prominent member, in no less than seven Arctic expeditions—to Spitzbergen, Greenland, Siberia, etc. Towards the expenses of five of these, Nordenskiöld's warm friend, the wealthy Dr. Dickson, contributed liberally. Other private

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**Our Fallen Comrade—Eivind Astrup.\***  
Samuel J. Entrikin, Second-in-Command. The Author. George Harlow Clark, Naturalist.  
(See Chapter XLII. \*See page 101.)



F. W. Stokes,  
Artist.

Eivind Astrup.  
Dr. E. E. Vincent,  
Surgeon.  
(See Chapter XLII.)

Jas. W. Davidson.

subscriptions, supplemented by aid from the Swedish government, enabled many of the foremost scientists of the times to pursue their invaluable investigations in Spitzbergen, Greenland, and the adjoining seas. Says Nordenskiöld:

"The exploring expeditions which, during the recent decades, have gone out from Sweden towards the north, have long ago acquired a truly national importance through the lively interest that has been taken in them everywhere, beyond, as well as within, the fatherland; through the considerable sums of money that have been spent on them by the State, and above all, by private persons; through the practical school they have formed for more than thirty Swedish naturalists; through the important scientific and geographical results they have yielded; and through the material for scientific research, which by them has been collected for the Swedish Royal Museum, and which has made it, in respect of Arctic natural objects, the richest in the world. To this should be added discoveries and investigations which are, or promise in the future to become, of practical importance; for example, the meteorological and hydrographical work of the expeditions; their comprehensive inquiries regarding the seal and whale fisheries in the Polar seas; the pointing out of the previously unsuspected richness in fish of the coasts of Spitzbergen; the discoveries on Bear Island and Spitzbergen of considerable strata of coal and phosphatic minerals which are likely to be of great economic importance to neighboring countries; and, above all, the success of the two last expeditions in reaching the mouths of the large Siberian rivers—the Obi and Yenisei—navigable to the confines of China, whereby a problem in navigation, many centuries old, has at last been solved."

And who would gainsay the testimony of this modest scholar who had himself examined geologically and mineralogically more than one thousand miles of rock-section in Spitzbergen alone?

In 1868, when off the north coast of Spitzbergen, near the Seven Sister Islands, endeavoring to reach the North Pole, Nordenskiöld wrote: "On the way we had in several places



W. Davidson.



met ice that was black with stones, gravel, and earth, which would seem to indicate the existence of land still farther north."

Again he says:

"After my return from the voyage of 1876—to Siberia—I came to the conclusion that on the ground of the experience thereby gained, and of the knowledge which, under the light of that experience, it was possible to obtain from old, especially from Russian explorations of the north coast of Asia, I was warranted in asserting that the open, navigable water, which, two years in succession had carried me across the Kara Sea—formerly of so bad repute—to the mouth of the Yenisei, extended, in all probability, as far as Bering's Strait, and that a circumnavigation of the Old World was thus within the bounds of possibility."

At length, under the chief patronage of King Oscar II., Dr. Dickson and Mr. Sibiriakoff, wealthy merchants, he sailed from Tromsøe, Norway, on the voyage which was destined to make him world-renowned.

The expedition vessel was the staunch German whaling-  
steamer

"VEGA,"

of 357 tons gross burden. She had been equipped and manned by the state at an expense of less than \$9,500, and carried a crew of seventeen men, besides the three officers. Other expenses were borne by individuals. She was accompanied as far as the Lena and Yenisei rivers by three depot ships which were despatched by Mr. Sibiriakoff at an expense additional to his own general share.

This small Arctic fleet passed the Strait of Nova Zembla near the close of July, and anchored on the 30th in Yugor Strait, the narrow channel separating the Island of Waigat from the northeast coast of Russia. Here intercourse was held with the Samoyed Eskimos, from whom goose and swan feathers, skins, furs, etc., were obtained in exchange for corn and salt.

Proceeding eastward, the Kara Sea was found calm and

comparatively free of ice. In three days the "Vega" reached Port Dickson, on Dickson Island, at the mouth of the Yenisei. From this point two of the transports returned.

On the 10th of August the "Vega" and the remaining provision-ship left Port Dickson and passed between Taimur Island and the peninsula of the same name. Four days were spent in examining the fauna and flora of the region, after which progress was made to Cape Chel-yus-kin, and that the northernmost point of the eastern continent, latitude  $77^{\circ} 37'$ , was not rounded without great difficulty till on the 19th of August. The extremity of the cape was found to consist of slate-strata, crossed by great veins of quartz.

The interior of the country consisted of gentle slopes, low plains of clay, some of which were bare, while others were covered with grasses, mosses, and lichens. The rocks consisted of vertical layers of slate without fossils, but were rich in pyrites.

Of animation there were seen sandpipers, barnacle geese, gulls, kittiwakes, eider-ducks, a loon, a walrus, several seals, a bear, two shoals of the white whale, and traces of the reindeer and lemming.

The dredge yielded an abundance of the lower forms of life, and some algae.

Of insects there were the spring-tail, a few flies, and a beetle.

Having left the cape, the "Vega" was driven by favoring northwest breezes, through open water, in a southeasterly direction to the mouth of the Lena River. Here the last depot ship, the "Lena," left the "Vega" and steamed up the stream whose name she bore, to Yakutsk, 800 miles distant. Being the first ocean-steamer to penetrate so far inland, she was greeted with great joy.

Meanwhile, the "Vega" pushed toward the Liakoff Islands, but owing to thick ice and shallow water the effort to land was relinquished.

Advancing farther eastward, Serdze Kamen, situated only 100 miles short of Bering's Strait, was reached on the 28th

of September. Here the "Vega" was firmly beset on this date and at once established herself in winter-quarters. But for the delay in endeavoring to reach the Liakoff Islands, she would doubtless have completed the voyage in the same season.

The winter at Serd-ze Kamen passed uneventfully, but much information was derived concerning the Chook-chee Eskimos, and in making scientific observations, for which purpose an observatory was erected on shore. Throughout the cold season the men were able to keep themselves warm in woolen jackets and woven jerseys. The sea-water was found to vary in a single day from  $28^{\circ}$  to  $32^{\circ}$ .

The natives were found to divide themselves naturally into two classes: the coast and inland Chook-chees, the former depending upon the dog as their most faithful ally, the latter upon the reindeer. In their dealings with the ship's company they were found to be strictly honest, not even disturbing the provisions placed on shore. It was learned that they carried on trade with the Alaskans.

At length, freed from the ice on the 18th of June, 1879, the "Vega" two days later passed East Cape on her way down Bering's Strait, and cast anchor in the Bay of San Lorenzo, an inlet of an island inhabited by a mixed population of Alaskans, Chook-chees, and Samoyeds.

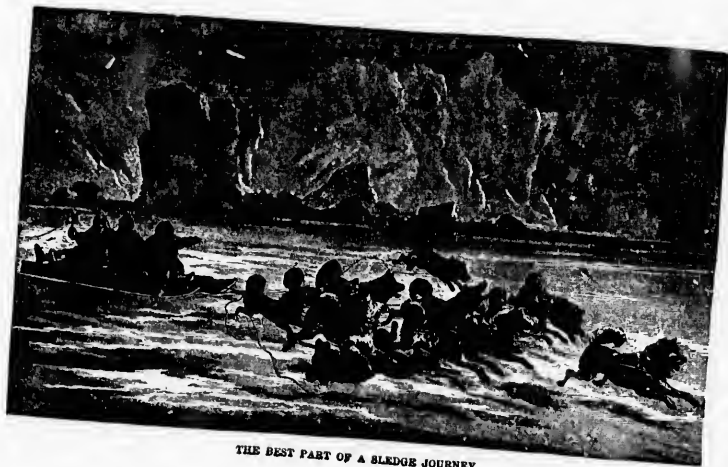
From the 22d to the 26th of July, the "Vega" remained at Port Clarence, Alaska.

Having arrived at Yokohama on the 2d of August, she then proceeded via the Suez Canal to Naples. This city was reached February 14, 1880. From this date till their joyous entry into the Bay of Stockholm, on the 24th of April, the returning explorers were feted and welcomed at every point where anchor was cast, as never before men had been honored. The ovations were expressive of a truly international enthusiasm over the accomplishment of one of the grandest undertakings of humanity.

That the chief patrons of the expedition, viz., the generous and public-spirited King of Sweden and Norway, Oscar II.,

Dr. Dickson, and Mr. Sibiriakoff, deserve unstinted praise for their liberality of mind, and heart, and purse an admiring world will ever record.

But that the modest and persevering geologist and mineralogist, Baron Adolf E. Nordenskiöld and his faithful companions merit a world's profoundest gratitude no one will deny.



THE BEST PART OF A SLEDGE JOURNEY.

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## CHAPTER XXXIX.

## DE LONG'S GALLANT STRUGGLE.

In the pages of history there is no record more noble and inspiring than that of George Washington De Long.

Reared of strict, yet kind and solicitous Huguenot parents, he early imbibed the frugality, energy, and Christian fervor of those who begat him. His strong will and passion to overcome difficulties urged him irresistibly onward in the pursuit of anything that he undertook.

Returning from the search of the "Polaris" in 1873, when, as we have already seen, he commanded the "Juniata," he appears to have had his heart set as firmly on the polar problem as had been that of the lamented Hall. Acting upon the suggestion of Mr. Grinnell he at once wrote to Mr. James Gordon Bennett, then in Paris, and solicited financial "backing." The reply was both courteous and encouraging.

It was, however, the 8th of July, 1879, before Mr. Bennett's liberality had made all necessary arrangements and the expedition, in command of Lieutenant-Commander DeLong, steamed away from San Francisco and headed toward Bering Strait.

The vessel selected for this voyage was the "Pandora," formerly owned by Sir Allen Young, who had accompanied McClintock in his search for Franklin in 1857-9. In her, this eminent English navigator had made, in 1875, an Arctic voyage through Lancaster Sound and Barrow's Strait to Peel Sound. After her purchase by Mr. Bennett in 1878, she was rechristened the

"JEANNETTE"

and refitted for Arctic service.

Captain DeLong's chief assistants were: Lieutenant C. W.

Chipp, the companion of his voyage on the "Juniata," and now his executive officer; George W. Melville, U. S. N., chief engineer; Dr. James M. Ambler, U. S. N.; Mr. Jerome J. Collins, meteorologist; Mr. R. L. Newcomb, naturalist, and Mr. William Dunbar, ice pilot. The ice quartermaster was Mr. Nindemann, one of those who had accompanied Captain Tyson on his marvelous drift on the ice-floe after their separation from the "Polaris," and was, therefore, one of those for whom Captain DeLong had gone in search in 1873.

Strange, indeed, that ten years later it should be Nindemann's fortune to search for DeLong, as will appear hereafter.

It is also of interest to remark that a friend of the expedition sent to Captain DeLong a likeness of Captain Hall and a bit of the "Polaris" flag, to be carried to the North Pole.

Provisioned for three years, the "Jeannette" steamed from San Francisco to St. Michael's, Alaska, whence, taking on board forty fine dogs, sledges, a large quantity of fur garments, other Arctic necessities, and two native assistants, the Alexey and Aneguin of our narrative, she proceeded to St. Lawrence Bay, on the Asiatic side.

Upon leaving the bay on the evening of August 27th, DeLong sent the following despatch to the Honorable Secretary of the Navy: "Arrived 25th; leave for Serdze Kamen to-night. All well. Natives report Nordenskiold passed south three months ago, stopping here one day, having wintered at Kolyu-chin Bay. Mentioned one officer, a Russian, who spoke the native language, as named 'Charpish,' possibly Nordquist, of the Russian navy, accompanying Nordenskiold, who said the ship was going home. Leave here to verify account along the coast. Hope to reach Wrangell Land this season."

Rounding East Cape twenty hours later, Serdze Kamen was reached at 5 p. m. of the 29th. Here papers, and a letter addressed to the Secretary of the Navy, were deposited. These, by means of the whaling-vessels which annually visit these waters, reached their destination thirteen months later. Here, too, DeLong observed the natives to be as hospitable as they were "stalwart and handsome." Some of the men also saw

the winter-quarters of the "Vega," which had left there about a month previous.

Having reached Kol-yu-chin Bay on the 1st, the "Jeannette" headed northwestward toward Herald Island and Wrangell Land. The former, we have noted in previous pages, had been discovered, and the latter rediscovered, by Captain Kellett, in the brig "Herald," in 1849. On this day, too, was sighted Kolyuchin, or Burney Island, on which Wrangell had landed in 1823.

On the next day, in about latitude  $70^{\circ} 52'$  north, longitude  $174^{\circ}$  west, the American whaler "Sea Breeze," Captain Barnes, was seen. She was again sighted several times on the 3d.

Herald Island came into view on the 4th, and toward this the "Jeannette," having now fairly entered the pack, endeavored to push her way. For there was DeLong "hoping and praying to be able to get the ship to make winter-quarters."

Sunday, September 7th, was "a day of complete rest in every respect." The commander, at 10 a. m., mustered the crew, read the Articles of War, and held divine service. At 12 m. got soundings in forty fathoms of blue mud.

As the vessel drifted almost imperceptibly in the ice, the dogs were turned loose during the day-time for exercise. At night bear-traps were also set, and although bear tracks were seen about them, none of the creatures were caught. Some of the dogs becoming entrapped and injured instead, the traps were taken in.

On the 13th, Engineer Melville, Ice Pilot Dunbar, and Alexey, with a sledge and dogs, attempted to reach Herald Island, while Captain DeLong and Dr. Ambler sought for suitable ice from which to melt water for the ship's use, the sea-ice being salt and unserviceable, except after all too expensive distillation. Since icebergs, those mere fragments of fresh water-producing glaciers and extensive ice mantles of northern land elevations are not to be found in the Bering Strait region, the problem was a vital one to them. Finally, a large lump of ice on end on a floe was secured, and this, tested by means of nitrate of silver, showing the presence of but from

three to five grains of chlorine to a gallon of water, a tolerable supply was obtained.

On the next day the party sent toward Herald Island returned, having been stopped by open water extending about five miles from shore. The coast was high and rocky, with great ridges running down a nearly perpendicular face. No driftwood was seen, but many bear tracks and a raven were observed. A seal shot by Alexey was brought to the ship.

At noon on the next day the "Jeannette's" position was  $71^{\circ} 46'$  north,  $175^{\circ} 36'$  west, from which it appeared that she had been drifting northwest with the ice for the preceding six days at a rate of two and a half miles a day. At the same time, the young seal, having been well cooked, was eaten and unan- imously pronounced equal to rabbit.

A few days later the bear-traps were again set, with the entrails of the seal, and a large male bear was caught. He was accompanied by a female bear who would not desert him, but, by running to and from him, coaxed him on in his efforts to drag the trap forward, and which he did do for about three and a half miles. When overtaken by the men both bears rose on their hind legs and howled dolefully till the Winchester and the Remingtons of Chipp, Dunbar, Melville, and DeLong brought them down. The male weighed 580 pounds, the female 422 pounds. Both were photographed by Mr. Collins. Mr. Newcomb also added several ivory gulls to his natural history collection.

Drifting northward at from three and a half to five miles a day, the 24th of September found the "Jeannette" quite out of sight of Herald Island, in the center of a large floe strong enough to prevent the nipping of the ship. Says DeLong: "A mile from the ship in any direction new ice six inches thick is piled up in tables from six to twenty feet in height by the coming together of floes. One day we find large spaces of water, the next day we find the spaces narrowing, and the third day the spaces are closed and slabs of new ice six inches thick are piled up on end like a confused fence, six, twelve, and eighteen feet high."



Of life, an occasional gull and the products of the dredge were all that could be seen. On the 28th, however, Newcomb and Alexey shot two female walruses, each weighing 1,000 pounds; one was heavy with her young, the foetus and skin being saved as natural history specimens. The flesh afforded much dog food.

October opened with a terrific gale of wind and snow. At noon on the 3d, soundings gave a depth of twenty-four and a half fathoms, with blue mud and dark gravel. The dredge brought up some delicate white coral—a circumstance that bespoke either a natural growth or a warm current from the south. On the same day Herald Island reappeared in the southwest, the "Jeannette" having drifted southward on the third side of the triangle represented on the track chart, and at a speed of ten miles a day for three days. In the afternoon of this day Mr. Newcomb, Aneguin and Alexey killed another female bear weighing about 500 pounds, thus adding greatly to the ship's larder.

On the 6th the indefatigable Newcomb shot twenty-eight ducks, and on the next day a "Ross's gull"—a most valuable prize and rare beyond calculation, there being but one—at the Museum in Mainz—in the world.

On the 17th Nindemann and Aneguin each added a seal, making seven hanging in the rigging, and insuring fresh meat for as many dinners. On the following day Ah Sam, the cook, and a most valuable man otherwise, "asked for a gun," says DeLong, "to go shoot a seal." \* \* \* "In about an hour he returned, the most astonished and startled Chinaman out of China. At his first shot the gun had burst, tearing up the barrel, fortunately near the muzzle, so that he received no harm; but his mental demoralization was complete. The probability is he let the muzzle slip in the snow at some time, and the end of the bore got choked; hence the bursting."

On the 28th Lieutenant Danenhower found the ship's position to be in latitude  $71^{\circ} 57'$  north, longitude  $177^{\circ} 51'$  west. Land appeared in the south-southwest, which DeLong believed to be that seen by Captain Long in 1867 (Wrangell Land.) Com-

mander DeLong no longer believed it to be a continent, but either an island or an archipelago.

On the 29th "Dandy," or "Bingo," escaped from his harness when in the team, much to the disgust of the other dogs, who gave pursuit. "Bom bye, other dogs him plenty whip" (for his desertion) said the driver, Alexey. Three or four hours later, after the return of the team, they caught Bingo at a safe distance from the vessel and chewed him so badly that he died within ten minutes after being carried on board.

Throughout October several seals and walruses were secured, and "walrus sausage" was served as a new and "rare good thing." Both DeLong and Chipp agreed that bear and seal meat well cooked was not to be despised. Certainly, with an abundance of fuel, this may be accomplished.

On November 11th DeLong records: "A day of great anxiety. \* \* \* The grinding and crushing flow of ice to the westward had again commenced, and the jamming of large pieces from time to time, splintering our ioe, caused breaks and upheavals to within about seventy-five feet of the ship.

"The ship groaned and creaked at every pressure until I thought the next would break her adrift. The pressure was tremendous, and the noise was not calculated to calm one's mind. I know of no sound on shore than can be compared to it. A rumble, a shriek, a groan and a crash of a falling house all combined might serve to convey an idea of the noise with which this motion of ice-floes is accompanied. Great masses, from fifteen to twenty-five feet in height when up-ended, are sliding along at various angles of elevation and jam, and between and among them are large and confused masses of debris, like a marble yard adrift." On the 30th he writes: "I take leave of the month of November without the slightest regret. It has been a month of gales, ice-pressures and discomforts, mental and physical. \* \* \* I say good-bye to November, and invoke God's blessing on our ship and ourselves."

In December the general health of all was excellent. Each day the men exercised without the ship for two hours. The dogs, in sleeping on the snow, frequently became frozen fast

and had to be dug loose. Bear and fox tracks were frequently discovered and a heap of codfish bones was picked up two miles from the ship. They were probably the remains of a fish caught either by a bear or a seal. A distiller, which consumed two pounds of coal for every gallon of water, was also made and used, and yielded forty gallons of water each day. A grand Christmas dinner brought to a close the leading events of the gloomy month.

The New Year, however, came in with much cheer. The ship's bell was rung rapidly and the crew, assembling on deck, gave "three cheers for the 'Jeannette.'" After a capital dinner at 3 p. m., all assembled at 8:30 in the deck-house and enjoyed an entertainment. DeLong says: "Entering, we found a nice little stage erected with drop-curtains, foot-lights, etc., and tastily decorated with flags. The performance commenced with a minstrel variety, jokes and conundrums sandwiching in with the songs. One conundrum was excellent (pointing to one of the stanchions of the deck-house): 'Why is that stanchion like Mr. James Gordon Bennett? Because it supports the house.' Sweetman's songs were very good, and Kuehne's violin solo was fine indeed, especially when one takes into consideration the fact that a seaman's life does not serve to render the fingers supple and delicate. Mr. Cole gave us a jig with all the gravity of a judge. One of the features of the evening was a prologue, composed by Mr. Collins, in which each one of the crew was made the subject of a rhyme in turn. Alexey and Aneguin gave us native dances, and the latter an imitation of a song sung by our Chinamen. The Chinamen gave us their native song, and a sham fight with knives and a pole, winding up by imitating with much contempt Alexey's and Aneguin's manner of singing and dancing."

January, however, passed heavily away, with much ice-movement, causing the leaking of the ship and necessitating the working of the pumps. Gigantic ice-blocks pitched and rolled as though under control of magic. The "Jeannette" was in an amphitheater of ice about five-eighths of a mile in diameter and this circle was gradually decreasing in size, as huge

masses of whiteness approached the vessel in all directions, so that had she been two hundred yards in any other position she must have been instantly destroyed. This circle gradually contracted to within a few hundred feet of the ship and then stopped—"stopping," as Melville adds, "our prayers," also. Messrs. Dunbar and Sweetman were in ill health, while Lieutenant Danenhower suffered constantly from inflammation of the left eye, making necessary a painful operation by Dr. Ambler, concerning which the Captain says: "I hardly know which to admire the most, the skill and celerity of the surgeon, or the nerve and endurance of Danenhower." On the 26th the sun returned, after an absence of seventy-one days. January ended and February began, with the pumps going steadily. On the first of the new month a white Arctic fox was chased onto the gang-plank by the dogs. It was shot by Alexey. In its stomach was found nothing but lemmings' tails. Immediately afterward Lieutenant Chipp killed a bear weighing about 400 pounds. The stomach contained nothing whatever. On the next day another of these creatures attempted to get on board the vessel, but was shot by Mr. Dunbar. It weighed 900 pounds and measured eight feet one inch in length. Nothing save a few slate-like stones was found in its stomach.

## WASHINGTON'S BIRTHDAY

falling on Sunday, its celebration was held on the 23d. At sunrise the "Jeannette" was dressed with American ensigns at the mast-head and flag-staff and the Union Jack forward.

On the last day of February DeLoing wrote: "The men are bright and cheerful, surveying with much complacency and evident gratification the pumping of the ship by steam instead of hand power. Our Chinese cook and steward are as impassable and impenetrable in this cold weather as if we were enjoying a tropical spring." Living happily by themselves in the cook-house they passed the time singing songs or playing cards, with no concern for either past or future. "Our two natives, Alexey and Aneguin, thrive wonderfully well. Occasionally they 'think plenty' about St. Michael's, being a little

homesick, but generally they are bright and happy. \* \* \* They are naturally and intuitively the most polite men I have met outside of cultivated society. \* \* \* Upon meeting an officer first in the morning, a touch of the cap and a good-morning are immediately tendered. If you do or say anything for them that they see or hear, 'Thank you' is immediately your reply. If you thank them, 'You are welcome' is ready. And all this in a manly, straightforward way, without any cringing or eye serving."

On March 3d some shells and a piece of driftwood resembling birch were brought in. In December a piece of wood and a print of a moccasin or sealskin boot on a single piece of ice had also been seen at some distance from the ship. They had undoubtedly come from some Siberian River.

The advance of March brought the appearance of more game. On the 12th the track of a wolf was seen. Two days later three species of drift-wood and some stones and sponges were found. The shells had probably been dug up from the bottom of the sea and left on the ice. On the 16th Alexey and Anegnin shot a she-bear and on the 20th Alexey shot an immense walrus, so large that four men and thirty dogs could not drag him over the ice. Nindemann estimated his weight at 2,800 pounds.

Land (Wrangell's) was seen in the southwest several times during the month.

The pumps were kept continually at work. Ice disturbances and resulting pressure on the ship kept all in a state of anxiety. Great, confused masses of ice thirty or forty feet high were piled up about the vessel.

It was observed that the ice sank deeper in winter than in summer, for then, being like flint in hardness and closeness, it possessed greater density, causing it to sink lower than in August or September, when it was honey-combed and softened by the sun.

The position of the ship on the last day of the month was 72° 36' north, by 178° 7' west—almost the same as on November 30th.

On the 1st of April the dogs and men killed a fine large bear weighing 675 pounds. The fight was a lively one, about twenty dogs surrounding and worrying the creature, while a half dozen would bite it and make the fur fly.

On the 9th a raven, the first bird of the season, suddenly appeared and as quickly vanished. On the 15th, for breakfast, the tables were served with bear meat sausage balls minced with pork and powdered herbs. On this day two snow-buntings alighted near the ship.

At this time the dogs were observed to be "as fat as dumplings and as lazy as human beings in the tropics."

The health of the men was excellent. The scale of food containing much fresh bread, with canned vegetables, milk, butter, sixty pounds of fresh potatoes every week, and much lime juice, contributed largely to this.

#### ON SUNDAYS

Ship inspection and divine services were regularly followed by a dinner which all held in pleasant anticipation. The bill of fare for the winter consisted of soup, roast seal or roast bear with cranberry sauce, macaroni, potatoes, pickles, bread, pudding, or "duff," coffee and chocolate, and a glass either of ale, porter or sherry.

On the 18th of April the "Jeannette" was in latitude  $72^{\circ} 45' 46''$  north, longitude  $178^{\circ} 16'$  west. On the next day Iversen found on the ice, a mile and a half from the ship, seven pieces of wood, a piece of birch bark, a small leaf, and a bunch of vegetable matter. On the 20th a walrus was cut open and therein was found a part of a young seal, from which it would appear that the animal is omnivorous. In the course of the remainder of the month a raven, a dull-colored bird, and a young bear were seen. A wind-mill having been rigged up on the ship, it assisted in pumping. During the month the ship had drifted, to and fro, 84.2 miles; in a straight line, 46 miles northwest. On the last day a flock of about twenty eider ducks were observed flying westward.

On the 8th of May Captain DeLong thus writes: "The weather is gloomy, depressing, and disagreeable. Velocities

ranging from ten to twenty-three miles drive the snow from the face of the floe in clouds. \* \* \* Here and there alongside the ship a little white lump indicates that there is a dog beneath it, and even the regular and irregular dog fights are discontinued until the weather gets clearer and friend can be distinguished from foe. \* \* \* As if by concerted plan one and two will spring on three, roll him over and seemingly tear him in pieces. Fortunately the wool is so long and thick that an attacking dog gets his mouth full of hair before his front teeth reach the flesh. \* \* \* The vulnerable places are the ears and the belly. I have seen an attacked dog run, and, lying on his stomach, shove his head into a snow bank with impunity while his foes were choking over the hair they tore out of his back.

“\* \* \* Suddenly dog three will turn on dog two and be promptly aided by dog one, his previous foe. By this time the whole pack has gathered as if by magic, and a free and indiscriminate fight occurs.

“They divide up into little gangs of three or four, and in these friendly cliques they also fight. \* \* \* It is a common occurrence to see a dog on the black-list, a quarter of a mile from the ship, all alone and afraid to come in until his time is up. He then approaches fawningly, wagging his tail deprecatingly to become reconciled, and is either welcomed by wagging tails or snarling teeth, in which latter case he retires for another spell. \* \* \* They make no demonstration at any dog singly, or a team, going away, except the most doleful howling, and should he or they venture to return, the remainder of the pack lie in wait for the one or more returning. If a team comes in, a rough and tumble fight ensues and requires two or three men to stop it. As soon as the harness is off they are all smooth and quiet again, the cliques reassembling and moving off to their usual haunts. \* \* \*

“Their cunning is extraordinary. Going out the other night at twelve for

METEOROLOGICAL OBSERVATIONS.

about a dozen of them came around me in great excitement

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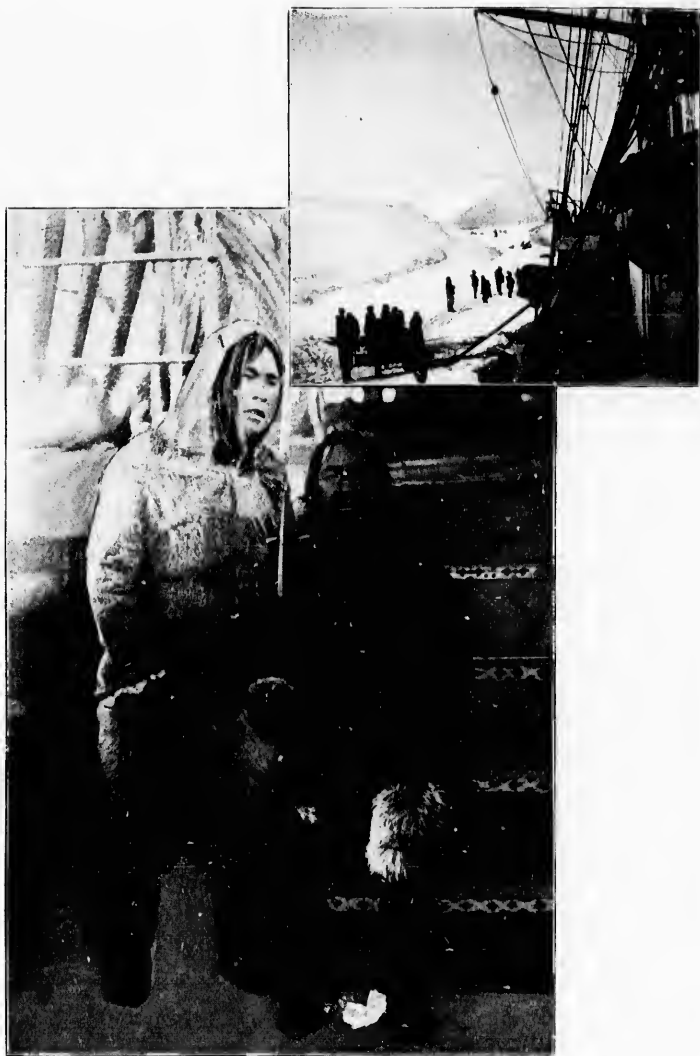
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The "Falcon," Captain H. B. Bartlett, Commander, Lost During Gale, October, 1894.  
(See Chapter XLII.)





Etah Eskimos: Nook-tah and My-ouk. View at Cape York—In-  
verted Iceberg in the Distance.  
(See Chapters XXVIII., XXXIV. and XLII.)

about something or other. Looking around for a cause, I observed a good-sized dog head first in a barrel at an angle, with only his tail and flanks sticking out. He had gone in for some walrus meat at the bottom, and no dog had driven him out, because his stern view was not recognizable as belonging to a bully or not. \* \* \* I drove him out, when half the gang recognized him as no great fighter, pitched into him, while the other half fought among themselves for the entry into the barrel. For fear of catching a Tartar they had waited for some one to solve the conundrum, "Who is in the barrel?"

As the "Jeannette" continued to drift during the month of May, numerous flocks of birds and several bears were seen, one of the bears weighing nearly 800 pounds.

The events of June were few and followed wearily in succession. One of the seamen showed signs of insanity; rain fell for a few moments on the 6th and was esteemed "a luxury;" on the last day the first punishment of the cruise was inflicted, one of the seamen being compelled to assume "watch and watch for twenty-four hours in the fire-room, for profane and abusive language to a ship-mate." On this day the vessel, having drifted to the southeast—backwards—was in latitude  $72^{\circ} 19' 41''$  north, longitude  $178^{\circ} 27' 30''$  east. About forty seals and five Ross's gulls were secured during the month. They now had seven of the latter.

On the 3d of July the last of the bear meat, "that good and solid food," was eaten. The record of Sunday, July 4th, was really of Monday, July 5th, as the "Jeannette" had crossed the 180th meridian. It being the first Sunday in the month, the Articles of War and general muster preceded ship inspection and divine service. On the next day the

#### ANNIVERSARY OF AMERICAN INDEPENDENCE

was celebrated by dressing the ship with ensigns at the mast head and signals in a rain-bow. The latitude then was  $73^{\circ} 26' 7''$  north, the longitude being unattainable owing to thick fog and mist. When hauled down the flags were covered with rime and frost.

Past the middle of the month De Long almost despairingly writes: "See-saw, see-saw northwest with a southeast wind, and then southeast with a northwest wind, and the same result with any other two succeeding winds. \* \* \* A bear in a trap, a bird in a cage, a ship in the ice, are alike held in bondage sharp and galling. \* \* \* Job is recorded to have had many trials and tribulations which he bore with wonderful patience; but so far as is known he was never caught in pack-ice and drifted south and west with west winds." And a few days later: "Seal at dinner, with macaroni, tomatoes, etc., etc., as per bill of fare, and a glass of sherry with our corn starch pudding. As far as food goes, we are in luxury."

On the same day was killed their first ook-sook (Pho-ca barba-ta, or bearded seal). She was eight feet long. Her flesh was used for dog food and the thick skin for boot soles.

The 29th was rendered memorable by their again arriving at the 180th meridian, which line was previously crossed on the 5th of May.

On August 2d their location was latitude  $73^{\circ} 20'$ , longitude  $178^{\circ} 36'$  west, a change of over twenty-three and a half miles, or nearly seven miles a day, to the northeast.

By the gradual melting of the snow and ice, shells, pieces of sponge and bits of wood were revealed.

On the 3d, between 5 and 8 o'clock p. m., a strong odor of burning brush-wood filled the air and was noticed by every one save DeLong, who was suffering at the time of a severe cold in the head. A decided haze was also apparent from 6 to 10 p. m. On the 13th there was a rainbow at 10 p. m. and sunset occurred twenty minutes later. On this day the "Jeannette" began again to drift northwest. On the 18th a sounding gave a depth of 44 fathoms, with mud, gravel, and fine white sand. On the next day Mr. Dunbar, while on the ice with Alexey, was surprised by "the biggest bear he had ever seen—

#### A REGULAR BUSTER!"

Dunbar crouched down, whereupon Alexey fired and dropped the monster! Bruin, however, again sprang to his feet and

made off pumping blood through a hole in his side as he ran. Fortunately, Nindemann and Bartlett met and despatched the wounded animal, which was found to be only a small one after all, showing that Mr. Dunbar had been very greatly surprised indeed.

Four days later, when Commander DeLong was celebrating his thirty-sixth birthday by a quiet scull in his boat through a narrow lane of water about 500 yards from the ship, he chanced to look over his shoulder, and there, to his astonishment, he observed a bear not 100 feet distant. To run was impossible—for alternations of ice and water cut off quick retreat to the ship. Looking the bear out of countenance was romantic, but impracticable—for he soon recovered his astonishment and advanced upon DeLong, who then yelled, "On board ship there! a bear! a bear!" But no answer came. Bruin halted, but so close had he approached that the puzzled commander could distinctly see where the short hair ended at the edge of his bearship's "beautiful black nose." Again De Long called aloud, "On board ship there!" and somebody replied, "Hal-loa!" "A bear! a bear!" yelled De Long, and at the same time elevated an oar to fend off Bruin's attack should he advance farther. At that instant a string of dogs and men rushed round the stern of the vessel, and the bear, gazing at them a moment, took the hint and made off, leaving De Long to reflect upon a good lesson, "Never to go away from the ship without a rifle."

In the afternoon of the 26th another bear was killed and scarcely was it buried in the snow and ice than a mother bear and two nearly grown cubs appeared. The dogs being fed on the port bow were unmindful of their approach. Silence reigned. Mrs. Bruin led the van. Slowly and deliberately, head to the wind, neck stretched out like that of a cow, nose describing graceful curves at each step, she fell quietly into the water lanes and swam across, looking back to encourage her offspring to follow. At signal ten rifles were fired. Down went the big bear, one of the cubs jerking and shaking its foot, indicating that it had been struck. The young ones

closed in on the mother, and the firing continued until the smoke hid them. Away went the dogs and the men in pursuit, following the blood-stained tracks. The mother bear, though severely hurt, pushed her young before her, nosing them into the water before leaving the ice herself, and thus covered their retreat until the pursuers were obliged to abandon the chase by reason of the too numerous leads.

When in pursuit of these bears Lieutenant De Long and Dr. Ambler came to a locality covered with the "crimson-colored snow" for quite a space. The microscope revealed in it a pink-colored marine algae, probably a species of protococcus.

On August 30th Jupiter and Aldebaran were in plain view. This was the first appearance of any of the stars since in the spring, and on the next day, as if to give warning of the near approach of winter, an aurora appeared as a faint tremulous arch.

On the 1st of September the vessel righted herself once more to an even keel, and numerous flocks of birds (principally phalaropes) passed to the southwest as if coming from some land to the northeast. The 5th was the first anniversary of the entrance of the ship into the ice-pack, and she was but 150 miles northwestward of that point. On the 9th Mr. Dunbar brought to the ship a quantity of "crimson snow." On the 14th De Long writes: "At 8 p. m. the moon was rising on the southern horizon, and very much distorted by refraction. It seemed of immense size four days before full moon, and reminded one of a large city burning. Auroral flashes shot up from the eastern horizon toward the zenith, and, with the many stars visible, made a beautiful scene. At midnight, on going out to make the meteorological observation, I was considerably startled. South-southeast of the ship, right ahead, the sky at the horizon was lighted up as by a coming daylight, the clear, bright light being very marked. I knew, of course, it must be an auroral display, but while I looked, a brilliant green, and then a brilliant red color spread all over it, very much as different colored lights are made to shine on a stage in spectacular pieces. As a scenic effect it was grand indeed. The

changes were vivid and instantaneous, and had we been in open water I should have declared that the occurrence was due to signal lights from a ship."

On the 28th the hoodlum dog: Prince, Tom, and Jim brought to bay a large bear, which was shot by Mr. Dunbar. It weighed before being dressed 943½ pounds.

October passed away very uneventfully, the capture of a single fat white fox in a trap on the 26th being about the only new thing to occur.

On the 1st of November the winter routine was again begun. On the 6th the sun rose at 11:30, having about two of his diameters above the horizon at noon, and set a half hour later, to be absent—for that latitude—about ninety days. Three days later, however, the sun again seemed to rise at noon, a portion of his disc being visible from 11 a. m. to 1 p. m. In reality he was 52' below the horizon at noon and his reappearance was of course due to extraordinary refraction. This was repeated on the next day, the sun seeming to be well above the horizon at noon.

On the 14th Nindemann got a seal in which was a beautiful embryo in many respects resembling a puppy, except for the flippers.

The month was one of great monotony. With the exception of the small party that had gone ashore at Kol-yu-chin Bay, none had been on land for nearly fifteen months. They had, as De Long thought, become

#### RECEIVERS OF MAGNETISM

without proper earths in which to allow it to escape. Their rest became broken and unnatural, those turning in at 10 p. m. often lying awake till 3 a. m. De Long himself being on watch till midnight, never turned in till 1 o'clock, and rarely got to sleep till 3:30 a. m.

Observation on the last day of November showed the vessel to be in latitude 74°, longitude 178° 15' east, after drifting rapidly to the northwest twenty-two miles in the last two days.

On the 2d of December their monotonous life was relieved

by the killing of a bear 8 feet 3½ inches in length and weighing 800 pounds.

Observation on the 11th showed that the vessel had again drifted considerably to the southeast. At intervals during the day loud reports like the discharge of heavy guns were heard, and the ship was much jarred by them. They were probably caused by the splitting of heavy ice contracting with the intense cold.

On the 22d, although the sun had reached its greatest southern declination and had therefore begun to return, there was not noticeable any difference in the amount of twilight.

Christmas Eve and the last day of the year 1880 were celebrated with minstrel entertainments. On Christmas Day a fine dinner was served and all were for the time being made cheerful. The entertainment given on the last day of the year closed by all singing the

"STAR SPANGLED BANNER"

and a short address by the commander, in which he, among other things, stated that during the past sixteen months they had drifted 1,300 miles, although they were only 220 miles northwest of where they were when first beset; that they had pumped a leaking ship for a year and kept her habitable; that they then faced the future with a firm hope of doing something worthy of themselves, of James Gordon Bennett and of the flag that floated above them and that, with the blessing of God, they would return to their homes with pardonable pride.

On his usual watch Captain De Long was kept company on New Year's Eve by Melville and Danbar. At midnight, after the men had sung a verse and the chorals from

"MARCHING THROUGH GEORGIA,"

eight bells for the old year were struck, three cheers for the ship given, and eight bells more were struck for the new year. Thus was ushered in on board the United States steamer "Jeannette" the year 1881, in latitude 73° 48' north, longitude 177° 32' east.

On the 5th of February the sun reappeared at noon, in latitude  $74^{\circ} 49'$  north, longitude  $171^{\circ} 49'$  east.

It should be noted here that the dogs, having been well fed and housed, had passed through two Arctic winters in good condition. Only a few had died from the effects of sharp pieces of bones cutting through the intestines. One had died in the course of the first winter from having swallowed a large wad of oakum.

On the 10th of February the little Russian dog passed about eight feet of tapeworm, which was duly bottled as a natural history specimen.

On the 18th a small bear was killed by the dogs.

#### WASHINGTON'S BIRTHDAY

was again celebrated north of the Arctic Circle by placing the ensigns upon the mast head and flag-staff, and the Jack forward.

On March 6th a she-bear was killed after a hard fight. In the melee "Plug-ugly" was killed by a glancing rifle bullet; Prince got off with bad cuts in his back and fore-shoulder; Tom, with a long gash on his rump; Wolf, one of the three "hood-lums," with a long cut from rump to stomach; Bingo, with two side gashes clear to the intestines; one of Alexey's dogs, with a claw gash in his throat; Snoozer, with a cut from cheek to mouth; Snuke, with two bad gashes, etc.

About this time the Chinamen amused themselves flying kites made in shape like birds, flies, etc.

On the 20th the sun crossed the line coming north and showed the ship's latitude to be  $75^{\circ} 17'$  north. Eight days later the position of the "Jeannette" was 350 miles northwest of Herald Island.

Nearly a month later, on the 19th of April, the Chinamen and two dogs followed a bear until, finally, the men gave up the pursuit. Not until nearly a week later did the dogs return, exhausted from their long absence.

On the 27th some diatoms of the order *cos-cin-o-dis-cus* were obtained, and being evidently of river origin, the ship's posi-



tion was supposed to be within the area of the deposit from the Ko-ly-ma.

On the 4th of May a flock of ten wild geese and some ducks were seen flying west. On the next day a bear weighing 790 pounds was killed. Again, on the 14th, was a flock of ducks seen flying west. And, two days later, in the same direction, was discovered

#### LAND.

It was first seen by Mr. Dunbar, when aloft. The ship was then in latitude  $76^{\circ} 43' 20''$  north, longitude  $161^{\circ} 53' 45''$  east—the first seen since March 24, 1880. Four days later appearances of another island a little farther west were noted, and four days still later a separate island was made out. The progress of the vessel thus far during the new year was satisfactory, namely, 310 miles northwest.

The nearer, more eastern and first-discovered land was named Jeannette Island; the other, Henrietta Island, in honor of Mr. Bennett's mother.

On the last day of May Captain De Long despatched Mr. Melville, with Messrs. Dunbar, Nindemann, Ericksen, Bartlett, and Sharvell, to the latter, which was computed to be about twelve miles distant. "My anxiety," says De Long, "will be endless and unremitting until I get all hands under my wings again; and I pray God so to aid them and guide us that no mishap may occur."

On the next day it was discovered by the doctor that at least six of the men were suffering from the effects of lead-poisoning, engendered probably by the long-continued use of canned tomatoes, which showed traces of the poison, the acid of the fruit having worked chemically upon the solder of the cans.

On June 5th Melville's party returned. They landed on the island on Thursday, June 2d (June 3d, true time), hoisted the silk flag, and took possession of it in the name of

#### THE GREAT JEHOVAH AND THE UNITED STATES OF AMERICA.

Upon it they erected a cairn in which was deposited a record which had been sent with them by Captain De Long. The

island was found to be a desolate rock, upon which rests a snow-cap, which feeds several discharging glaciers on its east face. Dovekies, or black guillemots, nesting on the precipitous rocks, were the only signs of game seen. Some moss, grass, and a handful of rock were brought back. The position of this island was fixed at latitude  $77^{\circ} 8'$  north, longitude  $157^{\circ} 43'$  east; that of Jeannette Island, latitude  $76^{\circ} 47'$  north, longitude  $158^{\circ} 56'$  east. "Thank God," writes De Long, "we have at least landed upon a newly-discovered part of this earth, and a perilous journey has been accomplished without disaster."

Engineer Melville relates an amusing incident in connection with his trip: Nindemann, suffering of the cramps, called upon Ericksen to apply tincture of capsicum to the aching parts. Instead, however, he spilled it upon his own cracked and blistered hands, which, burning as with fire, caused him to lose his head completely and he further applied sweet oil not only to these but also to a very large and sore nose. Poor Ericksen was greatly surprised, and he rolled and squirmed in the snow like an eel, while the men good-naturedly suggested that he disrobe and sit down in the snow to cool off; that he station himself on top of an ice-hummock lest he melt his way through the floe; that he be placed in the forecabin of the ship as a heater; that he was "hot enough to make the snow hiss," etc.

Drifting steadily westward, the vessel was slowly retreating from the sight of land. On the night of the 9th she was subjected to several severe jars, and amidst a fearful snapping and cracking, what was left of the old eighty-yard water lane opened to a width of ten feet.

The further history of the "Jeannette" is brief. Cracking in every part by reason of the tremendous pressure about her, she began to fill rapidly, and at 4 a. m. of June 12th (Monday, June 13, true time), she slowly sank on an even keel, in latitude  $77^{\circ} 15'$  north, longitude  $155^{\circ}$  east. All on board made their escape to the ice with an abundance of provisions, twenty-three dogs, sledges, boats, and other supplies. "Good-bye, old ship!" said De Long sadly, as she went to the bottom.

At length, on the evening of the 18th of June, began the

retreat southward, "hoping with God's blessing to reach the New Siberian Islands," and thence to make their way "by boats to the coast of Siberia." Traveling by night (when the sun was circling lowest, above the northern horizon), they slept during the day (when the sun was circling highest, above the southern horizon). On the 25th, at midnight—the dinner hour—careful observation showed their position to be in latitude  $77^{\circ} 46'$ . They had, therefore, as they journeyed southward over the ice, been drifted with it to the northwest, and the end of the week found them twenty-eight miles farther north than when they began the retreat. The course was thereupon changed to the southwest, which would intersect the drift of ice to the northwest and bring them to the edge of the ice more rapidly.

Fogs, lanes of water having to be bridged as often as five times in a single half night, rains, "hot weather," causing the men to suffer although the temperature of the air in the shade was only  $30^{\circ}$ , and several enfeebled men—those suffering of lead-poisoning—retarded progress. On the

#### FOURTH OF JULY

all the flags were set flying in honor of the day. On Sunday, the 10th, considerable "needle ice," as it is termed by Parry, was encountered. In the opinion of that daring navigator this is caused by rain-drops, but in the judgment of De Long "by the more rapid drawing away of the salt in some places than in others, leaving bunches, or tufts of long spikes."

Supper was had at 7:30 a. m., after which considerable excitement was created by the appearance of land to the southwest. As the nearest known Siberian island was yet distant 120 miles, were they approaching some hitherto unknown island? At 8:45 the usual divine service was held. On the following day it was found that they were in reality approaching new land. On this day, too, many dovekeys, several gulls, and one auk were seen, and

#### A LIVE BUTTERFLY

was picked up. The frail thing had undoubtedly been blown from the land farther south. This circumstance recalls to the

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writer the great numbers of butterflies of various species seen floating far out at sea—probably 200 miles—off the coast of Labrador upon our return from North Greenland in September, 1894.

On Sunday, July 17th, more "crimson snow" and mud-bearing ice were seen. De Long, by breaking through the ice, discovered that a seal had two breathing-holes leading from the sea, the holes being connected by a covered way under the thin snow crust. In a cavity in the ice near one of the holes the seal had lain and rubbed the shedding hair off his skin.

On the 20th, a fine young walrus bull weighing from 1,200 to 1,500 pounds was killed. This afforded the men and dogs choice food for several days. In its stomach were found shrimps, small fish like smelts, and sea-anemones.

On the 21st the land was again in plain view, and on the next day a loon, many gulls, and several murrees were seen.

On the 23d the

#### "STARS AND STRIPES"

were unfurled in view of the newly-discovered land. On the next day Mr. Collins shot two seals, only one of which was secured. Görtz also killed a bear within 500 yards of the camp.

Having returned to the natural order of working by day, the party were drifting at 7 p. m. of the 26th about a mile off shore, abreast a large glacier. Two days later the entire party effected a landing, the colors of the United States were unfurled and possession of it taken in the name of the President of the United States. It was very appropriately named

#### BENNETT ISLAND.

Three cheers were lustily given in gratification of the event and also three more for Captain De Long. At this time the date was changed to the true one, viz., Friday, July 29th, the corrected dates being thereafter used.

A full week was spent in exploring the island and in making scientific observations. Before noon of the 30th specimens of moss, grass, scurvy grass, yellow flowers, tufa, lava, cryolite (?), amethysts, murrees' eggs, spotted, and as large as hens' eggs, a piece of reindeer horn with moss on it, and a small col-

lection of drift-wood, were brought in. Later these collections were increased in great abundance.

Mr. Melville found a large vein of bituminous coal. It burned very readily. Hematite, from which brown metallic paint is made, was also found. The seam was from six to twenty-four inches thick and at an elevation of one hundred fifty feet above sea-level.

Dr. Ambler found the island to be of volcanic origin and composed of trap rock containing feldspar, silica in various forms, lava varying in color from yellowish-brown to dark green, brick-colored clays, quartz, stalagmites, and stalactites, etc. The stratification was horizontal. Fossils and two varieties of gypsum-like stones were also found.

Of the thousands of birds which covered the cliffs enough were secured to afford all delicious food while on the island. Those fried in bear's fat were pronounced luxurious. From small streams was obtained a most welcome supply of pure water, fresh and sweet.

In an excursion along the southern shore Mr. Dunbar found traces of bears and foxes, grouse or ptarmigan droppings, probably traces of the Arctic hare, an old bone, probably that either of a musk-ox or a walrus, and a bear's winter house, divided into inner and outer apartments. He also found two glaciers—the more distant and larger being the one seen by the party on the 26th. It was three miles across its face and fifty or sixty feet high. On the ice foot near it was much "crimson snow."

A hundred feet above the sea-level and five hundred up the slope was a quantity of drift-wood which had probably been carried there by the gradual upheaval of the land.

The extinct volcano, four or five miles from the encampment at Cape Emma, was found to be nearly a mile inland. In attempting to cross it Mr. Dunbar, with Alexey and Aneguin, was stopped by fog when at an elevation of about 1,000 feet. At that point were picked up marine shells.

Lieutenant Chipp was also sent to examine the west coast and made a trip of seventeen miles, bringing back quite a col-

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lection. Mr. Collins accompanied him and made some good sketches.

The position of Cape Emma, the southernmost point of the island, was fixed at latitude  $76^{\circ} 38'$  north, longitude  $148^{\circ} 20'$  east.

Before leaving the island two of the poorest dogs were shot.

Breaking camp, the journey southward was resumed on the 6th of August. On the 30th the entire party, after great effort, gained the southern extremity of

#### THADDEUS, OR FADDEJEFFSKOI ISLAND.

Here the explorers' feet, for the first time in two years, pressed warm moss and grass upon real good firm ground. "Snoozer," the only dog remaining, all the others having been reluctantly disposed of, showed his delight by tearing about after lemmings, whose holes were very numerous. Here were also seen the tracks of a hare, whole trees of Norway pine, black geese, sanderlings, ducks, owls, snipes, seals, a ptarmigan, fresh tracks and droppings of reindeer, and the ruins of several timber huts.

Again, on September 4th, after a hard voyage of seventy miles, the southern extremity of Kotelnoi Island was attained. On it were seen thousands of ducks and other birds peculiar to the region, many tracks and antlers of deer, a fossil bone, ammonites, large purple jelly-fishes in the sea, lemmings without number, many large white and brown owls, great piles of drift-wood, and several ruined huts. In one of the huts were found rags stuffed in the chinks, an elephant tusk, a fork, a spoon, and a drinking-cup of wood, and a Russian coin, a copeck, dated 1840. The hut was plastered with mud on the roof and sides and was built with a porch.

Pine and spruce logs lay about in great abundance. Some of the wood bore fresh marks of axes, etc.

Steering southwesterly, the forenoon of the 10th brought the boats along the north shore of

#### SEMENOVSKI ISLAND,

which appeared to be about one-eighth of a mile in width and from 30 to 100 feet high. It seemed to be washing away, and

much mud was visible. Upon its top a deer's antler and some mastodon teeth were found. In the afternoon a fine doe was killed. Her fawn was shot at, but escaped. The doe had probably remained on this island in the spring, behind the herd migrating northward, in order to bear her young, and, with the return migration in the fall, would probably have again joined her kind. The water obtained here tasted "boggish" and was filled with animalculae and "red grubs."

Again getting under way on the morning of the 12th, Wasilevski Island was passed in the course of the forenoon and the last stretch toward the Lena delta begun. That night

IN A FEARFUL GALE,

the three boats containing the party became separated and never again met. The second cutter, in charge of Lieutenant Chipp, with Messrs. Dunbar, Sweetman, Kuehne, Warren, Sharvei, Starr, and Johnson, was never afterwards heard of.

Four days later the other boats reached the long-struggled-for delta. The whale-boat, in charge of Mr. Melville, with Lieutenant Danenhower (disabled), and Messrs. Newcomb, Cole, Wilson, Leach, Lauterbach, Bartlett, Manson, Aneguin, and Tong Sing, entered one of the numerous mouths of the river near Cape Borkhia, at a considerable distance south of Barkin, the objective point for all the boats.

De Long's party having landed from the first cutter on the 17th, he followed his custom of depositing a record indicating the progress of the expedition. This was near Lighthouse Point, the northernmost locality in the Lena delta. He then began, on the 19th, the terrible march southward, following the upward course of the river. Had he, instead, turned westward and traveled about thirty-five miles, he would undoubtedly have reached the native settlement at North Bunlun in safety. But alas! his chart contained no information concerning this friendly community and he blindly followed the course of starvation and death.

From the start, Ericksen and Lee, in their enfeebled state, retarded the rapid progress of the party. On the 20th seven or eight deer were seen, but none was secured. Numerous fox

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traps set for game and several huts were passed. In one of the huts the party spent the night of the 21st. While here Alexey cautiously stole upon a herd of fourteen reindeer and killed two. Accordingly the party remained in camp till the 24th, eating, and regaining strength.

Again painfully advancing, the last meal was once more on hand when, on the 27th, Nindemann and Alexey were sent out to search for game. Providentially, Alexey killed a fine buck. Nindemann's rifle failed to explode and the other ten deer escaped.

Five days later, the last mouthful was eaten. For this reason, at night on the 3d of October, "Snoozzer," the last of the dogs, was killed and partaken of.

Meanwhile, Ericksen had suffered amputation of portions of his feet and became unconscious. He died on the 6th, and was buried in the river. On the bank there was a placed a board inscribed:

IN MEMORY.  
H. H. ERICKSEN.  
OCT. 6, 1881.  
U. S. S. JEANNETTE.

Before burial his body was wrapped in the flag and sewed into a large bag. His Bible and locks of his hair were feelingly preserved by his mates.

This was the one hundred sixteenth day out since leaving the ship.

On the next day, with only two quarts of alcohol and some old tea leaves, the struggle toward Ku Mark Surka was renewed.

After advancing about eight miles Nindemann and Noros were sent ahead, on the 9th, for relief.

Two days later De Long and party were overtaken by a severe snow storm which continued till the afternoon of the 14th and prevented their advancing more than a mile.

Again advancing a short distance on the 15th, they encamped near an empty grain raft, or flat-bottomed boat. Alexey and Lee had broken down. On the 17th Alexey was found to be dying and was baptized by Dr. Ambler. About



sunset he breathed his last and was buried in the ice of the river.

On the 19th the camp was shifted a short distance—for the last time.

Meanwhile, Nindemann and Noros were struggling forward. Keeping along the west bank of the river, crossing sand-pits and streams, sleeping in snow-banks, seeing game—a herd of reindeer, a crow, and an owl—at a tantalizing distance, they reached, on the evening of the 19th, some huts, in one of which they found some fish-nets and other articles and a quantity of blue molded but tasteless fish, of which, having built a large fire, they proceeded to eat.

Dysentery now added to their weakness and they were obliged to remain by the fire within the hut. The place where they then were is known as Bulcour. Would that their companions had been there with them!

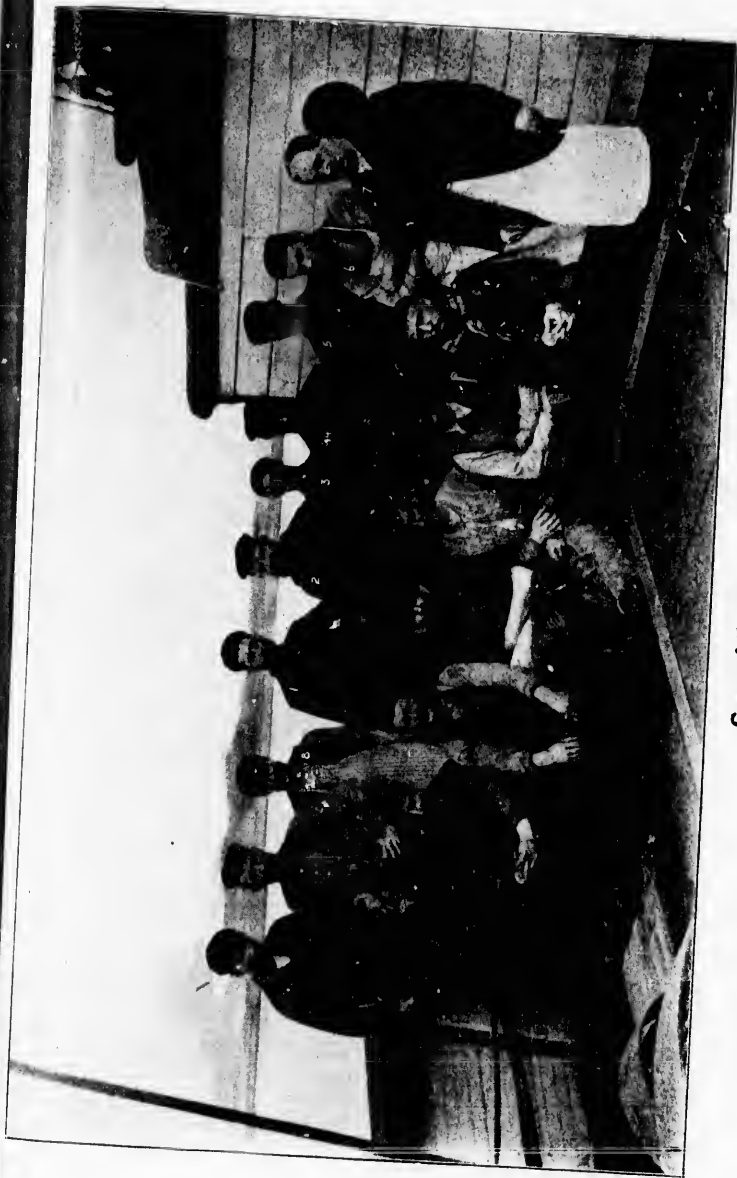
When, at noon of the 22d, the two men were preparing to eat, a figure—a man—suddenly appeared at the door! It was one of the natives, but he could give them nothing save a deer skin, a pair of skin boots, and a sign that he would shortly return to them. He then disappeared on his sleigh, drawn by reindeer, leaving the men to query whether they had acted wisely in allowing him to go. Noros, however, was confident that he was a good Christian and would return.

That very evening he did return, with two companions and supplies. After partaking of food, the two men were placed in the sleighs and driven about fifteen miles west of the river, where they were kindly received by a small party of natives.

In spite of Nindemann's efforts to make them understand his desires to return to the assistance of their companions in the rear, he failed to do so, and on the next day the entire party drove southward until, at the end of two days, on the evening of the 24th, they arrived at Ku Mark Surka.

Meanwhile, De Long had recorded, where we took leave of him on the 19th, as follows:

"October 21st, Friday.—One hundred and thirty-first day. Kaack was found dead about midnight between the doctor and



### Crew of the "Falcon."

The "Falcon" carried the Peary Expedition to North Greenland in June, 1898, and the Auxiliary Expedition to the same place in 1894. All of them, except No. 8, the Cuban cook, who left the steamer at Philadelphia, perished in the terrific gale which swept the Atlantic seaboard shortly after landing the members of the North Greenland Expedition of 1894, at Philadelphia in October, 1894. No. 1, Capt. E. B. Bartlett; No. 2, Chief Engineer, Karl Fisher; No. 3, Asst. Engineer (Chief), Philadelphia; No. 4, 1st Mate Edward Tracy; No. 5, 2d Mate Thos. Snow; No. 6, Asst. Steward, John Barry (shown kneeling in the illustration); No. 7, Chief Steward, John Barry (shown kneeling in the illustration); No. 8, Cuban cook, who lost his life in the same gale, served as freeman under (Capt. Richard Pike, of the "Proteus," the St. John's sealer that sought to rescue Gen. Greely at Ft. Conger in 1899).

(See Chapter XLII.)



Photo by Prof. Libbey. Permission of Mr. Bryant.  
**The "Falcon" at Godhavn (Disco).**  
(See Chapter XLII.)

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myself. Lee died about noon. Read prayers for sick when we found he was going.

"October 22d, Saturday.—One hundred and thirty-second day. Too weak to carry the bodies of Lee and Kaack out on ice. The doctor, Collins, and I carried them around the corner out of sight. Then my eye closed up.

"October 23d, Sunday.—One hundred and thirty-third day. Everybody pretty weak. Slept or rested all day, and then managed to get enough wood in before dark. Read part of divine service. Suffering in our feet. No foot gear.

"October 24th, Monday.—One hundred and thirty-fourth day. A hard night."

At Ku Mark Surka, Nindemann and Noros renewed their efforts to get relief to their dying companions. Meeting here a Russian exile named Kus-mah, who evidently knew something of the state of affairs, for he repeated the words "Jeanette" and "Americansk," and they understood him also to say something about "St. Petersburg" and "telegrams," and inferred that he desired them to write messages to be sent to that city. A note was accordingly written and Kus-mah left with it on the next morning for Bulun, Nindemann and Noros following shortly afterward. They were driven thither in charge of a man with a sledge and reindeer.

Arriving at Bulun on the 29th, they expected to meet Kus-mah again, but instead met the commandant of the place, who also spoke something concerning "telegrams." They therefore prepared another dispatch and addressed it to the American minister at St. Petersburg. With this the commandant left the village on the next day, Nindemann supposing it being his intention to take it to some telegraph station.

At Bulun, in a miserable hut, the two men, sick with dysentery, anxiously awaited developments. At length, on the 2d of November, there appeared before them a man heavily clad in furs. Recognizing him, Noros exclaimed: "My God, Mr. Melville, are you alive? We thought that the whaleboat's crew were all dead." But they were not dead, and Mr. Melville's story was soon told: when, on the 17th of September,

the whaleboat had touched at Cape Borkhia, and two days later the natives of the place were met with by whom a week later they were assisted to get to Gee-o-mo-vi-al-ocke, farther south, they were obliged to remain there to recuperate and find means of advancing to Bulun. While there Melville had met the Russian exile, Kus-mah, and engaged him to go to Bulun to engage food, clothing and teams that the party might be transported thither at once. Kus-mah took his departure on this mission on the 15th of October, met Nindemann and Noros at Ku Mark Surka on the 27th, obtaining from them the "telegram" which they supposed he desired to forward to St. Petersburg, but instead took to Bulun and thence to Melville, at Geomovillocke, arriving there on the evening of the 29th.

Upon reading the note Mr. Melville left his party temporarily in charge of Lieutenant Danenhower and immediately started for Bulun, where, as we have seen, he unexpectedly appeared before Nindemann and Noros on the 2d of November.

While all this was taking place, the brave De Long wrote in his journal:

"October 27th, Thursday.—One hundred and thirty-seventh day. Iversen broken down.

"October 28th, Friday.—One hundred and thirty-eighth day. Iversen died during early morning.

"October 29th, Saturday.—One hundred and thirty-ninth day. Dressler died during night.

"October 30th, Sunday.—One hundred and fortieth day. Boyd and Görtz died during night. Mr. Collins dying."

Within a day or two after meeting Nindemann and Noros at Bulun, Melville had despatched Lieutenant Danenhower to Yakutsk with the weakest of his party, while he himself, with some of the natives, proceeded to descend the river in search of De Long.

Danenhower having first led the party to Bulun, there left Nindemann, Noros, Bartlett, Lauterbach, Manson, and Aneguin to regain their strength and to assist Mr. Melville. He, with the rest of the party, reached Yakutsk after a journey of 1,250 miles on the 17th of December.

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On his search in the north part of the delta, Melville was absent twenty-three days, and traveled 663 miles, without finding the missing men. He had, however, at Mat Vai, on the 9th of November, passed near their last encampment, and where, at the time, they were all lying dead. On this trip he reached the Arctic coast, found and recovered the documents deposited at the first landing place, besides various encampments of De Long and his party. Returning to Bulun on the 27th of November, he proceeded with the men left there by Danenhower to Yakutsk, arriving there on the 30th of December, 1881.

In the ensuing spring Lieutenant Danenhower, Mr. Newcomb, and the seaman John Cole, and Tong Sing returned to the United States.

Melville, with the remainder of the party as volunteers, remained to search once more for the bodies of their comrades. Starting from Mat Vai as a base of the search, on the 23d of March, 1882, Melville's account runs as follows: "We followed the bay until late in the evening, having visited all the headlands; finally we came up to the large river with the broken ice. I jumped up on the headland or point of land making down in the bay and found where an immense fire had been made. \* \* \* About five hundred yards from the point where the fire had been I saw the points of four sticks standing up out of the snow about eighteen inches, and lashed together with a piece of rope. Seeing this I dropped off the sled, and going up to the place on the snow bank, I found a Remington rifle lying across the points of the sticks, and the muzzle about eight inches out of the snow. \* \* \* I started the natives to digging out the snow bank underneath the tent poles. \* \* \*

"In proceeding to a point to set up the compass I saw a tea-kettle partially buried in the snow. One of the natives had followed me, and I pointed out to him the kettle, and advancing to pick it up I came upon the bodies of three men, partially buried in the snow, one hand reaching out with the left arm of the man raised way above the surface of the snow—his whole

left arm. I immediately recognized them as Captain De Long, Dr. Ambler and Ah Sam, the cook. The captain and the doctor were lying with their heads to the northward, face to the west, and Ah Sam was lying at right angles to the other two, with his head about the doctor's middle, and feet in the fire, or where the fire had been. The fireplace was surrounded by driftwood, immense trunks of trees, and they had their fire in the crotch of a large tree. They had carried the tea-kettle up there, and got a lot of Arctic willow which they used for tea. \* \* \* No doubt they saw that if they died on the river bed, where the water runs, the spring freshets would carry them off to sea."

Continuing the search, the bodies of all the others, save those of Ericksen and Alexey, who had been buried in the river, were recovered and buried on an elevation about 300 feet high.

Thorough search left no doubt that Lieutenant Chipp and those with him had perished in the gale of September 12th, before reaching land.

In the course of the summer Lieutenant Giles B. Harber, of the United States navy, also made a thorough search of the delta, with like results. In the autumn, Ensign Hunt, with Messrs. Bartlett, Leach, Lauterbach, and Manson returned to the United States. Wilson, being ill, had preceded them. Aneguin died of the smallpox on the journey.

At the conclusion of his search Mr. Melville set out for Yakutsk, where he arrived on the 8th of June. He had been joined previously by Colonel W. H. Gilder, Lieutenant Berry and Ensign Hunt, who had accompanied the United States steamship "Rodgers" on her proposed examination of the north coast of Siberia. The "Rodgers" having been burned when in the Bay of St. Lawrence, these three men had persisted in journeying overland till they met Mr. Melville. From Yakutsk this party returned to the United States. Lieutenant Harber remained another season (1883) and renewed the search, and although unsuccessful in its prime object, he brought back the remains of Lieutenant-Commander De Long and companions.

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## CHAPTER XL.

HEROIC AMERICANS: THE LADY FRANKLIN BAY  
EXPEDITION.

The Lady Franklin Bay Expedition, with its remarkable success in geographical exploration and scientific research, and its horrible ending in starvation and death, forms one of the most thrilling episodes in the annals of history. In accordance with a plan adopted by various nations for the purpose of establishing magnetical and meteorological stations at various circum-polar points the United States determined to send a party to Lady Franklin Bay, in northeast Grinnell Land.

## LIEUTENANT ADOLPHUS W. GREELY,

acting signal officer United States Army and a veteran soldier as well, was placed in charge. With a niggardly allowance of only \$25,000, three-fourths of which were expended in chartering a vessel, this undaunted man, in spite of repeated delays for which he was in no wise responsible, proceeded to arrange for the departure of the expedition. With less than \$6,000 he was compelled to purchase the supply of coal, scientific instruments, boats, clothing, dogs, pemmican, lime juice and other articles of diet, natural history supplies, household equipage, etc., for a party of twenty-five men destined to be absent in the Arctic World from two and a half to three years! Moreover, by reason of the unfriendly hindrances in Lieutenant Greely's way, he was obliged to prepare the special requisition for food, clothing and other supplies in less than three days—and this when it was well known that the quantity and quality of all such were of vital importance to a party venturing so far north!



Nevertheless, in Senator Conger, General Hazen, Major Appleby, and President Gilman of Johns Hopkins University, the cause of science found faithful champions, men who saw better things than mere dimes and dollars, politics and parties, and the Lady Franklin Bay Expedition was finally enabled to leave St. John's, New Foundland, July 7th, 1881.

Among Greely's assistants were the following: Lieutenant F. F. Kislingbury, who, in a service of fifteen years, had an excellent reputation for field work; Lieutenant J. B. Lockwood, an officer of eight years' experience, a portion of which was spent in Nebraska, Kansas, Indian Territory and Colorado; Dr. Pavy, physician and naturalist; Sergeants Israel and Rice, the astronomer and photographer respectively, who cheerfully accepted enlisted service in order to accompany the expedition; besides Sergeants Jewell, Ralston, and Gardiner, faithful and efficient meteorological observers. Sergeant Brainard, of the Second Cavalry, was among those destined to gain meritorious distinction.

In the "Proteus," a New Foundland sealer of 467 tons register, commanded by Captain Richard Pike, the expedition arrived at Godhaven, or Disco, Greenland, on the 16th. At various points on the coast a lot of fine dogs, fur clothing, and wild fowl were secured. A ton and a half of Hudson Bay pemmican and the remains of a house purchased in the preceding year for the proposed Howgate expedition were also taken aboard. Dr. Pavy and Mr. Henry Clay, a grandson of the great statesman, and two Danish Eskimos joined the expedition from Rittenbenk and Proven.

Melville Bay, being free of ice, was crossed on July 30th and 31st, in thirty-six hours. On the evening of the latter date a landing was made on the Cary Islands, where the whale-boat and provisions left by Sir George Nares in 1875 were found in good condition. The depot was located in a small cove on the southern end of the southeast island of the group. The cans of Australian beef, though exposed on the bare rocks directly to the heat of summer and the intense cold of winter, had kept well. Undoubtedly, provisions cached would keep much longer

by being covered, thus avoiding the extremes of heat and cold. On the west side of the island was found drift-wood, such as an oar, pieces of charred ornamental work, etc., evidently portions of Melville Bay wrecks. Inglefield speaks of finding such fragments farther north near Cape Athol, near the entrance to Whale Sound. The writer has also picked them up along the low pebbly shore, on the north side of Ol-rick's Bay, an eastern arm of the sound, and farther north than Cape Athol. They undoubtedly bear evidence of a high northwest ocean current on the west coast of Greenland.

Littleton Island was reached on August 2d. On the extreme northern end of the west coast, about thirty yards from the water's edge, was found the mail left for the English expedition in 1876, by Sir Allen Young, then on his voyage in the "Pandora" ("Jeannette"). On the northern end of the island were hundreds of eider ducks nesting, the eggs, however, being too far gone for use. In and around the large cask placed about twenty feet above sea-level on low ground on the extreme southwestern [southeast (?)] point of Littleton Island were deposited about six and a half tons of coal. Life-boat Cove was visited and the transit instrument, a cooking stove, steam gauge, a thermometer upon which was scratched the name of Hall, etc., were found on the site of Polaris House. In an old Eskimo hut on the south side of the island were discovered the remains of an Eskimo woman, who, probably the last of a family, had evidently been thus buried. Inglefield found the body of a man thus entombed, the passageway to the house having been blocked by a stone, and was informed that such was the customary way of disposing of the body when the last member of a family dies.

Leaving Littleton Island, the sea appeared to be free of ice some forty miles northward. Directing her course therefore toward Cape Hawks, Cape Sabine was passed about 2 a. m. of the 3d, where, it is now to be deplored, a contingency depot was not made. About 4:30 a. m. the vessel was opposite the center of Bache Island. The sea was as smooth as a mill-pond and the entire coast of Ellesmere and Grinnell lands was

not only visible, but reflected perfectly from the water's surface. The view was clear and distinct from Cape Sabine to Cape Napoleon. The highlands near Van Rensselaer Harbor, on the Greenland side, were also plainly visible. No other vessel had gained so high a latitude in those waters with such ease. At 5 a. m. but few pieces of floe or harbor-ice could be seen in Kane Sea, and only two icebergs had been sighted between Capes Sabine and Cape Hawks.

Cape Hawks was passed and at 9 a. m. the English depot of '75 in Dobbin Bay was examined and found in fair condition. Some of the pickles, preserved potatoes, rum, and the jolly-boat were taken along. The depot, like that on Southeast Cary Island, consisted of thirty-six hundred rations. Greely hesitated to disturb it, especially the jolly-boat, but as insufficient funds had prevented him taking along a proper equipment of boats, he felt constrained to do so.

At 5 p. m. Cape McClintock was reached and the 80th parallel crossed. A half hour later Cape Collinson was sighted, but owing to dense fog no examination of the small English caché was made.

At noon of the 4th Franklin Island was passed, both coasts of Kennedy Channel and Hall Basin as far as Polaris Promontory showing up plainly in a clear atmosphere.

On a high bench on the north side of a creek emptying into Carl Ritter Bay was established a small depot. In a short excursion up the valley, Lieutenant Kislingbury discovered traces of hares, foxes, and musk-cattle. Half a mile off shore, in a sounding of forty-two fathoms, delicate star-fishes and crustaceans were obtained. On shore eight varieties of flowers were gathered.

At 9 p. m. the "Proteus" entered the southeastern part of Lady Franklin Bay, about two miles southeast of Cape Baird. In this vicinity, for the first time, the voyagers were stopped by ice—great pale-o-cryst-ic floes from twenty-five to fifty feet in thickness. A northeasterly wind soon drove a large quantity of pack-ice into Hall Basin and Kennedy Channel and the vessel was forced southward till on the 11th she had lost

forty miles of latitude and was fifty instead of only eight miles from the proposed headquarters in Water-course Bay. Meanwhile, several schools of white whales, attended by their active enemy, the sword-fish, as well as a number of narwhales, were seen. Several brent geese, a boatswain, a snowy owl, snow bunting, ringed plover, ivory gull, falcon, tern, and glaucous gull were also observed. Many dovebies appeared off the cliffs near Cape Lieber. Of seals, both the harp and square-flipper species visited the vessel.

At length, under the influence of a strong southwest wind, the ice was again driven northward, and the "Proteus" speedily regained her former position and terminated her voyage on the afternoon of the 11th. This was in Discovery Harbor, the location of Captain Stephenson's party just five years previous. The ice prevented a landing in Water-course Bay, where an excellent seam of coal and pleasant shores were well suited for a station. Upon landing, a dozen or more fine musk-cattle were killed. Thick beds of mosses, grasses, sedges, buttereups and Arctic poppies smiled a cheering welcome to the new-comers.

A week later the "Proteus" began her return voyage to St. John's, but being unable to break entirely through the ice in the bay, it was not until the evening of the 26th that she effected her escape into Kennedy Channel and thence home. Mr. Clay, a gentleman of refinement and culture, in order to pacify Dr. Pavy, who had taken offense at him, decided to return with the "Proteus" that the expedition might not be deprived of the services of a physician. Two other men, owing to the development of physical disabilities, were also obliged to return much against their wishes.

Thus left alone, the party rapidly pushed forward the erection of a house, which, when finished, was called

#### FORT CONGER,

in honor of the Senator who had so courageously befriended the expedition. On Sunday, August 28th, all were assembled in the fort, where, at 10 a. m., Lieutenant Greely read a selec-

tion from the Psalms for that day of the month, counseled the men upon the importance of harmony and called their attention in particular to that verse which recites how delightful a thing it is for brethren to dwell together in unity. He also announced that it was both proper and right that the Sabbath should be observed and that regularly every man would be expected to be present at the services on that day unless he had conscientious scruples against listening to the reading of the Bible. Lieutenant Greely, however, nearly always refrained from making comments upon the selections read. He recommended that after services the men should take exercise either in hunting or simply walking from headquarters.

Until about the middle of October sledging parties were kept almost constantly in the field. Lockwood explored St. Patrick's Bay, at the head of which there is a valley with sides deeply worn and grooved and conspicuously marked by mesalands, first on one side then on the other, like the mud flats of a river, from which it is to be inferred that the valley was once below the level of the sea and occupied by a glacier. Pavy and Rice proceeded overland to Cape Union "searching carefully for traces of the missing 'Jeannette.'" Several small lakes were discovered, in one of which was seen a fish six or eight inches long. The English depot at Lincoln Bay was found to be in much disorder, but a large quantity of beef, stearine, curry paste, onion powder, and matches were in perfect condition. At the head of the bay coal of good quality was found. On the beach of St. Patrick's Bay, Connell and the Eskimo Christiansen found a coniferous tree about ten inches in diameter and thirty feet long. It had evidently been carried there by some current within two years, and afforded the party a bright, cheery fire. Brainard, with Jewell, Cross, Salor, and Connell, made a boat journey to Cape Beechy on August 31st and September 1st. Robeson Channel had cleared suddenly of ice, but, upon their arrival at the cape, it again as quickly filled before a northwest wind and compelled them to return overland. In a trip to St. Patrick's Bay, Gardiner found an eight-man sledge, a twelve-foot cedar boat, cooking

lamp, and a pick-ax, while Lynn also found at Water-course Bay a cart, all of which had been abandoned by the English expedition. They were very serviceable to the Greely party. Lockwood also made a trip to the Bellows—a valley twelve or fifteen miles west of Fort Conger—and discovered pieces of coal, but could not locate the seam. He also found a stick of knotty pine three feet long and eight inches in diameter frozen in the earth of the valley, at an elevation above the sea of about 150 feet. In a trip to Snu Bay, Lientenant Greely was fortunate enough to observe the manner in which musk-cattle obtain their food, namely, by first removing the snow by means of the foot, and then by loosening the thick mats or tufts of *saxifraga oppositifolia* or *dryas octopetala* with nose or horn.

The results of the autumn's work were highly gratifying; the men had received invaluable training, four depots had been established northward, the scientific apparatus properly placed, new discoveries made in the interior of Grinnell Land, and twenty-six musk-oxen, ten ducks, two seals, a hare, and a ptarmigan, affording about 6,000 pounds of fresh meat to the party and as much offal to the dogs, secured. Other forms of life, noted in that high latitude were moths, flies, caterpillars, spiders, mosquitoes, and "daddy-long-legs," besides a few small fish in Lake Alexandra. Numerous wolves and foxes also put in an appearance at the fort.

From October 15th to February 28th occurred the Arctic night, that period being spent very busily in making and recording on an average 526 regular scientific observations daily, and in advancing the supplies for the journey northward in the spring. Until about the middle of November, Robeson Channel remained more or less open and prevented the transportation of supplies to the Greenland side. An abundance of fuel and food, the latter in great variety, kept all in health and general good cheer. Such luxuries as the regular bath and an occasional allowance of liquors and tobacco, together with the regular celebration of the men's birthdays and the holidays with games and special bills of fare, shortened the dark months very materially.

On Christmas—falling on Sabbath—many gifts which had been sent aboard the "Proteus" by friends and well-wishers of the expedition, were distributed. "A number of the men," says General Greely, "who had lived lives marked by neglect and indifference on the part of the world, were touched even to tears, although they strove man-like to conceal them. The commanding officer received a fan—not needed for Arctic use; and Lieutenant Kisingbury a small dog, which excited the more amusement when he turned away the ridicule by calling out, 'O, Schneider, don't you want to buy a dog?' Poor Schneider, who had been caring for the dogs of the expedition, did not hear the last of it for some time."

At 10 a. m. Lieutenant Greely read not only the "Psalms for Christmas," but also the 139th and 140th Psalms. The singing of a hymn and the doxology, led by Lieutenant Kisingbury, formed an impressive service as the tenderest feelings of the men went out to those at home.

Washington's Birthday was also appropriately celebrated.

From March 1st to 10th, inclusive, Lockwood, Brainard, Jewell, and the Eskimo Christiansen, made a sledge trip to Thank God Harbor, where they found the graves of Captain Hall, and of the English seamen, Hand and Paul, in excellent condition. A considerable quantity of food and useful articles cached there were found to be in serviceable condition. From the harbor the party proceeded to Newman Bay, and thence on the ice to Cape Sumner, thus practically circumscribing Polaris Promontory. Robeson Channel was then recrossed to "Depot B," near Cape Beechey, in twelve and a half hours, and the return to Conger was made with all in excellent health. The average temperature in which the party had traveled was  $-42.3^{\circ}$  Fahrenheit.

From March 5th to 9th inclusive, Pavy, with Lynn and Eskimo Jens, was employed in transporting about 700 pounds of provisions to a point on Polaris Promontory designated as "the Gap," midway between Capes Lupton and Sumner. The average temperature in which they worked was about  $-30^{\circ}$  Fahrenheit. From the 13th to the 20th inclusive, Brainard,

with seven men, was engaged in a similar office, the supplies transported including the small boat "Discovery." During six consecutive days the average temperature was  $-41^{\circ}$

On the 19th Pavy, Rice, and Jens left on a northward trip. Departing from Lincoln Bay on the 6th, Cape Sheridan, the winter quarters of the "Alert" in 1875-6, was reached on the 11th. The signal pole erected there was still standing firm. Beneath the stone covering the remains of the Danish interpreter, Petersen, an Arctic hare had taken up his residence. On the copper plate at the head of the grave was engraved the words: "He shall wash me, and I shall be as white as snow."

Farther on, when near Cape Joseph Henry, on the 16th, many traces of musk-cattle, and tresh tracks of the fox, lemming, hare, and ptarmigan, were observed.

By the 20th the party were on the sea-ice about four miles north of the cape, but the pack beginning to disintegrate and move off shore, they were compelled to abandon the tent, provisions and some of the scientific instruments and beat a hasty retreat. Dr. Pavy estimated that he had attained latitude  $82^{\circ} 56'$  and that had they not met open water they could have reached  $84^{\circ}$ . Fort Conger was again reached on May 2d, after an absence of six weeks. All were in perfect health and the services of Sergeant Rice and Jens were specially commended by Dr. Pavy.

In a twelve days' trip into the interior of Grinnell Land, extending from the 26th of April to the 7th of May, Lieutenant Greely, with Privates Connell, Bender, and Whisler, made important discoveries: The Conybeare Bay of the English expedition was found to be a fiord and was named in honor of Secretary Chandler of the United States navy, as showing "in a faint way," Lieutenant Greely's "appreciation of the great energy shown, and serious responsibility assumed by Mr. Chandler in fitting out the relief expedition of 1884;" Lake Hazen, connecting with Chandler Fiord by means of Ruggles' River, was discovered and named, and the adjacent country was observed to abound in game. Later in the season Greely and others of his party made further explorations in the same regions and



farther west, discovering the remains of numerous Eskimo huts and very many relics. The vegetation was luxuriant for that latitude and many musk-cattle, in droves of from five to more than thirty each, were seen and several killed. Geese, long-tailed ducks, terns, king ducks, turnstones, sand-pipers, gulls and skuas were very numerous. New discoveries of coal were also made. The interior was found to be much broken and rugged and occupied by numerous small lakes, which, being fed and drained by numerous streams, serve as reservoirs and dischargers of the inconsiderable snow-fall. Several glaciers and mountains were noted and appropriately designated by the commanding officer, generally in honor of the enlisted men of the party, through whose "heartly coöperation, great persistency and untiring energy" the trips were successfully made. It should not be overlooked that Lieutenant Greeley often took the drag-line himself and pulled in the "man team" with his subordinates.

A noteworthy incident of the summer was the observation of Decoration Day as a general holiday. Happily there were no graves to decorate, but Privates Frederick and Long, in default of real flowers, made a large bouquet of artificial flowers and placed it upon the head-boards set up by the British Expedition in 1876, commemorative of the young Englishmen, Paul and Hand, who are interred at Hall's Rest, on the Greenland coast.

The most important result of the season's work, however, was the attainment of

#### THE FARTHEST NORTH.

In the equipment of the party accomplishing this, there were five sledges, one drawn by eight dogs and accompanied by Christiansen as driver and one man, the four others drawn by ten men, who constituted a supporting party. The smallest of the men, Whisler, weighed 156 pounds; the largest, Henry, 203 pounds.

Leaving Conger on the 3d and 4th of April, under command of Lieutenant James B. Lockwood, the 6th found the party en-

camped well out on the ice of Robeson Channel. The temperature fell to  $-48.8^{\circ}$ . Brainard records: "Connell froze one of his toes in the sleeping-bag; it is very sore and considerably swollen, but he, however, intends to retain his place in the drag-ropes; Henry suffering with rheumatism, and says he cannot proceed, and so has been ordered to return to the station. So much for huge men for Arctic service." Both men, in fact, started back for Conger that same day, Connell very reluctantly, however.

A storm ensued and held them in camp till the evening of the 9th. The wind attained an estimated velocity of sixty miles an hour. The men, however, were cheered by the sun being above the northern horizon at midnight.

Passing Cape Sumner they traveled ten hours over rough ice to Polaris Boat Camp, where violent squalls ensued. One gust of wind lifting the dog-sledge with its 200 pound load bodily struck Ralston on the forehead and severely injured him. At this camp forty hours passed before they were able to have a satisfactory meal. Whisler suffered of pain in the lungs and spat blood, while Biederbick complained of a bladder difficulty and both returned to the fort. The gales continued and a new danger was added. Says Brainard: "From the high cliff huge rocks were blown which came crashing down to the very edge of the floe, endangering our lives and warning us that traveling on the ice-foot was too dangerous to be persisted in."

At this camp (Boat) the dogs stole about forty pounds of meat from the light muslin bags. Only two of the sledges being now serviceable, a third was extemporized and the party again began to advance at 10 p. m. of the 16th, the men dragging an average of 182 pounds, and the dogs an average of 100 pounds each.

Striking the opposite shore of Newman Bay, they entered what was supposed to be Gap Valley, but which instead was found to be Gorge Creek. Ascending this, the descent of Lost River was then made, the morning of the 22d finding the party on the sea-coast a little to the east of Repulse Harbor. In these

gorges the temperature on the 20th of April fell to  $-40^{\circ}$ , and the journey through them was made with painful labor. About half a mile from the coast, in Lost River, Lockwood found an old piece of driftwood, either pine or fir, six feet long, four inches wide and four inches thick.

Of the sledges used, those of the Hudson Bay pattern performed the better service.

The lime-juice pemmican was exceedingly distasteful, and being eaten frozen caused the lips and mouth to become sore.

The sleeping-bags too were frozen and required three or four men to unroll them. They were of buffalo-skins.

During the 22d another storm raged and confined them in camp. The dogs stole thirty pounds more of the meat which was "thought" to be out of their reach.

Advancing on the 23d, when only a short distance from the camp, Brainard found a newly-made hole and the tracks of a seal in the new snow.

Soft snow at and beyond Drift Point compelled them to advance by half loads.

Encamping near Black Horn Cliffs on the 24th, Capes Sheridan, Union and Black, and the United States Mountains could be clearly seen at a distance of about fifty miles. The temperature was  $11^{\circ}$ , and the hot, blazing sun thawed the surface of the black dirty snow near the cliffs and completely soaked the skin boots of the men.

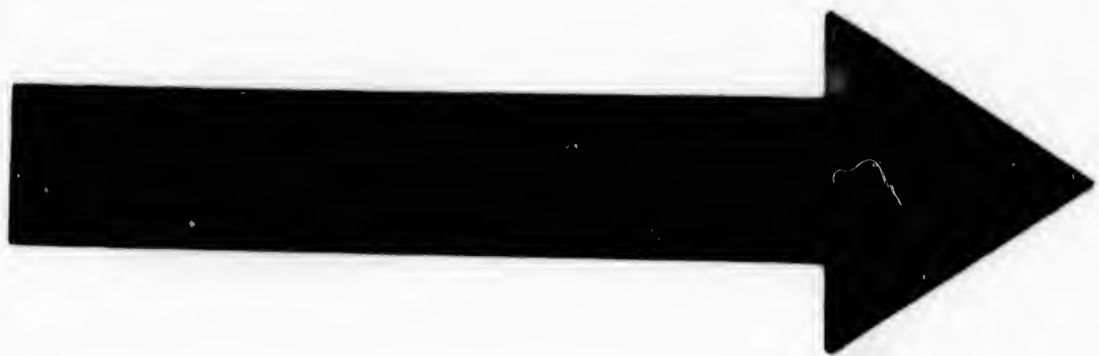
About this time Lieutenant Lockwood read a letter written by Lieutenant Greely in which that officer offered a conditional reward of \$900 and upward, conditional upon making the farthest north. Lieutenant Lockwood offered 50 per cent additional reward. "It seemed," says Greely, "a proper intimation that success would be in some way rewarded."

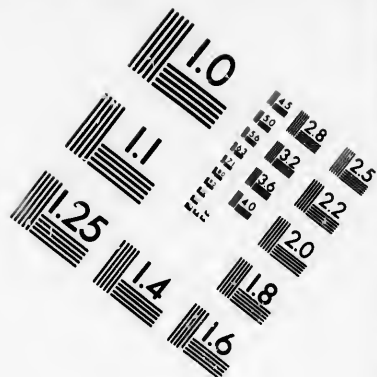
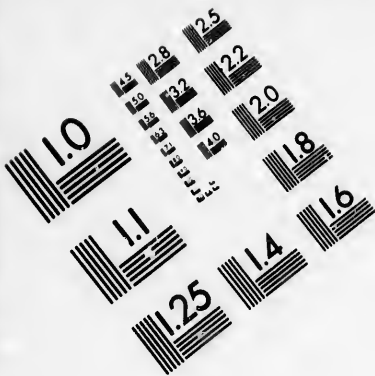
Near this camp Lockwood saw a couple of ptarmigans in winter plumage. On the 25th Christiansen became sick, but after advancing a few miles a drink of hot brandy caused him to sleep and he recovered, allowing the party to advance on the following day past Cape Stanton, across Hand Bay, to a point near Frankfield Bay.

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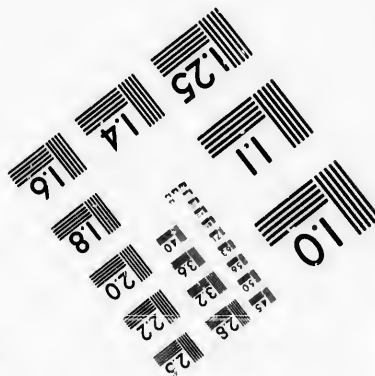
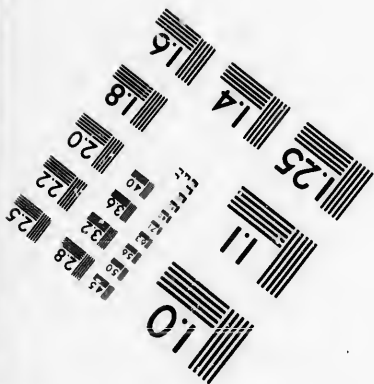
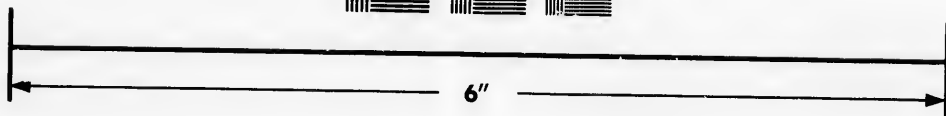
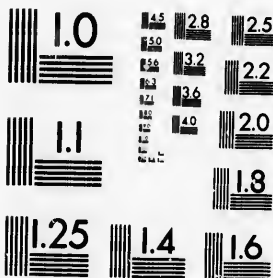


Peary Auxiliary, or Relief Expedition, 1894.  
Mr. Diebisch, C. E.  
Mr. Briteman, Historian.  
Dr. Wetherell, Surgeon.  
Mr. Bryant, Commander.  
Prof. Libbey, Geographer.  
Prof. Chamberlin, Geologist.  
(See Chapters I. and XLII.)





**IMAGE EVALUATION  
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Dr. T. C. Chamberlin, Head Professor of Geology,  
University of Chicago.  
(See Chapters I, and XLII.)

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Leaving camp at 7 a. m. of the 27th, in two and a half hours they gained the opposite shore of the bay, and at 8 p. m. reached Cape Bryant. At this time Sergeants Brainard and Ralston suffered of snow-blindness, and Private Frederick of an injured knee.

Only two sledges now remained and it was decided to send one of these back with the supporting party to Polaris Boat Camp and to Conger, while Lockwood, Brainard and Christiansen would continue northward, which they did, reaching Cape Britannia at 7:53 p. m. of the 5th. They there stood on "land before untrodden by man, and thenceforward everything was doubly new." Ascending a peak some 2,000 feet high, they were evidently on an island, the north headland of which was called Cape Frederick. Traces of foxes, hares, lemmings and musk-cattle abounded.

Arriving at the west entrance to Mascart Inlet, animal life was prolific and vegetation must have been luxuriant in the vicinity. A hare was captured, and two ptarmigans and traces of foxes and lemmings were observed. The tracks of a bear going northeast and abundant traces of musk-oxen were also noted.

On the 10th, in a violent gale, they crossed De Long Fiord, and after a journey of twenty-two miles made in nine and a half hours reached Mary Murray Island, where the gale delayed them sixty-three and a half hours. Here a lemming was captured by the dogs, several snow-buntings flew around, and hare tracks were noticed.

In spite of high wind and low temperature the gallant men, incited to attain the highest north possible, ate, during this exciting period, at intervals of fifteen, twenty-four, and nineteen hours, that their food might last the longer.

On May 13th they made their last outward march and encamped on the north end of an island afterwards named in honor of Lockwood. Near by was another which has been very appropriately designated to commemorate the tireless efforts of Brainard, who, writing concerning their triumph, says: "We have reached a higher latitude than ever before

reached by mortal man, and on a land farther north than was supposed by many to exist. We unfurled the glorious Stars and Stripes to the exhilarating northern breezes with an exultation impossible to describe."

Sub-polar and cir-cum-meridian observations placed them in latitude  $83^{\circ} 23.8'$ .

About eight miles beyond was visible a headland upon which was bestowed the name of Kane, and about seven miles still farther, another, which they proudly designated

#### CAPE WASHINGTON,

the farthest north of any land now known to exist.

In a large, conspicuous cairn about six feet high were deposited a record of their journey to date and a minimum registering thermometer, set at  $14^{\circ}$  and reading to  $-65^{\circ}$ . The cairn was built about thirty feet above and as far from the ice-foot.

On the summit of the island they unfurled the American flag of silk which Mrs. Greely had made, in latitude  $83^{\circ} 24'$  north, longitude  $40^{\circ} 46'$  west.

On the 16th they began the return march to Conger, where, after an absence of sixty days, they arrived on the 1st of June, strong, healthy, and sound.

And thus was gained the proud distinction not merely of planting the Nation's flag four miles farther north than that of any other country, but of adding 125 miles of coast, embracing several hundred miles of inland fiords, to North Greenland, of making known important physical facts and of acquiring valuable experience for future work.

Had Lieutenant Greely directed the total energies of his party toward the Greenland coast, instead of permitting any efforts in the direction of Cape Joseph Henry, the "farthest north" would undoubtedly have been placed beyond the 84th parallel, perhaps at the 85th.

The sledging work for the season of 1882 over, the arrival of a relief steamer was anxiously awaited at Conger. But none came, and although there was still an abundance of supplies for another year, there was considerable discouragement

in the party, and the physician unwisely reported unfavorably concerning the probable health of the men for the ensuing winter. The ill effects of this, however, Greely proceeded to counteract by giving special attention to details affecting the health and spirits of his party. The quarters were rendered dryer and warmer and all passed the second winter in better health than during the first. As illustrations of the abundance of game in the vicinity of Conger, it may be cited that, after his return from the "farthest north," Lieutenant Lockwood, in a launch trip taken to the head of Archer Fiord, secured twelve musk-oxen, weighing 2,400 pounds, twenty-four geese, three hares, twenty ptarmigans, and forty-five smaller birds, while Long, in an absence of but twenty-two hours, killed and skinned eight musk-oxen, wounded two others, and allowed four more to escape.

A relief steamer, the "Neptune," had indeed been sent, and after arriving at Pandora Harbor, in the vicinity of Littleton Island, remained there more than a week hunting and "riding out a succession of southwesterly gales," instead of taking advantage of and moving with them northward. The "Neptune," however, reached latitude  $79^{\circ} 20'$ , only twelve miles from Cape Hawks, on August 10th, and also touched at other points a little farther south, but failed to establish other than one or two small provision depots, taking back with her to Newfoundland the relief supplies.

In the course of the ensuing summer season the party at Fort Conger renewed the work on the coast of North Greenland, but upon arriving at Black Horn Cliffs, April 1st, twenty-four days earlier than in 1882, with forty-one days' full rations for the advance party and seventeen for the supporting party, with a still farther north seemingly within easy reach, the ice began to disintegrate and all were obliged to return to Conger, arriving there on the 12th of the same month. In the course of this trip Sergeant Jewell made valuable tidal readings at various points, which, supplemented with later readings from other localities, gave valuable data for determining the co-tidal lines of the Polar Ocean and Robeson Channel.

From April 25th to May 26th Lockwood and Brainard, with Christiansen, were engaged in exploring the interior of Grinnell Land, the trip resulting in the discovery and partial exploration of Greely Fiord on the west coast.

As the summer of 1883 advanced apace all again anxiously awaited the arrival of the relief steamer. But none came, for although the "Proteus" and the "Yantic" passed to points north of Cape Sabine, no supplies to speak of were deposited, the "Proteus" was crushed in the ice and the "Yantic" returned with all her relief stores aboard.

Some one had evidently blundered and the brave men at Conger were thrown upon their own resources. Abandoning the station on the 8th of August, 1883, after a perilous voyage of fifty-one days the entire party arrived in good health, on the 29th of September, near Cape Sabine—only a few miles west of Dr. Kane's headquarters—where, in the ensuing months of darkness, cold, and squalor, was to transpire a scene of miserable yet heroic starvation such as had never before been enacted.

In a wretched hut but little more than three feet high and built of stones and snow-blocks, the whale-boat and pieces of canvas serving as a roof, these men, twenty-five in number, remained huddled together for long and painful months.

In November a party was sent to Cape Isabella to obtain one hundred pounds of preserved meat 'ft there by the English expedition. On this trip Elison froze his hands, feet, and face to a most horrible extent and amputation of the limbs was ultimately resorted to in order to save his life.

The cravings for food about this time seemed nearly to drive some if not all of the men insane. In order to relieve the mental strain, lectures and discussions on various topics were held. Lieutenant Greely talked on the geography of the United States; Lientenant Lockwood read from the "History of Our Own Times"; Whisler dilated on the city of Independence, Kansas, as a splendid place for business; Frederick and Long proposed to set up restaurants upon their return, the former in Minneapolis, and the latter in Ann Arbor, while Jew-

ell thought that a grocery store in Kansas would prove to be the most satisfactory to him. And thus places and events unimportant to others were to them matters of pleasant contemplation.

At length on the 18th of January death began to relieve them of their long-continued sufferings. On that date Sergeant Cross died—of starvation—his end being hastened from the effects of intemperance in early life. Lieutenant Greeley read the burial service over his body on the next day, and he was buried with marked respect. On the day following his interment he would have been forty years of age, and had saved quite a quantity of bread and butter with which to celebrate the event.

Early in February Rice and Jens endeavored to cross the ice to Littleton Island, hoping to find there a depot and also to communicate with the friendly natives of Etah. When about ten miles from the island open water was met and they returned to the miserable death hole at Camp Clay. Lockwood recorded: "Of course we are all very much disappointed; the party take a bold front, and are not wanting in spirit. Our rations have been counted on to last until March 10th, there being a ration of twelve ounces of bread and ten ounces of meat for ten days in March to cross the straits. So here is the upshot of affairs. If our fate is the worst, I do not think we shall disgrace the name of Americans and of soldiers."

With scanty diet, greatly reduced and depending largely upon a few ounces of shrimps, or "sea-lice," in size about as large as millet seeds, or so small that 2,300 of them were required to fill a gill measure, the brave struggle for life continued.

Nevertheless death again visited them on the 5th of April and claimed the faithful Eskimo Christiansen, concerning whom Lockwood wrote: "He was a good man, and I felt a great affection for him. He certainly worked hard in my service, and never spared himself on any sledge trip. His death makes me feel very sorrowful."

On the next day Lynn, a strong, vigorous man, whom all

liked and respected, died. His dreadful experience on the trip to Cape Isabella in November, for the purpose of searching for the English caché, had broken him almost completely. Recalling the motto of Kentucky, "United we stand, divided we fall," he pathetically reiterated it as discipline and encouragement occasionally became necessary.

Deeply affected by Lynn's death, Lockwood failed rapidly and breathed his last on the 9th, "calmly and peacefully, without suffering, as passed away all of our party," adds Lieutenant Greely, who also pays to his lamented second officer the following tribute: "Lieutenant Lockwood was a gallant officer, a brave, true and loyal man. Christian charity, manliness, and gentleness were the salient points of his character; of a modest and retiring nature, he did not make friends quickly, but his personal qualities invariably commanded respect. Slow to form an opinion, he decided wisely, and bent his best energies to the accomplishment of his duties; and to those qualities, and not to good fortune, must be attributed his great successes. He always did his best, and that best will give him a name in Arctic history as long as courage, perseverance, and success shall seem worthy of man's praise and ambition."

A few hours later on the same day, Rice, when absent with Frederick on a trip to Baird Inlet for a small quantity of provisions, became exhausted, and, despite the heroic efforts of Frederick, who took from his own body his sealskin jacket with which to wrap poor Rice's feet, and sat in his shirt sleeves on the sledge holding and endeavoring to encourage the failing man, he died at a quarter of eight that night. Rice had endeared himself to his comrades and his unexpected death caused deep mourning among the rapidly diminishing numbers in the hut.

On the 12th Jewell became unconscious while in Lieutenant Greely's arms, and died shortly afterwards. Although not large physically, he had done extraordinary field work, and his meteorological observations were always efficiently and conscientiously made.

About this time Long and Jens killed a young bear weigh-

ing, when dressed, 400 pounds, and a small seal weighing sixty pounds. This good fortune brought joy to the starving men, and death was held in check until the 29th, when Jens, the "Little Man," lost his life by drowning, when hunting on the ice with Long. His big heart and Christian conduct caused all to have great affection for him. On another occasion when hunting with Long, the ice broke and Long was carried out to sea on a detached floe. In spite of Long's urging Jens to return to fast ice, the generous fellow declined to do so and paddled out to him, saying: "You go, me go, too." Fortunately, both were drifted ashore.

The next death occurred on May 19th, that of Ellis, a strong, active man, he being the first after a respite of six weeks, to succumb to starvation. Ralston, who had been an efficient observer and field-man, followed on the 23d, and Whisler, another faithful fellow, on the 24th.

Three days later Israel, the young astronomer, a graduate of Ann Arbor University, and a most cheerful and helpful associate in the scientific work, was added to the long list of silent comrades. In following his custom of reading the burial service at the death of each man, Lieutenant Greely, in the case of Israel, who was a Jew, omitted every portion which could be distasteful to his people. In spite of Israel's weak physique, he had borne the hard struggle long and nobly.

Summer opened with a howling gale and driving snow, and unless relief came speedily the remaining fourteen must soon pass away. Lieutenant Kisingbury, an active, hard-working officer, who had exerted himself manfully during the boat retreat and at Sabine, died on the 1st of June. As the sad end approached he sang the doxology and called for water.

Salor, an honest, energetic man, was the next to go, and died on the 3d.

But the saddest of all these tragic ends to life is now to be noted. Private Henry, having been repeatedly caught stealing food belonging to others, and failing to keep his promises at reformation, was shot as the only means of allowing all a fair and just chance for life. This occurred on June 6th, and within

five hours of his execution Bender and Dr. Pavy passed quietly beyond. Bender was an industrious, ingenious man and had done good service both at Conger and at Sabine. Dr. Pavy, despite his serious defects of mood and earlier "Bohemian life," tending to mar the harmony of the party, had shown restless energy and fine ability both as an explorer and a medical expert.

Nearly a week later, on the 12th, Gardiner, who appeared to have lived for the previous two months mainly by will-power, died of inflammation of the bowels and starvation. As the end approached he held in his hands an ambrotype of his wife and mother, and at the very last exclaimed, "Mother! Wife!" He was a young man of excellent habits, fine mind, and ambitious application, and was beloved by his companions. Of deep religious principles, he had denied himself to take with him on the retreat his Bible.

To such an extremity were the party now reduced that on the next day Lieutenant Greeley was obliged to issue to the survivors his own sealskin jacket and the dirty, oil-tanned covering to his sleeping-bag as food.

On the 18th, Schneider, who had rendered good services as clerk and in training the puppies born at Conger, thereby contributing largely toward the success of the geographical work, joined the invisible host. Meanwhile,

#### EFFORTS AT RESCUE

were being made. The "Bear" and the "Thetis," the best vessels in the Scotch whaling-fleet, had been purchased by the government and the gracious Queen of England having also presented to the government the "Alert," the flag-ship of Nares, these were placed in charge of Commander W. S. Schley, U. S. N., and arrived in the vicinity of Disco about the middle of May, 1884. On board the "Thetis" were Engineer Melville and the Chinese steward, Tong Sing, of the "Jeannette" party. At Disco Commander Schley and Mr. Melville paid their respects to the accommodating Inspector Andersen and Governor Petersen. Here, too, Melville met his old ship-mate, Hans Chris-



tian, of the Kane, Hayes, Hall and Nares expeditions, who, it will be recalled, had been returned to Greenland on board the "Tigress" after his rescue from the ice-floe. He had several full-grown children, but both Charley Polaris, born on the ice-floe, and his mother were dead.

Through the ice of Melville's and Baffin's bays a lively race was had with the Scotch whalers, who were eager to gain the reward of \$25,000 offered by Congress for the rescue of Lieutenant Greely's party.

Leading in the race, the "Thetis" and the "Bear" reached Littleton Island, whence, failing to find traces of the Greely party, they directed their course across the narrow channel to Cape Sabine, near which, on Brevoort Island, in a cairn, were discovered various papers, instruments, and a record left by Lieutenant Lockwood stating that the party had gone "into camp four and a half miles west of Cape Sabine, or about midway between that point and Cocked Hat Island. Twenty-five men, all well."

#### WITH A CHEER

the rescuer: sought the desolate encampment with which preceding pages have acquainted the reader. Although a terrific gale was raging at the time, the shrill whistle of the "Thetis" had been heard by the survivors at Camp Clay, and they were between hope and despair lest the sound had been a false one, when the searchers came upon them. Lieutenant Greely was resting on hands and knees and peering through the opening to the summer tent, and when asked if he were there, replied: "Yes—seven of us left—here we are—dying—like men. Did what I came to do—beat the best record." In greeting Mr. Melville, Lieutenant Greely told him that he was glad to see one of the "Jeannette" people, for he had learned a great deal of the history of the expedition from the scraps of paper found wrapped round some of the lemons left by the "Proteus" in the preceding year. He then introduced Mr. Melville to Sergeant Elison, whose hands, feet and nose were all gone. As Melville shook the poor fellow by a stump, he said: "So you are one of the officers from the 'Jeannette,' and poor De Long is dead.

You must have had a terrible time." That was the sympathy of a true hero.

Higher on the beach ten bodies were buried in a row. Henry's had not yet been interred. Six had been deposited in the tide-crack and were irrecoverable and that of Jens was in the sea.

Of the survivors poor Connell's face was already fixed in death and he scarcely breathed. He had eaten the last of his food three days previous and was calmly waiting to die. Immediately he was wrapped in blankets dipped in hot water and a few drops of brandy placed in his mouth and life was gradually restored. Being of a lively disposition, he remarked a few days later: "Well, boys, it was a pretty close squeeze for me. Death had me by the heels, and you pulled me out by the back of the neck."

The survivors, Lieutenant Greely, Sergeant Brainard, Corporal Elison, and Privates Biederbick, Connell, Frederick and Long, and eleven corpses having been taken aboard, the relief vessels started on the homeward voyage. Elison died during a second amputation, on the 8th of July, at Disco.

On the 2d of August, a most beautiful day, the "Thetis," "Bear," and "Alert" entered the harbor of Portsmouth, N. H. The shores were lined with people, and the harbor was filled with steamers, sail-boats and small craft of every description, all appropriately dressed with flags and streamers. As the relief vessels passed the ships of war the crews of the latter swarmed in the rigging and gave them

#### CHEER UPON CHEER,

and as the anchor was cast, the band on the flag-ship played "Home Again," and again the harbor and enclosing shores resounded with cheer after cheer. At the instant the "Thetis" came to rest Mrs. Greely went aboard, and there, in the quietness of the cabin, she was restored to her husband and a nation's hero.

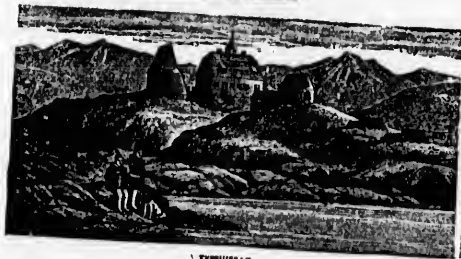
Of the dead, the remains of those brought back were buried in the various States to which they belonged. Lieutenant Kis-

lingbury rests at Rochester, N. Y., and Lieutenant Lockwood in the beautiful cemetery of the Naval Academy at Annapolis. The funeral services of the latter were held from the church of St. Anne, where he had been baptized, confirmed, and received his first communion. At the time of his death he was but thirty-one years and six months of age. Not only is his resting-place marked by a tomb appropriately inscribed, but a tablet erected in the post chapel at Fort Leavenworth, Kansas, where his memory will ever be cherished, bears the following inscription:

In Memoriam  
**JAMES B. LOCKWOOD,**  
 First Lieutenant Twenty-Third Infantry,  
 A Member of the  
 Greely Polar Expedition,  
 Died at Cape Sabine, Grinnell Land,  
 April 9, 1884.



HARBOR OF ST. JOHNS, NEWFOUNDLAND.



ESKIMOS.



WINFIELD SCOTT SCHLEY, U.S.N.

## CHAPTER XLI.

## NANSEN'S FIRST TRIUMPH AS AN EXPLORER.—LIFE AND CUSTOMS OF THE ESKIMOS.

Of all undertakings in the great white world the first journey across Greenland by the intrepid Scandinavian, Dr. F. Nansen, scholar and explorer, seems the most novel, and prompts our hearty admiration.

Ever since the investigations of the learned Dr. Rink, scientist, writer and missionary among the Eskimos of Danish Greenland, during the middle portion of the present century, the great inland ice, or ice-cap, of Greenland, has excited the interest of the scientific world.

Following the efforts of Dr. Rink, we find among the devotees of science who ventured upon its untrodden tract the names of Messrs. Whymper and Brown, glacialists, who touched its western edge in 1867; Baron Nordenskiöld, in 1870; Whymper, in 1872; Hellag, geologist, in 1875, and Nordenskiöld again in 1883, at which time he advanced a distance of seventy-three miles upon the interior ice. Three years later, Mr. R. E. Peary, Civil Engineer in the United States Navy, in company with Mr. Maigaard, a Danish official of South Greenland, likewise journeyed with sledge and snow-shoe into the interior. This was the beginning of Mr. Peary's long-continued work in Greenland.

About this time, too, Dr. Nansen began his investigations of the ice off the opposite, or east, coast of Greenland. Returning to his country he made public a plan to cross South Greenland, from shore to shore. This, he himself says, was "considered to be the scheme of a lunatic." Having appealed to the government for the modest sum of \$1,331 with which to defray

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the expenses of the undertaking, the request was politely rejected. His mad perseverance, however, brought him a friend and benefactor in the person of Mr. August Gemel, a wealthy Dane, who became his financial backer.

In Nansen's narrative of the journey which we are about to relate, he does not fail to pay just tribute to his friend. He heartily thanks also the

"COMMITTEE OF STUDENTS' UNION,"

besides a large number of his countrymen who contributed to defray the expenses of the expedition. Nor does he neglect to acknowledge gratefully official courtesies wherever bestowed, as well as the self-denying acts of the men accompanying him.

Turning now to the ice off the southeast coast of Greenland, we there see, on the 17th of July, 1888, a small company of men drifting southward with the ice. They are Dr. Nansen, his countrymen, Sverdrup, Dietrichsen, Kristiansen, and the two Lapps, Ravna and Balto. They are about nine miles from Sermilikfiord, endeavoring to gain the shore. The sealing vessel "Jason," Captain Jakobsen, has just left them after having taken them as near the coast as the ice will permit. The ship is soon lost to view as she turns to seek the sealing grounds, and, later, to direct her course homeward.

Now following the fortunes of the Nansen party we find that they continued to drift southward. On the 19th a considerable rain fell upon them. The Lapps—old Ravna and young Balto—began to lament their condition, then so different from that of caring for their reindeer herds in the far-away Lapland forests. Balto zealously read from his New Testament, while Ravna listened attentively.

On the next day an observation showed the party to be in latitude 65° 8' north, longitude 38° 20' west—a position between thirty and thirty-five miles from the mouth of the Sermilikfiord.

Ten days later a landing was effected. Here they were

GREATLY SURPRISED

to meet two young Eskimos in their kyaks. They were still more greatly surprised to observe them wearing garments in

part at least of European manufacture. One of them wore a jacket of blue cotton stuff spotted with white, and a low-crowned, broad and flat-rimmed hat formed by means of a wooden ring covered with blue cotton stuff, the crown being marked with a large red cross. The two youths were members of a large settlement who were living in their summer tents, or tu-picks, of dried seal-skins, at this point of Kioge Bay. They were very hospitable and assisted the Europeans in carrying ashore their effects. Upon visiting their tents Dr. Nansen was tendered the usual Eskimo greeting, namely, that of rubbing noses. An old woman showed him a bit of

#### DUTCH SCREW TOBACCO,

while a man displayed a knife having a long handle of bone. These articles were doubtless obtained in barter from the Danish-Eskimo settlements in the vicinity of Cape Farewell.

At once Dr. Nansen began to transport his supplies up the coast-slope to the edge of the great inland ice, reaching, on the 10th of August, his last encampment on the east coast.

A week later the courageous men were fairly under way on the great white wilderness, which stretched out before them in one unbroken sheet of whiteness to Godthaab, on the west coast.

During halts for rest the men sheltered themselves within a tent, where they read the few scientific books carried with them, told stories, and wrote in their diaries. The Lapps gave assiduous attention to the New Testament and to their journals.

Each man was allowed 2.2 pounds of food per diem, as follows:

Breakfast—Chocolate made with melted snow or tea, biscuit, liver paté, pemmican.

Dinner—Lemonade poured over some snow, oat-meal biscuit, liver, pemmican.

Afternoon lunch—Biscuit, liver, pemmican.

Supper—Pea, bean or lentil soup, biscuit, pemmican. Each man was allowed one-half pound of butter a week.

The use of spirituous liquors and of chewing tobacco was

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in no wise tolerated. Dr. Nansen relaxed his usually rigorous regulations and allowed the men—especially the Lapps—an occasional pipe.

The 12th of September found the party traveling at an elevation of 9,000 feet and only seventy-five miles from the west coast. Notwithstanding this intelligence Ravna broke out with:

"I am an old Lapp, and

"A SILLY OLD FOOL,

too; I don't believe we shall ever get to the coast!"

To which Balto added:

"But how on earth can any one tell how far it is from one side to the other when no one has ever been across?"

At length, on the 17th, the hearts of all were gladdened at the appearance of a solitary snow-bunting as it came twittering to them from the near-approaching land. It was the first and only thing of life that they had met since leaving the east coast.

On the next day advantage was taken of the down-grade and the favoring wind by rigging the

#### SLEDGES WITH SAILS.

To the advance sledge Dr. Nansen and Kristiansen harnessed themselves, while Sverdrup made ready to direct its course. All being arranged, the sail was hoisted and the sledge sprang forward, soon overtaking and knocking down both Dr. Nansen and Kristiansen. Fortunately the sledge was again brought to a standstill and a new disposition of men effected, this time Dr. Nansen and Kristiansen clinging to the sides of the load, while Sverdrup, seated in front, managed the steering apparatus. A second time the craft went with the wind, much too rapidly for Kristiansen, who soon relaxed his hold and was left far behind. Not less unfortunate was Dr. Nansen, for, his long Norwegian snow-shoe, or ski, catching in a drift of hardened snow, over he went ski and all, while on sped the runaway sledge, its pilot unaware of misadventure to its other passengers. Moreover, all along its wild course lay various

articles, notably the tins of precious pemmican, which had been shaken from their unstable position. These, Dr. Nansen and Kristiansen were picking up and carrying along in pursuit of the sledge when they were overtaken by the rear sledge, likewise rigged but more fortunately managed, by Dietrichsen and the two Lapps. They, too, however, had lost from their sledge some of the pemmican, thus necessitating a delay while it was being restored. Meanwhile Sverdrup had discovered the absence of his passengers and brought his craft to a standstill, and awaited their arrival with the rear sledge.

Experience soon maintained control of these strange affairs and fine sailing was accordingly met with.

Suddenly, on the 19th, Balto, looking ahead, shouted to Dietrichsen,

"I CAN SEE LAND!"

It was indeed land, and at the next meal their arrival within view of it was "celebrated with the best they had," viz., jam, American biscuits, and butter. They had likewise celebrated their start upon the journey on the east coast and their arrival at the highest elevation of the ice cap.

Two days later they enjoyed from the west coast copious draughts of water. "It tasted," writes Balto, "just like fresh, sweet milk, for we had not had any water for a whole month."

Having now arrived upon the west coast, it was necessary to construct a boat in order to proceed to Godthaab. This was accomplished by using pieces of bamboo, ski-material, the canvas composing the tent-flooring, and small willows found growing near the water. On the 29th this odd craft was launched upon Am-er-al-ik-fi-ord.

Here they were annoyed by black flies as they had been by mosquitoes on the east coast.

October 3d found them in the hospitable settlement of Godthaab, to whose inhabitants their sudden appearance seemed little short of a miracle. Upon Dr. Nansen's informing the officials who he was, one of them, a Mr. Baumann, exclaimed: "Oh, allow me to congratulate you on taking your doctor's degree!"





**Climbing the Face of a Glacier.**  
Prof. Chamberlin in the lead and followed by E. B. Baldwin, H. G. Bryant, Emil Diebitsch and Prof. Libbey (Photographer).  
(See chapters I. and XLII.)



The Author.  
Mr. Bridgman.  
Professor Chamberlin's "View" of a Greenland Glacier, with  
Terminal Moraine.  
(See Chapters I. and XLII.)



Glacier and Lateral Moraine.  
(See Chapters I. and XLII.)

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This was the first intelligence received by Nansen that he had been thus honored in his absence from home by another title of scholarship.

All vessels having taken their departure from the port for the season, the new-comers were obliged to spend the ensuing winter

#### AT GODTHAAB.

During these months Dr. Nansen observed much concerning the life and customs of the Eskimos of the region. He observed that the language of the South Greenlanders is greatly like that of the Alaskans, although used 3,000 miles apart, and remarks that his friend, Captain Jakobsen, of the "Jason," had conversed with the Alaskans, using the language of the Greenland Eskimos.

Nansen's observations are enhanced in value by recalling those of Dr. Rink, who traces the implements used by the Greenland natives to an American origin, and asserts that the language, legends, and customs of the South Greenland Eskimos recall those of the American Indians.

It is also to be noted that modern travelers and writers have remarked the resemblance of the American Eskimo to the Asiatic races of the Polar regions, in the use of the dog.

Concerning the use of the kyak, Dr. Nansen observes that in 1888, there occurred in South Greenland 162 deaths, ninety of which were males, twenty-four resulting from the employment of the kyak.

In 1889 there were 272 deaths, 152 being males, and twenty-four occurring in kyaks; and this from a population of 5,614, 2,591 of which were males.

When at sea in these skin canoes, unprovided with keel and ballast as they are, the kyakers exercise great coolness, for their voyages then become veritable dances with the waves and with death. During these trips they practice great abstinence, taking with them little to eat and nothing to drink.

Formerly, they hunted the whale in the oo-mi-aks, or women's boats, the hunters being arrayed in their best attire,

"for," explains an early missionary, E-ge-de, "the whale cannot endure uncleanness and will otherwise avoid them."

During the summer the natives change their abodes from place to place in search of better hunting localities.

#### THE FOOD OF THE ESKIMO

is essentially meat, eaten, for the most part, raw, and much of the time frozen. Sometimes, however, it is boiled or eaten in the dried state. Fermented meat, too, especially rotten seal's head, is eaten with relish. The blubber of seals and whales, with its sweetish, cream taste, is not to be despised even by white men sojourning in the north world.

Mat-ak, the thick skin of whales and porpoises, when eaten with a layer of blubber attached, tastes much like nuts and oysters mixed. When cooked, mat-ak becomes like jelly in consistency, the taste of nuts and oysters disappearing. Raw halibut-skin is also deemed palatable. Seal-skin with blubber and hairs attached is not despised. Even dogs and foxes are made to contribute to the larder in times of scarcity. In general, the lean meats are not so highly esteemed as are the fats, and the sea-birds are more sought for than the celebrated ptarmigans—the most delicious of land-birds. The eyes of the feathered tribes are eaten as choice morsels, while their viscera furnish a very desirable variation to the solid, heat-producing meats. Furthermore, this dietary change is supplemented with the contents of the reindeer's stomach—an aromatic sauce which, together with fermented milk, is often served with blubber and crowberries. Not uncommon desserts consist of sea-weeds, bilberries, crowberries, sorrels, dandelion, salads, and angelica stalks served in train oil.

The entrails of seals and the skins of birds' legs when filled with broken birds' eggs or the marrow extracted from bones form, when frozen, a sort of candy-relish. In short, there is known to the writer but one flesh item which the Eskimo will not eat, and that is the much-despised crow, or raven. Even his dogs will not deign to taste its flesh. This the writer knows from experiment, having shot and offered to his Eskimo

dogs several of these birds, which were instantly seized by the hungry dogs, but as quickly rejected as soon as the dogs had merely smelled of them.

Among the uncivilized Eskimos dishes are not used in eating. Among the South Greenlanders, however, a single dish containing the food is placed in the middle of the floor, and from this the members of the household help themselves, using their fingers. The missionaries and Danish officials, however, have introduced many beneficial changes into their domestic regulations. Frequently such attempts are accompanied with much amusement, as the following illustrates:

A Danish lady, observing some Eskimo girls learning for the first time the use of a tub resting upon the floor, noticed that they stood about the article in question, bending to the clothes in a very awkward and uncomfortable position. The lady accordingly caused some stools to be brought in as a rest for the tub. The girls, however, misunderstanding the kind intention, stepped upon the chairs and began to renew their labors from the still more elevated position.

A prevailing vice among the South Greenlanders is that of coffee-drinking, the older ones drinking each two large bowls four or five times a day. Dizziness is accordingly common among them. The young men are not allowed to use it to excess.

On the west coast, tobacco is both smoked and chewed; on the east coast, snuff is used instead. This is also used among the women of the west coast.

A curious custom of providing chewing tobacco is to place within the bowl a half pipe of moist smoking tobacco, and on top of this a half pipe of dry tobacco; then to smoke the dry half, allowing the moist half to absorb the nicotine, knock out the ashes, thus preparing the residue for the purpose stated.

Among the South Greenlanders the use of intoxicants is carefully guarded by the officials. The employes of the Danish company are allowed, however, a "morning dram." The liquor thus obtained was at first kept in common till a sufficient quantity had been laid by. When a general and partnership drunk

was indulged in. This is no longer tolerated. It should not be forgotten that the Eskimo in his primitive state is a very temperate being, disdaining the use of both narcotics and stimulants. In

#### CHARACTER AND SOCIAL CONDITION

many points are worthy of emulation by more illustrious races.

Of all God's creatures he is gifted with the best disposition. Good humor, peaceableness and evenness of temper characterize him. No terms of abuse and contumely escape his lips. Loth to contradict, he words his remonstrances in mild forms. He is chary to tell unpleasant truths or to reveal disagreeable facts, and seldom desires to reclaim stolen property. With the meekness of Luke he would say: "Give to every man that asketh of thee; and of him that taketh away thy goods ask them not again." Happy being he! and yet a most careless one. Oft-times improvident of the future, he is yet cut to the heart when his children die for lack of food.

Socially he is law-abiding and a great respecter of property-rights, especially of personal property. The custom of "borrowing and lending" is looked upon with disfavor, and should a loaned article be lost, the borrower is not required to make recompense; he is supposed to have been as careful as the owner would have been under the same circumstances.

He regards no title to land, yet is secure in the possession of his immediate hut-site and contiguous space.

His first social law is, to help his neighbor. In the chase, he shares the spoils with all, and all feast together or starve together, as the case may be. With strangers he recognizes the same law and asks no recompense.

Regarding the

#### POSITION OF THE ESKIMO WOMAN,

the view may not seem so bright. Primarily and primitively she was considered as chattel and might be exchanged, sold or loaned.

In dress she has ever been permitted to attire herself much after the style of her liege-lord.

She it is who often constructs or assists to construct the hut of snow or tent of seal-skin; disposes of the hunter's game—even dragging or carrying it to the abode; prepares for and makes into garments the skins, and also sews them over the frame-works made ready for a new kyak. Preparing her thread from the sinew of the seal, whale, reindeer, or even from the gullet of the seal and of the cormorant, she is an adept with the needle. In South Greenland she has learned the art of dyeing from the Europeans, and her free-hand embroidery evinces great skill.

Were it not for her multifold duties she must needs be a most miserable creature indeed. Although regarded as inferior to her male master, she is nevertheless regarded with much genuine affection.

The birth of a son is hailed with great delight by both parents as indicating an addition of so much more family stock.

#### MARRIAGE

among the Eskimos is generally in the form of a capture. He loves, proposes, and is invariably rejected, notwithstanding she, too, may love. To say "Yes" would indicate great immodesty and the suitor is therefore obliged to win by forceful conquest.

The introduction of the European ceremony and the attendant "Yes" greatly embarrassed the contracting parties. The formal "capture" is still in vogue in East Greenland. There divorce is correspondingly easy. Generally speaking, but one wife is allowable to each male adult. On the east coast of Greenland he may take two. The first chosen remains the head of the household. On the contrary, polyandry seldom occurs.

Childless marriages are soon dissolved. But offspring once begotten, divorces are infrequent. As a rule, Eskimo mothers are not prolific, from two to four children occurring in each family. Child-birth among them is remarkably easy. For charity's sake, the unfortunates are killed at birth; and for the same reason very old and helpless creatures are likewise disposed of or, from custom, drown themselves.

Husband and wife live very happily together, especially during old age.

The love displayed by the parents towards their offspring amounts almost to idolization and mothers allow them nourishment at the breast till three or four years of age.

Quarrels seldom occur among them, and they are early trained to the use of the implements of the chase, the kyak, the sledge, etc. Their earliest toys are calculated to afford useful instruction. They are made to bear the names of birds, fish, other animals, and inanimate objects—such as Oek-pud-a-ho (the little auk), Ah-mou (the wolf), Kes-shu (wood), Ah-ning-ahnah (the moon, for the lunatic), etc.

#### IN MORALS

the Eskimo is naturally honest. Intercourse with Europeans has, however, served to lessen his strength of character in this respect. Still, he so scrupulously regards the possession of property by another that drift-wood once placed above the high-water mark remains undisturbed, notwithstanding another might later happen upon the same quantity.

Murder seldom happens. In cases of love affairs, however, this crime would appear to be of too frequent occurrence. The attack is then made secretly. It is probably fortunate that the use of poisons is unknown to the race.

Notwithstanding the innate modesty of the Eskimo women, cases of shameless immorality are met with. This has been occasioned by contact with conscienceless sailors of European and American ships. Wherever these ships may touch, there disease lurks in foulest form. From our own Alaska to still more remote North Greenland there may be heard one continuous cry of agony. Ignorant of the occasions of disease and without medicinal remedies, habit and custom continue its painful propagation. Well may we inquire, will the ear of enlightened humanity suffer this to continue when the work of even a few physicians would restore them to health and hardihood?

Among the South Greenland natives, marriage between first



cousins is prohibited. The contracting parties must also be, if possible, of separate villages. There, too, on the west coast, the marital relation of the female is also indicated by the manner in which she ornaments her top-knot of hair. If she be unmarried, the knot is wound by means of a red ribbon; if married, blue; if a widow, black; if an unnatural mother, green.

Among the uncivilized tribes the infants are washed by a tender application of the mother-tongue. Soft, chewed bird-skins are also used in the process.

The parents seldom if ever resort to corporal punishments. In settling disputes the judicial proceedings are peculiar.

The opponents, standing erect and face to face, deal with right fists clenched alternate blows upon the same spot of the muscle of the upper left arm near the shoulder-joint, till the weaker, and therefore the loser of the suit, yields. Another form is known as the drum-dance. Standing as before, the contestants taunt each other, the assembled populace laughing at their reciprocal jibes and jeers till one or the other is outwitted and laughed from the field.

The mental gifts of the Eskimos are surprisingly developed. The Christian converts among them learn to read, write, cipher, and draw with great ease and skill. As already observed, they are natural topographers, and notwithstanding remarkable artistic ability and ingenuity, hieroglyphics have never been used by them.

In counting they do not appear to go beyond one hundred, and all numbers are then designated by so many finger-groups of five each.

In music his talent is not lacking, and although expressed primitively by means of a sort of rude tambourine, or key-entick, accompanied by the monotonous "ha-ya" of the natural voice, they have readily learned from the Europeans the use of the violin and the guitar.

From Dr. Rink we have learned much of their fairy tales and legends, and also that they possess a poetry of their own.

The lampoons of the drum-dance are said to be not devoid of this element.

AN ESKIMO NEWSPAPER,

was established in South Greenland, in 1861, by Dr. Rink. It bears the imposing title of "A-tu-ag-agdliu-tit," or translated, Things that-should-be-known. It is printed at Godthaab, by Lars Möller, a native Eskimo, but educated in Copenhagen. He not only draws, but also lithographs his own illustrations for it. It is published monthly and contains translations from the Danish, the usual "locals," and news of the chase, etc.

Young Möller is also something of a taxidermist, and the writer recalls with pleasure a visit to his sanctum and "bird-shop" in the autumn of 1894, and was pleased to receive from him two fine Greenland eagle-skins ready for mounting, and given in exchange for an American overcoat.

IN RELIGION,

the Eskimos appear to believe that man is endowed with two souls—one a shadow, the other a breath. Everything is personified. The Greenlander recognizes both the body and the soul. As the body may be exchanged and broken, so may the soul. The name of a person is also believed to be distinct and may migrate from the body through different animals, etc. The first child born after the death of a person is called by the name borne by the deceased. Yet, should one of two persons bearing the same name die, the survivor immediately assumes a new one, it being believed that there is a spiritual affinity between the same names, and that they should not be separated.

They dislike not only to touch the bodies, but also to speak the names of the dead. Hence it is not through a desire to be cruel but through religious fear that those approaching death are often carried to the grave before life is extinct.

It has also been observed that the East Greenlanders fear to speak their own names. The same custom prevails among the natives of North Greenland. When asked individually to give their names, they will almost invariably respond by requesting a companion to answer for them.

Believing in the reward of the just and the punishment of the wicked the immortal good are sent to dwell in the earth below the water. Still another place for the fortunate is on the bank of a lake situated between the earth and the sky. The overflowing of this lake, it is said, causes the rain upon the earth.

The auroral lights they believe to be the souls of the dead either at play or engaged in the festivities of the dance.

Even the inferior animals are supposed to be possessed of souls, and that their dogs should thus be spiritualized evinces the high regard in which these faithful creatures are held.

At death the bodies are either cast into the sea, or placed upon a bare rock, or within a slight excavation and enclosed with a covered rock cairn. The existence of a marine deity is also believed in.

The legends which endeavor to account for the origin of man seem to be connected with those of remote nations. By some of these it is asserted that man grew from the ground, and then mated with a mound of earth.



THE "POLARIS" PASSING FITZ-CLARENCE ROCK, AUG. 28, 1811.

## CHAPTER XLII.

WITH LIEUTENANT PEARY.—THE AUTHOR'S PLANS FOR  
POLAR RESEARCH.—COMRADE ASTRUP'S TRIP  
TO MELVILLE BAY.

Just seven years after the return of the survivors of the Lady Franklin Bay Expedition the steam-whaler "Kite," of St. John's, Newfoundland, set sail from New York with the members of the expedition of the Philadelphia Academy of Natural Sciences. These were, Robert E. Peary, Civil Engineer, United States Navy, Mrs. Peary, Dr. F. A. Cook, and Messrs. Langdon Gibson, Eivind Astrup, John T. Verhoeff, and Matthew Henson, Mr. Peary's colored servant.

Headquarters having been established at Red Cliff, on McCormick's Bay, the "Kite" returned to St. John's, but revisited Mr. Peary's camp a year later and restored his party to civilization after a most enjoyable and successful residence of twelve months just below latitude 78°, in Northwest Greenland. The only occurrence to mar the pleasure of the trip was the sudden disappearance of Mr. Verhoeff on the eve of the final departure of the "Kite" on her homeward voyage. Diligent search for the unfortunate young man left not the least doubt in the minds of all, who looked long and anxiously for him, that he lost his life in some frightful crevasse of a glacier which he had evidently attempted to cross alone.

The geographical work accomplished by the expedition during its brief absence forms one of the most remarkable triumphs of Arctic daring. From about the 1st of May to the 4th of July, 1892, Mr. Peary and a single companion, Mr. Eivind Astrup, were engaged in crossing the great inland ice cap of North Greenland. Traveling at an elevation of from 4,000 to 9,000 feet, a journey of 600 miles brought them to a considerable opening on the northeast coast of Greenland, in latitude

81° 37' north, longitude 34° west. This, in commemoration of the day of its discovery, July 4th, Mr. Peary named Independence Bay. After recuperating upon the flesh of musk-cattle killed in the vicinity, the while enjoying the sight of countless flowers, including the poppy and the dandelion, the song of birds and even the busy buzzing of the bumblebee, the long return march was begun, and Red Cliff again reached on the 6th of August. Here the "Kite" was in waiting, and, as before stated, returned in safety with the party to the United States.

Mr. Peary at once set about reorganizing an expedition for the purpose of extending the work from Independence Bay, and after devoting a year to preparation, in part by means of a series of lectures, he was enabled to renew the work from Anniversary Lodge, at the head of Bowdoin Bay, North Greenland, in the late summer of 1893, the sledge-journey toward Independence Bay being undertaken about the first of March of the following year. Of this expedition, although the writer was a member, it is not his purpose to treat at great length in this volume. Should Lieutenant Peary publish a narrative, it will doubtless be one of the most valuable contributions to research in Greenland ever issued and the success of the work undertaken should properly be set forth, in the first instance, by Mr. Peary's own pen. We shall very properly await the accomplishment of future work before attempting a second and separate volume. The subjoined article, taken from a recent college publication, must suffice for this chapter:

It was on the 6th of March, 1894, a bright pinchy day in the midst of threatening weather, that the start was made on the "Great Inland Ice Trip." Lieutenant Peary's party was composed of eight men, Baldwin, Entrikin, Dr. Vincent, Astrup, Davidson, Clark, Lee, and Stokes. They took with them five Eskimos, Oo-too-ni-ah, Pan-ick-pa, Kes-suh, Ing-op-i-doo, and Koo-loo-ting-wah, about ninety dogs and such articles of equipment as were needed in that campaign against the fierce elements of the North. On the previous day all the party, except Lieutenant Peary and Astrup, accompanied by the Eskimos of the village, had gone with four sledge-loads to the moraine and

had returned to Anniversary Lodge in the evening. According to the plan, the party was to push forward a day's march from Moraine Camp, while the Lieutenant would come up in the morning, bringing hot tea for the men in order to save the alcohol to be used as fuel for melting snow. Pursuant to this end, earliest dawn saw Lieutenant Peary with one man, Ing-op-i-doo and Oo-too-ni-ah, carrying several gallons of hot tea in canteens, and in a large tin chart case, all tucked in a large reindeer robe to keep the tea from freezing.

Baldwin, Astrup and Entrikin met the party at the edge of the camp, and although closely wrapped in their excellent furs, they had evidently felt the effect of the searching winds on this their

#### FIRST NIGHT ON THE ICE-CAP

as was shown by the pinched and cerulean appearance of what could be seen of their faces. The men had been troubled considerably during the night by the breaking loose of their dogs, and this need not surprise us when we remember the bitter cold and the number to be cared for. A drink of hot tea, besides restoring the natural appearance of the features, contributed its full share of cheer.

After the party had breakfasted, hitched their dogs and taken up their line of march, Lieutenant Peary, accompanied by one Eskimo companion, Ing-op-i-doo, turned back to Anniversary Lodge. "After going a short distance," says the Lieutenant, "I stopped to have another look at the caravan, and the memory of the scene, with the memory of a subsequent one, when further on, will remain long with me. It was a sublime spectacle to see that company of thirteen men, a dozen sledges, and over ninety dogs, climbing the alabaster slopes of the infinite ice-cap, their destination the frozen fastnesses of the North. Never before had such a sight been seen on the great desolate ice; never, I thought to myself, would the scene be repeated."

Taking his final departure from the Lodge on the 8th, Lieutenant Peary pushed forward to join his men on their perilous journey through the frozen world. The snow igloo of the pre-

vious night's camp was passed about two miles beyond Pigeon Camp and about 4:30 p. m. he caught sight of the party far in the distance wending their way to the summit of a snow hillock. At 6 o'clock the leader came up to his devoted band just as they had encamped. We will allow him to describe this camp in his own words: "The western sky was a blaze of crimson and gold, the eastern dark with the purple shades of night. The camp, itself, with the numerous dogs in groups of five and six; the harnesses and other items of sledge equipment supported upon tripods formed by the ski (Norwegian snow shoes); the sledges scattered here and there; the snow igloo; Astrup's little silk tent; the sleeping bags with their tent-like protections, and many figures moving about hither and thither—all projected against the background of the glowing west, combined to form a scene which reminds me very strongly of an Indian encampment on the prairie at sunset."

As this was the spot on which Lee had camped before he was lost in the previous fall, a snow igloo which his Eskimo companions had made was used by Astrup as a cook-house. Soon he had prepared the pea-soup and tea and the men having relished a cup-full of each, together with their rations of pemmican and biscuit, crawled into their sleeping bags and passed the night. The heroic leader pulled on his deerskin boots and trousers and on a

#### CUSHION OF SNOW

slept in the lee of one of the sledges. Aurora had scarcely ushered in the new day before Astrup was again preparing tea and at 10 o'clock Lieutenant Peary, Lee and Oo-too-uh-ah set out for the caché, leaving the main party to follow later. On the way Lee recognized an object in the distance as the tent from which he had strayed at the time above alluded to. He was detailed to bring it on his sledge, while the other two held on to their way. They espied the caché when yet two miles away, and on reaching it found that since the preceding October snow had drifted about it to the depth of four feet and had also formed a drift upon its top. This could be seen in

the distance without the assistance of the bamboo pole that had been erected to mark the spot. The Eskimo set about building an igloo and had it completed by the time the party arrived.

No sooner had all the dogs been cared for than all the huskies (Eskimos) began a second igloo in such a position that it could be readily united to the first. The tent which Lee had brought up and the little kitchen tent were placed in line on either side of the igloos. Owing to the fact that most of the sledges had suffered more or less on the moraine and thence over rough hard sastrugi (ridges of snow), it was necessary to lay by at the caché several days in order that they might be repaired and that the work of digging out the caché, parcelling the sledge loads, and bagging the pemmican might be attended to. Accordingly a

#### SNOW FIRE-PLACE,

if such an anomaly can be imagined, was built in each igloo, one for the alcohol cooker and the other for wood, of which there was quite a supply in the shape of broken boxes.

The first night at this camp Dr. Vincent, Astrup, Stokes and Swain passed in the inner igloo; Lee and the Eskimos took up their abode in the outer; Entrikin, Baldwin, Clark and Davidson in their sleeping bags, and the Lieutenant, in his sleeping-suit, had ample room on the outside. As the wind playfully tossed the snow, the spirits of these hardy adventurers rose with their surroundings and "Mary Green," a favorite song at the Lodge, broke the awful stillness that ordinarily knew no breaking save that of the moaning wind.

At this camp the dread Pib-luck-to, or Greenland dog disease, a malady akin to hydrophobia, began those

#### AWFUL RAVAGES

which almost exterminated the entire pack. So intense was the suffering of the poor dog which first fell victim to the scourge, that he almost gnawed off his legs. March 11th, the second day at the caché, was calm and clear. At the early hour of 4:30 a. m. Stokes, Swain and the five Eskimos returned



to the Lodge. During the day the remainder of the men prepared the pemmican for transportation by sewing it in bags, each of which contained twelve or fifteen eight-pound cans. This being done, sledge loads were assigned and everything put in readiness for the journey on the morrow.

#### TWO MEN DISABLED.

The northward march, as resumed on the 12th, was very laborious; still our heroes trudged on through the cloth-like snow; the ice-cap rose in one long continuous ascent before them, the dogs, unaccustomed to each other, were constantly fighting, and greatly hindered the progress; Lee suffered from a frozen toe and nothing but his all-conquering grit could have induced him to undertake the day's journey; Astrup felt all the symptoms of an attack of illness, such as had driven him from the ice-cap in the preceding September. On the 13th, laboring under the disadvantages of up-grade, strong wind, drifting snow, and the disabled condition of the two men, the party, after going only two miles, were compelled to halt. Going into camp, eight dogs that were unable to stand the rigorous service were killed and used as food for the others. It was evident that Astrup and Lee must go back. Being unfit to think of making the perilous journey alone, the Lieutenant himself, accompanied by Clark, undertook the task of seeing them safely down to the Lodge.

All this took some time. However, on the 22d of the month, the party, now reduced to six men, was again under way, battling against a furious wind, and stinging drift, with the temperature at  $-35^{\circ}\text{F}$ . After going three miles the dogs absolutely refused to pull and it was necessary to turn in. En-trikin and Baldwin, with their double sleeping bag, took up part of the light protean tent, while the alcohol cooker and Mr. Peary appropriated the remainder. The doctor in a single bag, and Clark and Davidson, in a second double bag, occupied the little silk tent. The dogs were tethered as usual, each train being divided into groups, with no protection save the shaggy

coat with which nature had provided them. Night comes upon the scene and the fury increases; the

#### GREAT EQUINOCTIAL STORM

is at hand. This was one of Lieutenant Peary's "Arctic Hells," so-called, we would judge, from the number of furies present, rather than from excessive heat. He describes it thus: "About 5 o'clock next morning I was awakened by a sudden increase in the force of the wind, which now blew with such violence that, had not our tent been all in one piece, connected with the floor-cloth on which we were lying, I should have expected to have it blown away at any moment.

"The drift which accompanied this storm was almost indescribable, and had the members of the party been any less perfectly clothed than they were it would have been impossible to have gone out of our shelter. As it was, however, Baldwin made his regular observations at the observatory sledge, about 100 feet from the tent, and he and I took turns in carrying hot tea and pea-soup to the three men in the silk tent, about fifty feet distant. Throughout the day and the following night the wind steadily increased in violence, until it became impossible to shout so as to be heard from one tent to the other, even with the utmost effort of our lungs.

#### PANDEMONIUM ON THE INLAND ICE.

"On Thursday afternoon the drift forced an entrance into the silk tent, and in order to escape being smothered its occupants were obliged to get out as best they could and retreat to the larger tent. In doing this Davidson had his heel, and Clark a toe, two fingers and a thumb, frost-bitten. As soon as they were safely in our tent, Entrikin turned out of his bag and gave his place to Clark, I turned my deerskin sleeping trousers over to Davidson, Baldwin presented him with a pair of reindeer socks taken from his own feet, while the doctor curled himself up on the foot of the big bag. This left a small space between the pole and the tent opening, in which Entrikin and I could stand. This space was constantly decreasing in size from the drift, which, in spite of our best efforts, continued

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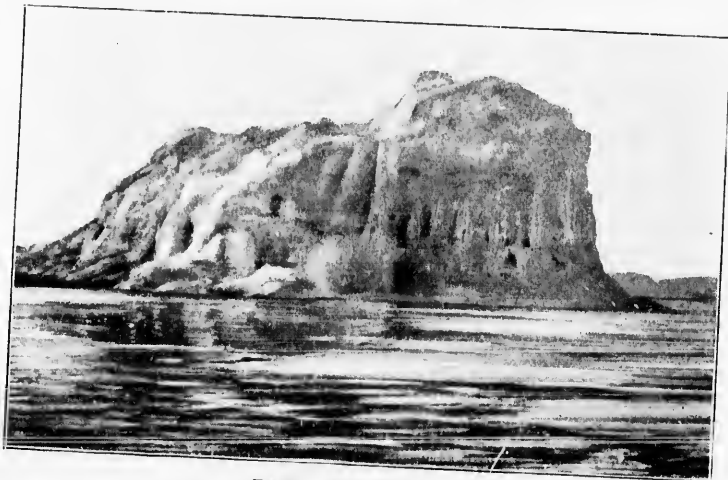
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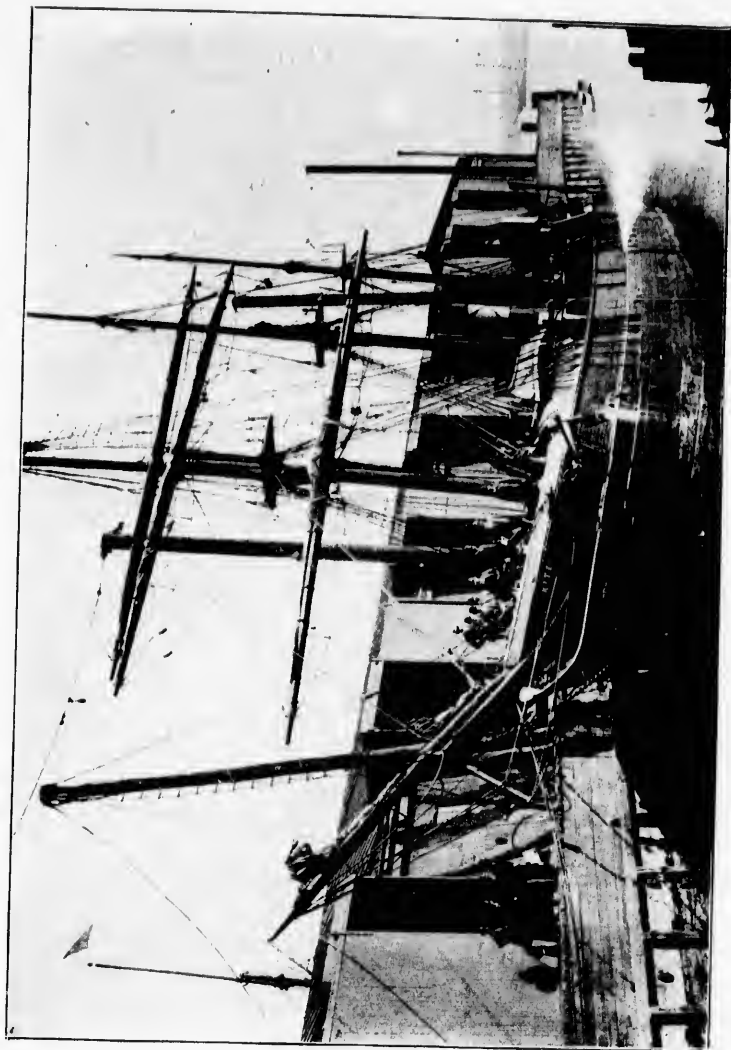
**Photograph of Painting of Aurora Borealis,**

By F. W. Stokes, Philadelphia. Display observed off Godthaab, Greenland, September 3, 1892. The streamers began on the northeast horizon, and traveled rapidly, in double arch, clear across the heavens, to the southeast horizon, forming a grand and imposing display. Painting owned by A. Lawrence Rotch, Esq., Boston.

(See Chapter XLII; also pages 180-1, etc.)



**Baffin's Bay Iceberg.**



The "Kite."  
(See Chapter XLII.)

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to force itself through the fly, after the entrance of the boys. After a time there was only room for one of us, and we alternated in standing up, steadying ourselves by the pole, now and then curling up on the snow-drift for a few winks of sleep, and making tea several times during the night to warm up the boys and keep up their spirits. The straining and flapping of the tent, the deafening roar of the wind, the devilish hissing of the drift, the howling and screaming of the poor dogs, made a pandemonium never to be forgotten.

#### DOGS FROZEN IN THE SNOW.

"Early on Friday morning, March 23d, the wind began to subside, and at 7 a. m. I was out looking upon a scene that made me sick at heart. Half my dogs were frozen fast in the snow, some by the legs, some by the tails, and some by both. Two were dead and all were in a most pitiable condition, their fur a mass of snow and ice, driven into it by the pitiless wind. Several had freed themselves and had destroyed the double sleeping bag and many of the harnesses which had been blown off the tripods. Baldwin's anemometer, barograph and thermometer, which, as the result of his ingenuity and perseverance, had kept on recording throughout the storm, showed that for thirty-four hours the average wind velocity had been over forty-eight miles per hour, and the average temperature about  $-50^{\circ}$  Fahr., with a minimum of over  $-60^{\circ}$  Fahr. When these figures are considered in connection with our elevation of some 5,000 feet, the unobstructed sweep of the wind, and the well-known fact that ice-cap temperatures accompanied by wind are much more trying to animal life than the same temperatures at sea level, it is believed that the judgment will be that this storm beat the record as the most severe ever experienced by any Arctic party."

The manner and connection in which Mr. Baldwin's name is mentioned, in this quotation as well as elsewhere, by his superior qualifications, incidentally but none the less forcibly, reveals the depth of his character. It was well-known in governmental circles that one of the chief inducements that led Mr. Baldwin to join the expedition was the opportunity for trying

the efficiency of the instruments under his care. Well did he prove them, and well did they stand the test. His unrelenting perseverance and admirable ingenuity stand out all the clearer when we remember the circumstances under which they were tried. So intense was the cold that merely touching the wood of a pencil

#### BURNED THE SKIN FROM THE FINGERS.

Consequently Mr. Baldwin was compelled at times to seize the pencil between his hands, which were closely muffed in shaggy mits, and in this bunglesome manner kept his records. Besides his perserverance, ingenuity, courage and skill, his power of endurance is shown in his visits to the observatory sledge and to the silk tent, while the true greatness of his soul is brought out in the giving of his "reindeer socks" to a suffering companion.

The equinoctial, in its effects, remained even after fair weather had come. It took a whole day to dig out the sledges, care for the dogs, and repair the harness. Davidson's and Clark's frozen feet were also present as painful reminders of what had been, and submitted a problem for solution. Davidson's condition admitted of no choice, and it was decided to send him back in care of the big-hearted doctor. Clark, although not affected to the extent that Davidson was, would have odds greatly against him if he hazarded the trip. The chances were that on exposure his feet would become worse, and with the party so reduced in number and equipments, it would be impossible to furnish him with escort or sledge later. Should he brave the burning cold of the Arctic or should he return to comparative comfort? His decision evinces a determination well worth the name. When asked what he was going to do, he replied: "Oh, I guess I shall go right on." Here indeed we may learn a lesson worth remembering. Grit of this type will solve many a confronting problem.

The next day saw the party, now consisting of

#### FOUR MEN ONLY,

headed toward the goal of their ambition. A fresh southeast-

erly wind was blowing and the thermometer registered  $-46^{\circ}$  Fahr. Clark, Baldwin and Entrikin succeeded admirably in handling their eighteen-dog teams, despite the Eskimo dog's peculiar disposition. Each team drew two sledges, a larger and a smaller, the smaller being drawn in tow, and it soon became evident that the storm had greatly impaired the strength of the dogs. Consequently it was thought advisable to stop after going several miles.

On the following morning the spirits of the men rose with the promise of a fair day, only to fall when the stinging drift forced them to encamp after going but three miles. The 27th of March dawned bright and cheery. The temperature had risen to  $-30^{\circ}$ F. and the prospects for the day were encouraging. However, they had proceeded but a short distance when Baldwin's sledge sprung a runner in the act of crossing one of the giant sas-tru-gi, or ridges of frozen snow, that extended over icy plains and snowy hillocks as far as eye could see. The defect was remedied by lashing another sledge alongside, thus making a three runner. The "Long Serpent," drawn by Entrikin's team, then came in for its share, and, running against a ragged, saw-toothed sas-tru-gus, it hung there a wreck on the cruel ice-fangs. To go on was out of the question. A beautiful day must be sacrificed in the unpleasant task of mending broken sledges.

Under less chilling circumstances one might have enjoyed the treat afforded, when, after several days of incessant storming and drifting,

#### THE SNOWY CURTAIN ROSE

and unveiled the reigning beauties of the "Great White World." Huge swells of ice stretch away for miles. Immense marble-like sas-tru-gi, running in great parallels, point to Old Kane Basin as the starting-place and to Prudhoe Land as the destiny of the furious storm recently experienced. Pearly hummocks dotted the glistening surface, gently receding on the left, gradually rising on the right higher and higher in the distance until, fading away, they are lost in kissing the sapphire sky.

But we who are sitting beside Vesta's cheerful glow must not lose ourselves in Elysian reverie. The unrelenting cold urged its cruel claims, and discouragements crowded upon our unfortunate heroes. However, it needed only a milk punch to revive their drooping spirits, and after the dogs had been fed they turned in to dream of home and loved ones far away. On the morning of the 28th Clark set about overhauling the harness, while Baldwin and Entrikin repaired their sledges. This they did with the thermometer registering  $-51^{\circ}$  Fahr., and themselves exposed to a stiff breeze that drove the snow in anything but a pleasant manner. For the "Long Serpent" the episode proved to be a blessing incognito. For after being repaired she was a better sledge than ever, but Entrikin froze his feet in the operation, and this was the beginning of the serious trouble that followed him throughout the remainder of the trip.

Everything being in readiness, the northward march was resumed, although it was after 6 p. m. In this short journey that followed, a singular incident occurred, says Lieutenant Peary: "During this march the wind and temperature, acting upon the moisture of Baldwin's breath, froze his koo-le-tah (reindeer skin coat) so rigid that he could neither walk nor turn his head, and was obliged to come into camp riding on his sledge. Here we were obliged to assist him in moving the ice and snow, which had almost completely closed the face opening of his koo-le-tah."

The bright clear morn following revealed a smooth surface over which to travel; the temperature had risen some ten degrees, while dogs, sledges, and men were in prime condition to make a good day's journey. But scarcely had they started over the inviting surface, before the jealous king of the ice-cap hurled his snowy legions upon them. At this juncture

#### ENTRIKIN'S TEAM BALKED

and in spite of every effort on his part, in spite of all the assistance that Lieutenant Peary and Mr. Baldwin could give him, they absolutely refused to pull. Mr. Entrikin had the misfor-



tune of straining his back and this, in addition to his frozen feet, put him in a position not to be envied. Go on they could not; the only alternative was to encamp. That night there occurred an incident, which, had it been less serious, might have been quite laughable. It reminds one of the experience of Rev. Edgerton R. Young, missionary to the Indians of the Northwest, who, one night when not fully awake, mistook his frozen nose for an ax-handle and tried to relieve his face of the impudent intruder. In the mishap referred to,

#### MR. CLARK'S NOSE

had protruded too far through the opening of his koo-le-tah and was frozen to his sleeping bag. So persistent was it in retaining its new formed association that it had to be thawed off by the warmth of the hands.

The day was spent in giving Entrikin a chance to recover, and in watching the thermometer, which was well down to  $-50^{\circ}$ ,

#### FALLING TO $-57$ DEGREES

during the night. Do his best, Morpheus could not make the men forget that it was a cold night, and yet all were ready to proceed on the next day, although at no time was the temperature above the minus forties. A journey of five miles proved to Entrikin that he was not himself and further showed that the dogs were in no condition to breast the strong, cold wind that constantly opposed them.

It was then decided to take two days for recuperation. The low temperature continued and again the dreaded Pib-luck-to began its fearful ravages, a victim dog biting nearly all of his yoke-fellows before he was shot. April 4th and 5th brought two excellent days' sledging and in them the party covered an aggregate of over thirty miles. However, scarcely had they encamped on the evening of the latter date, before Eurus fell upon them with all the fury of a demon, confining the men to their tent for three days and playing fearful havoc with the poor dogs. "When the storm ceased many of them were buried completely in the snow, several frozen down, and

two were dead from exposure. All the sledges were completely snowed in and the tent itself half-buried in a big drift." It was during this storm that Mr. Baldwin contracted the "cramps." Upon our asking Mr. Baldwin the nature of this affliction we were promptly told that it was not an ailment of the stomach, but a contraction of the muscles brought on by the intense cold. So rigid do the muscles of the extremities become that the individual attacked is helpless, and relief is obtained only by inflicting upon the suffering member the severest blows.

The next day's march covered a distance of seven miles only. Entrikin's feet were much worse, and two of the dogs suffering from Pib-luck-to had bitten nearly every dog in the pack. One of these dogs, Agitator, was the leader, or "king," of Mr. Baldwin's team. Of this creature Lieutenant Peary writes: "One of these dogs, the Agitator, a powerful, big, wolfish brute, the last survivor of the dogs purchased on the Labrador coast, presented just before he was killed as savage and gory a spectacle as I have ever seen. He had run amuck through the team, and, half blind as he was with froth and blood, had been mercilessly torn and shaken by the dogs that he had attacked. As the rifle was leveled at him he stood exhausted and panting, with head and neck swollen to twice their natural size, ears torn in shreds, eyes bloodshot, bloody foam dripping from his jaws, and his entire body flecked with foam and blood and clotted tufts of fur. Though so weak that he could scarcely stand, he was just gathering himself for another spring at the dog nearest him when the bullet passed through his brain, and he collapsed in a quivering heap on the blood-bespattered snow." "He was," says Baldwin, "a most faithful animal and I killed him with deep regret. Never slacking on his traces, except when seized with those horrid spasms, he worked to the last. Toward the end, I shortened his line, fastening him back of the other dogs of the team that he might not attack them, and then, in his madness, he would lunge forward, seize the chains between his ugly-looking jaws and leave upon them the deep imprints of his teeth."

It needed no prophet to foretell that things were coming

to a crisis. The status of the party on the 10th day of April was as follows: Entrikin, with his deeply frosted feet, must return to the Lodge. Clark had both heels and great toes frost-bitten and was daily suffering of bleeding from the nose. Baldwin had not fully recovered from the cramps and any provocation of the weather might bring them on again. The season was already far advanced, considering the distance the party would have to travel before they even reached Independence Bay. The existence of the incurable Pib-luck-to was the weightiest drawback, as it threatened to exterminate entirely the pack of dogs.

Says Lieutenant Peary at this juncture: "All, however,

#### SHOWED TRUE GRIT

and were willing to push on." We have heard with what feelings of remorse old soldiers have given up their battle-torn flags. Sometimes the bitterest disappointment comes when success seems nearest. "With such soldiers I could conquer the world!" exclaimed King Pyrrhus as he gazed upon the scarred countenance of a Roman soldier stern unto death. What must Lieutenant Peary have thought, as he looked into the faces of the three men awaiting his command, resolute even in the face of an enemy that had defied every effort of civilization. Having carried the

#### FLAG OF THEIR COUNTRY.

thus far, is it any wonder that, as their eyes rested on the tattered shreds of all that remains of it, their spirits spurned the very thought of returning? But "the naked truth is an awesome thing." With men disabled and dogs dying; with the season advanced out of all proportion to the distance covered; with the possibility of a later expedition demanding careful conservation of the men and means there was no alternative but to

#### TURN BACK.

The party had traveled 125 miles north of Anniversary Lodge. A whole day was consumed in erecting the signal, re-

arranging the sledge-loads and repairing harnesses. One encouraging feature was the fact that the return would be down grade. The first day's march was further accelerated by the wind, but the dogs played out at the end of eighteen miles and the party encamped. The Pib-luck-to again appeared and five dogs had to be shot, one on the journey and four at camp. The party had scarcely finished their dinner before threatening clouds rolled up from the southeast and another storm was at hand. All night long and until late the next day the fierce wind shrieked, and howled, and hissed, mercilessly driving the snow over the wilderness of desolate ice. Then there came a pause—a breathing spell, and again the drift drove the party to seek shelter. During the blizzard Mr. Baldwin was

#### HURLED FROM HIS FEET

while going to the observatory sledge, and nearly suffocated before he could struggle back to the tent. He was benumbed and helpless, his clothing a coat-of-mail from the fine snow driven into it. The following morning brought a calm. Two dogs were dead and another frozen to the stake. One-half day was spent in untangling dogs and digging out sledges before the party resumed its homeward march. The condition of Mr. Entrikin's feet compelled him to ride the entire fourteen miles covered in the afternoon.

With the advent of a calm night sweet sleep fell upon the weary men, bringing the much-needed rest and composure after the protracted storm. Three more of the dogs had to be killed before proceeding. The teams being too weak to draw the heavy sledge-loads, 200 pounds of supplies were cached. The temperature was mild, "the thermometer registering  $-4^{\circ}$  Fahr. when placed upon a piece of fur and exposed directly to the rays of the sun." In this summer calm the party made sixteen miles. Again Mr. Entrikin, after trying to walk with his feet bundled in fur cushions, was compelled to ride the entire distance.

On April 16th, the temperature was again minus  $40^{\circ}$  Fahr., more of the dogs were in a dying condition, the strongest of the

pack now succumbing, and the party were obliged to cache Clark's sledge and the greater portion of the load and to divide his team between Entrikin's and Baldwin's sledges. On the next day several more of the dogs died and the men struggled on, accompanied by heavy drifts and cutting winds. On this march, the outward sledge tracks, then more than three weeks old, were met with and found to be still distinct. These were followed about three miles when Baldwin's team gave out and the weary band went into camp after having traveled fourteen miles.

Thus the long journey homeward progressed, until, after a continued absence of forty-five days, Anniversary Lodge was reached. Here the exhausted party were heartily greeted by their comrades and all gradually regained their usual strength, meanwhile anxiously awaiting the arrival of the "Falcon," which was expected to come from St. John's, New Foundland. On this, one of the most remarkable sledge journeys on record,

#### ONLY TWENTY-FIVE

of the ninety-two Eskimo dogs survived the terrible ordeal to which they had been subjected, and even of that number more than half were worthless. A few more days must have exterminated the entire pack. On the retreat scarcely any food was taken with which to feed them, the remnant of the pack subsisting on their dead mates.

Finally, about the first of August, the

#### LONG-LOOKED FOR VESSEL ARRIVED.

Captain Bartlett, true to his word, had safely brought the staunch little cruiser to anchor in Falcon Harbor, on the 20th of August, just a year from the time she had left, after having landed the band of explorers on that desolate coast in 1893.

In addition to Captain Bartlett and crew, the relief party consisted of H. G. Bryant, secretary of the Geographical Club of Philadelphia, commander; Professor T. C. Chamberlin, head professor of geology in the University of Chicago; Professor William Libbey, geographer, Princeton College; Dr. Ohlin,

zoölogist, Sweden; H. L. Bridgman, historian, Brooklyn; Emil Diebitsch, civil engineer, South Carolina, and Dr. Wetherell, surgeon, Philadelphia. Following the arrival of the "Falcon" at headquarters the scientists were busily engaged in making investigations according to their several professions.

From *The Journal of Zoölogy*, vol. II, No. 7, we quote from Professor Chamberlin's admirable article entitled

"GLACIAL STUDIES IN GREENLAND."

as follows: "I enjoyed every facility which the phenomenal situation and the great kindness of Lieutenant Peary and his party could furnish. In no small degree their misfortune was my gain. Lieutenant Peary's intimate knowledge of the region, his wide observation upon the glaciers of middle and northern Greenland, his counsel and personal guidance, and his ample equipment for the northern work, all of which he placed at my service, were of incalculable aid to me. Mr. E. B. Baldwin, meteorologist of the party and an enthusiast in exploration, was my nearly constant guide and companion, and did all in his power to aid in the work. One would be indifferent, indeed, if, under these circumstances, he did not press the work to the utmost limits of physical and mental endurance, for the continuous daylight put no limit to the daily hours."—[Northwestern College Chronicle.

Regarding the characteristics of these northern glaciers, Dr. Chamberlin remarks: "The feature which is likely first to impress the observer on reaching the glaciers of the north, is the verticality of their walls. Southern glaciers terminate in curving slopes, and the Disco glaciers of middle Greenland have the same habit; but the margins of the Inglefield glaciers rise abruptly like an escarpment of rock, 100 or 150 feet or more. The layers of ice are cut sharp across, exposing their edges. This is not quite universal, however, as sloping forms occur here and there. Occasionally a glacier presents both aspects. These abrupt terminal walls turn toward all points of the compass. It is perhaps too much to say that they do this indifferently, as but few glaciers facing the north were

seen, but among these verticality prevailed much as elsewhere.

"Next to verticality, the most impressive feature is the pronounced stratification of the ice. The ice is almost as distinctly bedded and laminated as sedimentary rock. The vertical face usually presents two great divisions—an upper tract of thick, obscurely laminated layers of nearly white ice, and a lower laminated tract with rock-rubbish sandwiched between its beds.

"The debris-layers are not all uniform in their distribution. Often they have much regularity and persistence; often they thin out and disappear within a short distance; more often still they persist for a few rods and then are replaced by adjoining layers above or below which come in as these thin out. Thus a belt of layers has much persistence, while the constituent layers are freely entering and vanishing. Lenses of debris occasionally appear among the layers, and a doubling back of the layers upon themselves, giving a lenticular section, is not uncommon.

"The laminae are sometimes very symmetric, straight and parallel, but often they are wavy and undulatory. In many instances they are greatly curved and sometimes contorted in an intricate fashion.

"The debris-belts are essentially parallel to the base of the glacier. They are chiefly confined to the lower fifty or seventy-five feet; sometimes they prevail up to 100 feet and, rarely, beyond.

"In meeting obstacles in front, the basal beds have the habit of curving upward, carrying their debris with them. Terminal moraines are sometimes thus made, resting on the edges of the ice-layers which formed them.

"In meeting obstacles the layers are sometimes simply curved upward and over the prominence; but if the frontal slope be steep, much crumpling of the laminae often takes place.

"Not only are the foliations twisted in gneissic fashion, but they are fractured and faulted, and along the fault-line

the laminae are effected by 'drag' precisely analogous to that found in faulted rocks."

Professor Chamberlin discovered a small area on the border of the main ice-cap east of Bowdoin Bay, a branch of Inglefield Gulf, over which the ice-cap seems never to have extended itself. Referring to this, and to the angularity of the border mountains, he says "the inference seems unavoidable that the ice of Greenland, on its western side, at least, has never advanced very greatly beyond its present border in recent geologic times. This carries with it the dismissal of the hypothesis that the glaciation of our mainland had its source in Greenland."

Previous to the arrival of the auxiliary or relief party, Lieutenant Peary had determined upon remaining in the field another season with only a small party, with which he again, in the summer of 1895, crossed to Independence Bay. Handicapped almost at the outset by the failure to find the cachés left upon the ice-cap in the preceding season, he was unable to accomplish much more than he did in the course of the first trip. His successive journeys, however, without accident or loss of life or health to the members of his parties, clearly demonstrate that great results might be accomplished with the adequate equipment of a party of young men thoroughly imbued with the spirit of scientific exploration. And when such men are to be had for less than the asking, are they not to be fairly encouraged by at least an abundance of food, clothing and equipment, whereby Nature may be inquired of in every avenue, even to the uttermost parts of the earth?

Aside from the successful crossing of the inland ice, and the practical demonstration that Arctic life and work is not so dangerous as often supposed, Mr. Peary has secured a new map of the region extending from Cape York, latitude  $75^{\circ} 55'$  north to Cape Alexander, latitude  $78^{\circ} 10'$  north, and within which the range in longitude is nearly  $8^{\circ}$ . Many bays and several islands find representation for the first time, and nearly a hundred glaciers assume definite locations, whereas formerly



hardly a tenth of that number appeared. Astrup's map of Melville Bay must also be noted in this connection.

The meteorological records Professor Salisbury pronounces to be "probably the most accurate and elaborate which have ever been secured in so high a latitude," and the two meteorites secured just east of Cape York possess great popular and scientific interest.

In conclusion, the scholarly investigations of Professor Chamberlin, as well as those of his associate, Professor Salisbury, of the University of Chicago, and of Professor Libbey, of Princeton College, on the geology and glaciology of Greenland, place the scientific results on an exceedingly high plane.

To what triumphs the investigations of such ripe minds might lead, if extended farther, cannot even be surmised. Elsewhere we have referred to the importance of the study of the magnetic forces of the earth, and Dr. Chamberlin's observation in this connection is full of interest:

"Not a few geologists have looked with some measure of hope to terrestrial magnetism for a valuable contribution to the dark problems of the earth's interior. We have long felt that there should be discoverable some medium which could be operated upon by some inventible device in such a way as to serve as a stethoscope, so to speak, to declare the conditions and the changes in the heart of the earth.

"Magnetism is one of the suggested media, and it may reveal conditions of the interior now quite hidden from us." Quoting the eloquent words of Maxwell—referring to the sensitized sheet of the self-registering magnetograph—he adds: "On that paper, the never-resting heart of the earth is now tracing in telegraphic symbols, which will one day be interpreted, a record of its pulsations and its flutterings, as well as of that slow but mighty working (the secular variation) which warns us that we must not suppose that the inner history of our planet is ended." Certainly, criticism of the labors of such men is not tolerable, and when carried on in regions where the privations are many, the harpings of the stay-at-home critic become re-

prehensible. In the plain, practical language of Engineer Melville:

"And wolves, and ghouls, and would-be critics of Arctic toil and suffering, halt and know that the men whom you traduce or whose memories you blast forever, perhaps for a penny a line, are made of finer clay than you; men who were and are yet ready to sacrifice everything on earth save honor for the sake of science and the benefit of mankind. Men who did their best; and that best is so far ahead of the conception of their malicious judges that it is a nation's shame that it permits its heroes, living and dead, to be dragged through the slime of public court and press for the gratification of the prurient multitude of scandal-mongers, gloating over the silly effusions of the Arctic critic who never ventures his dear life nearer to the Arctic Circle than can be seen from the window of some tall printing-house south of 50° north latitude."

In an article taken from the college publication previously quoted, there appears a concise statement of

#### THE AUTHOR'S PLANS FOR THE FUTURE,

which, being in keeping with the object for which this volume has been issued, we may not inappropriately repeat in this place:

"Historically, the city of Naperville, located a short distance west of Chicago, is quite unique in Arctic relations. Itself an inland community, it nevertheless takes its name from the Captains Naper, who were among its earliest settlers, having located on the banks of the DuPage River as early as 1830. Previous to that time they had been sailing-masters on Lake Erie. Further, here in the old Pre-Emption house, still in use, was born Dr. C. C. Adams, of The New York Sun, the eminent geographical writer and the friend and patron of Lieutenant Peary in all his Arctic undertakings; here, too, another journalist, the lamented Mr. Scott, of The Chicago Times-Herald, the patron of the Wellman Expedition, courted and married the fair granddaughter of an early settler; and last but not least here was reared our own Evelyn B. Baldwin, whose maternal

ancestors were also among the pioneers of this same historic place.

"Notwithstanding that Lieutenant Peary's Expedition failed to reach the pole, and that Mr. Wellman's was nipped in the—ice, at its very beginning, Mr. Baldwin is as enthusiastic as ever concerning further exploration in the far North. He says: 'Mr. Peary's Expedition was far from being a failure; full reports will prove this. Mr. Wellman was splendidly equipped and would undoubtedly have met with success had it not been for the crushing of his vessel when at the point of starting on his sledge-journey northward from Spitzbergen in the summer of 1893. The captain of the vessel had spent nearly a lifetime in command of vessels in the same region and had never before lost a ship. His misfortune was therefore an exception and not the rule.

"Mr. Peary's partial failure was clearly owing to inadequate provisions and equipment. Had the relief expeditions that went to bring his party home taken extra supplies where-with its most energetic members might have remained longer in the field, he would have accomplished the most brilliant journey on record. Experience has been a good, though rather harsh, teacher.

"Now, I have been so frequently misquoted by the press that what I now say I desire taken verbatim if at all. It has been published that I am endeavoring to organize another expedition. That is true. It has also been published that the object will be to discover the pole. That is untrue—although, of course, we would take it in should it come in our way. No matter by whom or when that point may be attained, the greater work will be to complete the development of the geography, geology, botany, zoölogy, meteorology, astronomy, ethnology and other important sciences of the polar regions.

"The work of such men as Professor Chamberlin, geologist, of the University of Chicago; of Professor Libbey, geographer, of Princeton College, New Jersey; of Professor Dyche, zoölogist, University of Kansas; of Mr. H. G. Bryant and Professor Heilprin, naturalists and explorers, of Pennsylvania, and of

others who have made great personal sacrifice in the distant North, should not be slighted. The press and the public should be sufficiently American—patriotic and intelligent enough—to lend to their countrymen all possible encouragement in such research. There are thousands who would, if they but understood clearly Arctic conditions and the causes of the so-called failures of previous expeditions, contribute freely toward an enterprise that must result in a common benefit.

“Failure heretofore has almost invariably resulted not in the advance but in the retreat of the explorers and navigators. Let this be held in mind and a sufficiency of equipment and provisions looked after and success must follow. The terrible fate of the Greely Expedition emphasizes this fact. It will be recalled that, having failed to establish sufficient caches of provisions on the outward voyage, and relief failing to get to them in time, nineteen of the twenty-five men perished at Cape Sabine, the point to which they had retreated after having first carried on very successfully scientific investigations in Grinnell Land and North Greenland, Lieutenant Lockwood, then but thirty years of age, and Sergeant Brainard, at that time less than twenty-six years of age, attaining the farthest north, viz.: latitude,  $83^{\circ} 24'$ .

“General Greely and Lieutenant Peary have both said that this work must be done by young men of good health, of personal enthusiasm and adequate intelligence, and of age between the years of twenty-five and forty. It suggests to the hundreds of colleges and universities scattered throughout the land that here is a chance for strictly original research and a rare chance of adding to museum collections, etc.

“As suggested, I do not believe in making a “dash” for the pole; it is too meteoric. Furthermore, the work should not be undertaken by ambitious I's but by none-the-less enthusiastic we's. In the North World there's elbow room for all.

“Preparations for such a trip cannot be safely hurried. Supplies for not less than three years should be carried and the retreat provided for as carefully as the advance by establishing caches at close intervals along the march.

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Lieut. D. L. Brainard, 2d Cavalry, U. S. A., Sole Survivor of the  
"Farthest North."  
(See Chapters XI, and XLII.)



A Paleocrystic Ice-Floe.  
(See pages 295, 356, etc.)

The Jackson-Harmsworth Expedition.



J. F. Child, Mineralogist.	S. Burgess, Commissariat Officer.	Dr. Kettlitz, Surgeon and Geologist.	H. Fisher, Botanist.	A. Montefiore, Hon. Sec.	H. A. H. Dunsford, Surveyor.
	A. Armitage, Astronomer.		F. G. Jackson, Leader.		A. Schlosshauer, Sailing Master.
			(See Chapter XLIV.)		S. Y. Windward.

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“Some weeks ago when on a visit to the Northwestern University, I stated my preference of routes, and continue of the same opinion formed while with Lieutenant Peary in North Greenland in 1893-4. That belief is, that the expedition should be located as near as possible to the old headquarters of Captain Hall, off the eastern coast of Robeson Channel and the northwestern coast of Greenland, at which point aid can be rendered by the Eskimos just south. Further exploration northward would complete the delineation of Northern Greenland and finish the work of the lamented Lieutenant Lockwood and Sergeant Brainard of the Greely Expedition. Thence traveling eastward over the ice-cap of North Greenland, the work of completing the survey of Northeastern Greenland should be accomplished, while an examination of the west coast of Grinnell Land would round out the work so ably started by General Greely.

“Since such hard-working, willing, and competent men, schooled to Arctic service with Lieutenant Peary, as Dr. Vincent, of Illinois; Messrs. Enrikin and Stokes, of Pennsylvania; Dr. Cook, of New York, and Mr. George H. Clark, of Massachusetts, have signified their intention of going again, it may be safely concluded that their efforts will be crowned with success.

“Finally, we hold with Sir W. E. Parry, with McClure, Scoresby, Dr. Kane, Greely, and others, that the isolated people of the frozen North, the ever-faithful, intelligent and friendly Eskimos, deserve more and better treatment at the hands of the civilized world than they have had. The successful investigation of that far-off land will be greatly facilitated by a humane treatment of its inhabitants.”

In the above expressed preference or choice of routes, we are by no means alone, as will be learned from the following extract taken from a communication addressed

TO THE AUTHOR, BY LIEUTENANT D. L. BRAINARD.

It is self-explanatory, and coming as it does from the only man living who has had experience in the matter of which he writes, namely, the attainment of the farthest north, is of great value. He says:

"To reach a high latitude a vessel should be placed in Newman Bay, on the west coast of Greenland, just south of latitude  $82^{\circ}$  north. This is an advantageous position and would enable a party to place depots of provisions in the autumn for use in the early spring work. This advanced position in a favorable year would enable a party to attain a much higher latitude than was reached by Lieutenant Lockwood and myself; and it would also doubtless determine the northern point of Greenland."

Lieutenant Brainard also believes "from the character of the ice in the Polar Basin, that clusters of islands will be found in the vicinity of the pole."

Moreover, and aside from the thought of scientific and geographical investigation, it is not unworthy of consideration that Dr. Nansen and his courageous companions may hit upon the north coast of Greenland or upon the undiscovered polar lands and may require assistance in returning to civilization with their lives and treasures of scientific information.

Auxiliary to the main expedition, small supporting parties should be established at such points as would conduce both to scientific investigation and possible assistance to the main party and to each other. For illustration, two or three men, preferably a zoölogist, a geologist, and a philologist stationed in the vicinity of Etah would be able to employ the time fully in that vicinity besides commanding the assistance of the natives of that region. A philologist would find a new field for investigation there, for the language of the Etah Eskimos has never yet been studied scientifically or reduced to writing. Another party with Eskimo supporters should be maintained at or near Cape Sabine, whence the exploration of the West Grinnell Land coast should be accomplished and a large collection of scientific data and specimens made. Thence northward to Newman Bay, provision-depots should be made at convenient points. From Newman Bay the entire energies of the party should be directed northward, with the possible allowance for a very small hunting-party to be maintained, should circumstances favor, at Fort Conger, in the vicinity of which



game is known to be abundant and where beyond a doubt a large quantity of food for the main party would be secured for use in case of need. Besides, the house and provisions left at that point by Lieutenant Greely would probably still be available.

The auxiliary parties at Etah or Sabine could be relieved annually if necessary, at a moderate expense and with entire safety. Speaking of the former locality, Chief Engineer Melville, of the United States Navy, whose long and heroic Arctic service has already been noted, has this to say:

"Small wonder that Hayes selected this for his winter harbor; it is enchanting enough to tempt any one to winter there and drink in its Arctic glories, from the great rocks fading away in the fog from the black to a hazy purple, to the dazzling purity of the crystal glacier. There is nothing so grand in nature, and I cannot help marveling why our millionaire yachtsmen do not cruise there to enjoy these matchless sights. The voyage can be made in two months, July and August, with entire safety to the frailest of their steam yachts."

And that two or three enthusiastic young scientists stationed at that place would be able to command the assistance of the faithful and affectionate natives of that region appears from the following letter from Dr. Vincent, the physician and surgeon of Lieutenant Peary's North Greenland Expedition of 1893-4. It is given to show what may be accomplished with entire safety by a very small number of men properly disciplined and assisted by the ingenious natives, in a region which ignorance and inexperience has invested with many imaginary perils:

"Chicago, Ill., Feb. 3, 1896.

"My Dear Baldwin:

"Your request for an account of my trip with Entrikin over Crystal Palace Glacier gives me an infinite amount of pleasure; a pleasure because you have reserved a space in your book for your old comrade in furs; and a pleasure because it so vividly recalls the safe deliverance from a most trying journey.

"On May 2d, 1894, Entrikin and myself started from Anniversary Lodge with Rensselaer Harbor, Dr. Kane's winter headquarters, as our objective point. We had two objects in view; first, to visit the historic spot, and, if possible, recover the scientific instruments left there by Kane upon his retreat, and, second, to enjoy a polar bear hunt. Entrikin had Ongad-loo as driver for his eight dogs, while Kes-shu acted in a like capacity for me, with an equal number of dogs. At Ig-loo-dohock-shi-nie we were joined by My-ouk, one of the oldest and most influential men in the tribe.

"Reaching Nurkie, which is distant about twenty-five miles from Anniversary Lodge, we ran into a heavy snow-storm, and deemed it best to take shelter in a deserted igloo until the weather should be more favorable. Nurkie at this time of year is usually deserted. The natives, for various reasons, find it more advantageous to spend the winter farther up in Inglefield Gulf.

"After a long and tiresome tramp through a blinding snow-storm it was decidedly cozy even in these squalid quarters, and we here spent the ensuing night.

"My-ouk was up and abroad long before we were awake next morning. The younger natives stated that he had gone without rousing them, and they seemed to be as much perplexed by his absence as were Entrikin and myself. However, toward the middle of the afternoon he returned. It seemed that he had gone far enough beyond Peter-ah-wick to verify what he had already suspicioned, namely, that the sea-ice was broken up in Smith Sound by the action of the fierce storm of the day before. He stated that a journey to the north over the sea ice was out of the question. However, our disappointment was of brief duration, for after a few minutes of earnest conversation with the younger native Kes-shu explained to us that there was a way to reach Etah by making use of the 'ice foot,' the land, and a glacier. He explained that it would be no child's play, but that he was willing to lead if we would follow. Accordingly we hastily packed the sledges for the journey.

"Kes-shu was one of the most intelligent natives in the

tribe, and having been associated with us so intimately during the long winter, he so selected his words that we readily understood him. He was born at Etah and as a boy had tramped over every part of ground, or rather ice, for miles around, and was familiar with our proposed route.

"We stopped at Peter-ah-wick only long enough to partake of a lunch of frozen raw walrus meat, then pushed on. A few hundred yards farther and we were in sight of the open sea. It was a most gratifying sight after gazing upon an endless sheet of ice for so many weeks. We now took the 'ice-foot,' or ledge of ice along the shore, and on its smooth surface made excellent progress. This ledge is at the height of high tide, and extends seaward ten or twelve feet.

"Kes-shu insisted that at this particular spot the ice was 'shu-tie, shu-tie ti-mot-tu'—always just so. We rounded the dreaded cape without the slightest difficulty, and to our great joy found that the ice had not floated out from the bay that separated us from Crystal Palace. We were tempted to pause and drink in this indescribably beautiful bit of scenery, but the natives urged haste, saying the ice might float seaward with the turn of the tide, and we were soon under way again, trudging through the deep snow. Approaching the face of the glacier, a narrow and exceedingly steep ravine was disclosed to view, covered with crusted snow that had undoubtedly been accumulating and packing for countless ages, sheltered as it was from the rays of the sun by the glacier on the one side, and a gigantic cliff on the other. Up this ravine we were obliged to pass. To the left was the south arm of Crystal Palace Glacier, with its formidable face towering fully a hundred feet above us; to the right, a giant precipice of dingy granite. Stumbling up the steep ravine, we began the ascent of the rough surface of the glacier. As we ascended, the drifted snow grew deeper and deeper, compelling us to pause every few hundred yards to dislodge the snow that continually plowed in front of the sledges. To fall waist deep in a snow-covered crevasse was an unnoticed occurrence, and to make matters worse, snow began to fall in great density. How we

longed for snow-shoes, for we were soon floundering laboriously through snow that was over our boot tops. \* \* \* We were more than eight hours in traveling the eight miles from the foot of the glacier to the sea ice of Foulke Fiord. Our aneroid registered 1,165 feet at the summit of the glacier. It was here that we paused, and, in spite of our fatigue and the whirling snow, drank in the sublime beauties of the most picturesque of glaciers. Fancy a Y placed in this position and it gives you a rough idea of its contour. Far to the north and west open water, interspersed with great floes of ice, met the eye. To the south, the rugged face of Cape Alexander thrust its sharp nose far into the Sound. To the east, extended the endless and eternal ice-cap, its cruel, spotless surface stretching as far as the eye can reach. But, although it was the 7th of May, it was bitterly cold. The exertion of the ascent had fairly bathed our fur-clad bodies in perspiration, and activity on our part was necessary, for a pause of but a few minutes sufficed to chill us to the marrow. In reaching the sea-ice once more, we enjoyed a coast that I shall long remember. So swift was our descent that the dogs could not keep pace with us, and accordingly we cut their traces and allowed them to follow.

"The going was now comparatively good and our drooping spirits rapidly revived. Kes-suh managed to secure a seal as we hurried on to Etah, now in sight. So fatigued were we upon our arrival there that I fear we failed to appreciate the novelty of our surroundings. Here we were at Etah—the most northern habitation on the face of the globe. While supping our tea we summed up the day's journey. We had consumed just twenty-two hours in journeying the sixty-two miles, walking every step of the distance, the greater part of which was through snow to our knees—and, by the way, we had not eaten in all that time.

"Wretched weather delayed us another two days. On the third day, after a twenty-two-mile tramp, we were on the summit of Littleton Island, recalling the many stirring and unhappy tragedies that had been enacted within the radius of a few

miles. The misfortunes of Kane and Hayes, the wreck of the 'Polaris,' and of the 'Proteus,' all came to mind. And just over the way, Greely and his heroic followers suffered untold hardships, and finally starvation.

"The shattered condition of the ice forced us to give up all idea of our journey to the north, and therefore, filled with regret and bitter disappointment, we turned our faces homeward. We retraced our steps to Etah that afternoon, and made preparations for an early start next morning.

"Just as we started the ascent of Crystal Palace a dense fog settled upon us, and we could scarcely distinguish each other ten feet away. Now our compass was useless, but Kes-shu was equal to the occasion and undertook to guide us. How helpless we would have been without him! and beyond a doubt would have repeated the performance of others under similar circumstances, and wandered for hours in every direction except the right one. For eight miles we were guided by Kes-shu (splendid fellow!), while Entrikin and myself might as well have been blindfolded. For nine hours we struggled through the deep snow, but with an implicit confidence in our imperturbable guide. The confidence of the man was so ever-present that neither Entrikin nor myself even for a moment feared for our safety. The hours dragged painfully, but all was soon forgotten when Kes-shu received an answering Halloo! from a cliff several hundred yards to our right. In another minute we were coasting rapidly to the sea-ice down the ravine, in the tracks that had been made by us four days before. No better demonstration has ever been given of the wonderful instinct with which these innocent, ignorant, and isolated people are endowed. They are a glorious, a wonderful, a magnificent race.

"The remainder of our journey was uneventful. We had been absent from Anniversary Lodge just nine days, had traveled during but five of these days, and had covered a distance of three hundred miles.

"Hardships and danger endured together make brothers of us all. I had always been very fond of Entrikin, but at the end

of our journey I was ready to proclaim him a prince of good fellows.

"I trust I have written subject matter that may prove useful; and believe me, I hope your efforts may meet with the success they certainly deserve.

"Faithfully yours,

"Edward Vincent."

The following account by the late Eivind Astrup of his memorable and successful reconnoissance of Melville Bay and its coast line, two years ago this month and next (April and May, 1896), appears in the "Fortnightly Review" for April; is of a much more familiar and popular character than that of the same journey in the "Royal Geographical Journal" some months since, and gains interest from Astrup's death in December in the mountains of his native Norway. The start was made from Mr. Peary's headquarters at Bowdoin Bay, two hundred fifty miles north of Cape York.

COMRADE ASTRUP'S ACCOUNT OF HIS TRIP TO MELVILLE BAY.

At the commencement of April I began the necessary preparations, which, for more reasons than one, were both few and simple. As regards meat, I had to rely solely on my luck as a hunter, and it was therefore necessary for me to secure a good native companion and fellow sportsman, which I found in my friend Kolotengva. Kolotengva is a young Eskimo of about five and twenty years of age, low of stature but well knit, with sinews of steel, and quite incredible muscular strength. His eyes are small, but he sees with them objects far beyond the vision of ordinary mortals. His long, black hair is by nature slightly curled, and forms a rather handsome frame around a daring and regular face. As a hunter he has no equal—he reminds me in many respects of Fenimore Cooper's Indian chiefs. Nobody in the whole tribe could be prouder than Kolotengva, nobody more free and independent, nobody stancher in friendship or nobler in thought, nobody cooler in the hour of danger, or more astute during the hunt—

in fact, he was a hero. And with him as companion I knew I should pull through.

Our equipment was otherwise simple enough. Of instruments we had a theodolite, a thermometer, a chronometer, a compass, binocular, snow spectacles, charts, scientific tables, etc.; and of food, a little tea, sugar, pea flour, ship's bread and bacon. In addition, two rifles, fifty cartridges, a small lamp of stone for cooking with seal oil, as there was neither spirits nor paraffin oil to spare then, some reindeer skins, an ax, and a few extra pairs of socks and leggings. Of dogs, I succeeded in borrowing or bartering eight, whilst our sledge was made by Kolotengva and myself just before our start, on native model, with runners shod with polished bone.

On the morning of April 6th everything was ready for the start, and although the weather was a little doubtful, with overcast sky and the air threateningly "mild" (zero Fah.), we set off in the forenoon. Between the dark, almost perpendicular mountains out in the fiord the fog hung heavy and leaden, and farther in, near our winter quarters, a keen, cutting, northerly wind swept the hills and the ice. We took it in turns to sit on the sledge whilst one ran behind, holding to the stand-up steering arms. At racing pace we sped across the ice covered with hard, frozen snow, whilst the weather cleared. The sun does not rise high in the sky so early in the spring in these latitudes, so that we did not derive any warmth from it, but, on the other hand, it remained up so long that we had no cause for complaint. And a long day we needed, for the distance to the nearest Eskimo colony was a stiff one, i. e., close upon seventy miles, and people we must reach that day, as our supper depended upon native hospitality.

It was just midnight, with a faint twilight, when we reached the southeast cape of Herbert Island, where our friends dwelt. The spot was called Oloschynni, and the colony consisted of five stone huts, of which only two were occupied. Here we found one of the most famous bear hunters of the tribe, Nordingyer, who had just returned from several weeks' hunting south, at Cape York. The bears had treated him

badly this time, two of his best trained dogs having been killed, and he himself nearly sharing the same fate, to which his clawed-up arm, covered with fur rags, bore witness. Surgery is only but little understood by these people; on the other hand, nature comes to their aid very powerfully, healing quickly broken bones and wounds which in other climates would require weeks.

The poor man was now seated on his couch, naked, chanting mystic incantations to hidden spirits in order to accelerate the healing of the wound. Fortunately it was healing fast. Before going to rest we had an excellent supper of polar bear's meat, boiled bacon, and ship's bread. The first was frozen, and tasted like melon—at least that is my own impression, though it may not be corroborated by others. All the night through two charming old ladies were engaged in sewing me a pair of new seal "kamikker," as the Eskimos would on no account permit me to start on our long journey in my old top boots, in which the toes showed a dangerous tendency to come through. For this work I presented them with a fork, two prongs of which were gone, and five and thirty matches.

The next morning there was a thick fog, and as our way lay right across the mouth of Whale Sound to some huts on its southern side, I was at first of opinion that we would have to await clearer weather before being able to set out, as no compass course could be shaped by the chart, which here, as everywhere else, proved utterly incorrect, and we might have been poking about at the south side of the sound if we got a bit astray. But Kolotengva only smiled quietly at my suggestions, and thought that it was hard upon him to be accused of not "knowing the way in his own country," even in a fog, and my confidence in him as one of nature's children being unbounded, we set out forthwith for Netchilumi, the next inhabited spot.

For many hours we sledged through the thick fog, so thick, in fact, that we could hardly see the dogs in front of us, but in spite of this Kolotengva succeeded in reaching our destination in a direct line! Some will at once say that he was led



by animal instinct; but no, I shall not insult my Eskimo friends by endorsing that view. Nay, the human brain seems pretty much alike in the main among all wild tribes, and the man only performed what his splendid practical geometrical faculties suggested to him. For the direction of the wind along these shores is generally most remarkably uniform, and if it be a little strong, it will cause the loose, fine snow to drift like desert sand. During this action all of the tiny specks of snow will shift according to the same physical laws, and shape themselves during their progress into various forms and figures with such regularity that long parallel streaks are formed on the surface of the snow. Now, by observing that the angle between these streaks and the line of march to be followed always remain the same, there is not much difficulty in steadily maintaining the same course; and it was this method Kolotengva followed. During our march across the Greenland inland ice in 1892, Lieutenant Peary and I became accustomed in thick weather to follow the same wind indications, and the traces of them up in these storm realms are far more pronounced and characteristic than farther south. Indeed, often the surface of the snow resembles a sea in violent motion suddenly arrested and turned into a cold, still ocean of snow.

Towards evening we arrived at Netchilumi, where we were most heartily welcomed by the settlers, and took up our abode in the hut of the oldest brother, Terrikotti. With him we spent an enjoyable evening.

His good old woman fried bacon and made tea for us without wanting any particular instructions, whilst Kolotengva chanted weird incantations in the dim light afforded by the train-oil lamp, and the master of the hut and his visitors listened to a little impromptu geography, aided by a polar chart and a blown-out bladder, wherewith to explain the globular theory of the earth. But when we came to the consequences of the latter assertion, viz., that people in the two hemispheres walk feet to feet, the teaching came to an end. Nobody was able to follow these wild flights

of fancy. In vain I demonstrated the attraction of the earth with the aid of dropping objects, when suddenly the half-grown son seemed to catch a glimmer of light. His tongue was loosened, and he began to rattle away to his countrymen in their curious, guttural tongue. What he said I was unable to catch, but at the end of his discourse every one seemed convinced of the new theory.

The next day the fog was thicker than ever, and as at the same time there blew a strong southerly gale, we had to remain weather-bound till the following morning. In the meantime we collected some minerals, and set four women to sew us new breeches of young, strong bearskin. This was a fresh addition to our wardrobe, and, with the kamikker, transformed me into a veritable North Greenland "dude." The following morning, as stated, we were again able to start. The weather was then "cracking" cold, with a clear sun. To our delight our host, when we were about to start, informed us that he would accompany us as far as Cape York, a distance of about one hundred seventy-five miles, as he had "business" there. His son had the previous autumn left his "Kayak" down there, and this the old man now intended to fetch before the ice broke up. His journey, moreover, was prompted by the unexpected opportunity now presenting itself of having the company of a "Kablunachsuaq" (white man), and enjoying the dainties flowing therefrom, such as bacon rinds and other remnants of his feasts. Terrikotti took his wife with him, too, looking upon the journey of three hundred fifty miles in the depth of winter as rather a pleasure or recreation trip than anything else. He had with him seven splendid, strong dogs, which careered magnificently across the ice, and they were, as is generally the case with these animals, so beautifully trained that a shout only from their master was sufficient to make them run either right or left, stop dead or increase speed, "watch for seal," or sniff the hard snow for bear tracks. The journey certainly became both more interesting and lively for this unexpected addition to our party. They followed all

their old customs and modes of traveling, and revealed many of their forms of worship and superstitions, looking upon the "Kabluna" as one of themselves.

In the course of the day we passed round a ness running into Whale Sound and Boat Inlet, halted at Cape Parry, then surrounded with open water, and having to make a detour inland, reached an altitude of about a thousand feet. At this elevation the weather conditions were, no doubt on account of the proximity of the sea, so entirely different from those at a lower level, that we could hardly make any progress against the blinding snow and fog, and the cutting winds, which seemed quite to scorch our faces. But it did not last long, for soon we were past the highest point of the snow hill covering the plateau-shaped ness; we got the wind with us, and rushing at great speed down through a narrow gulch, we again emerged among the sun-bathed glaciers and icebergs. But far beyond the glittering icebergs and the immense ocean of snow-covered ice utterly void of life, we beheld the dark blue ocean, indescribably lovely and fascinating, here and there glittering and shining where the sun's rays were reflected from the long, foam-crested swell.

What effect that sight had upon one who had passed six months in semi-darkness in these dreary, icebound surroundings, and with a badly suppressed home-longing at heart, I must leave to the reader's imagination. Memories of the far-off sea-girt fatherland rushed upon me, and threw me into a dreamy, melancholy state, most undesirable for the work in hand. As I halted and stood gazing out towards the blue horizon, my followers inquired what I was looking for, but only badly could I explain what I thought and felt. Nevertheless, these sensitive people, children of the ice and snow, quite gathered my meaning, and the old man exclaimed several times in a sympathetic undertone, "ayonai, ayonai" (how sad, how sad).

On coming down from our land journey we continued along the rather low, flat shores on Booth Inlet, passing the remarkable Fitz Clarence Rock, a little island rising in terraces to a

height of about a thousand feet. During thousands of years, wet, ice and storm have gradually eroded the rock, and the blocks thrown down have fallen with such regularity around the whole island that it rises above the flat ice fields like an enormous black cone, out of which the solid central part with perpendicular sides stands forth.

Just below this weird-looking island we had again to seek the mainland, as the ice during the equinoctial gales a few weeks before had broken up and drifted into the partly open Baffin's Bay. Fortunately, the land here, whilst lofty south and north, was comparatively level, so that we could continue our journey without difficulty, although the sharp stones projecting through the snow here and there ripped the sledges unpleasantly.

A little after noon we came upon fresh reindeer tracks, and there must have been quite a herd of them; there were spoor in all directions. We had no meat for supper, nor any for our hungry dogs, so it would be a godsend to obtain an animal or two. The natives were nearly mad with excitement, and proposed to set off in pursuit at once. I let them have a rifle each, whilst I went to examine some white, quartz-like rocks in the vicinity. Terrikott's wife was left behind to look after the dogs, which, in some circumstances, cannot be left alone, as, when these half-tamed wolves get the scent of game, nothing can stop them.

Ten minutes had barely gone by before I heard a rifle shot close at hand, and presently Kolotengva's little, square figure appeared on a ridge, calling to us to bring the sledges up. This was but the work of a few moments, and we beheld a great reindeer cow lying dead on the snow. A meal followed, in which four human beings and fifteen dogs participated without distinction, only that we human beings seized the tit-bits. We saved, however, a fine piece of steak for supper, with the reindeer belly, which the two "Arctics" had not the heart to leave behind, for it is their greatest delicacy.

We did not travel much farther that day, having sledged without a break for thirteen hours, so we halted at about seven

o'clock on the north side of Whalstenholme Sound, where we built a cosy little snow hut in a suitable, well-sheltered drift. It was constructed in the usual Eskimo fashion, of large blocks cut out of the snowdrift, put together so as to form a solid cupola over the space below, sufficient to hold us all. The dogs always sleep in the open, winter as well as summer, and in all kinds of weather. They were, therefore, simply tied to Kolotengva's walrus lance, rammed into the ground just outside the hut. We will now peep inside, all fissures in roof and walls having been closed with snow, and the lamps lighted. To get in it is necessary to crawl through the little hole on the lee side, and when of the Caucasian race, great care has to be exercised not to wreck the proud structure, as the opening is only intended for tiny Eskimo bodies. Inside a comparatively high temperature prevails, which causes the snow in the roof to melt, whereby the structure is strengthened, as the blocks then sink a little, freeze together, and form on the inside a hard, polished dome of ice. The water thus formed by degrees trickles slowly down the walls of the hut towards the floor, forming the most beautiful glittering ice-taps. However, at night, when cooking is over, the melting ceases, as the lamps then only burn with a faint flame.

But as we enter, the cooking is in full swing, and under the little stone vessels the flames are made as long as the saucer-shaped lamps with moss wicks and blubber will allow. On the raised platform at the back of the hut I and Kolotengva are installed, whilst opposite reside the old man and his woman. All of us are airily dressed, as it would of course be absurd to sleep in the stiff, wet garments when there is an opportunity of throwing them off and crawling into soft, warm reindeer skins instead.

The old woman mostly sees to the cooking, and in order to ascertain whether the water for the tea is getting warm, she now and again puts her hand flat into it, a manner of "taking" boiling temperature which I at first have great difficulty in reconciling myself to, but by philosophically arguing the point with myself, I come to the conclusion that it is no

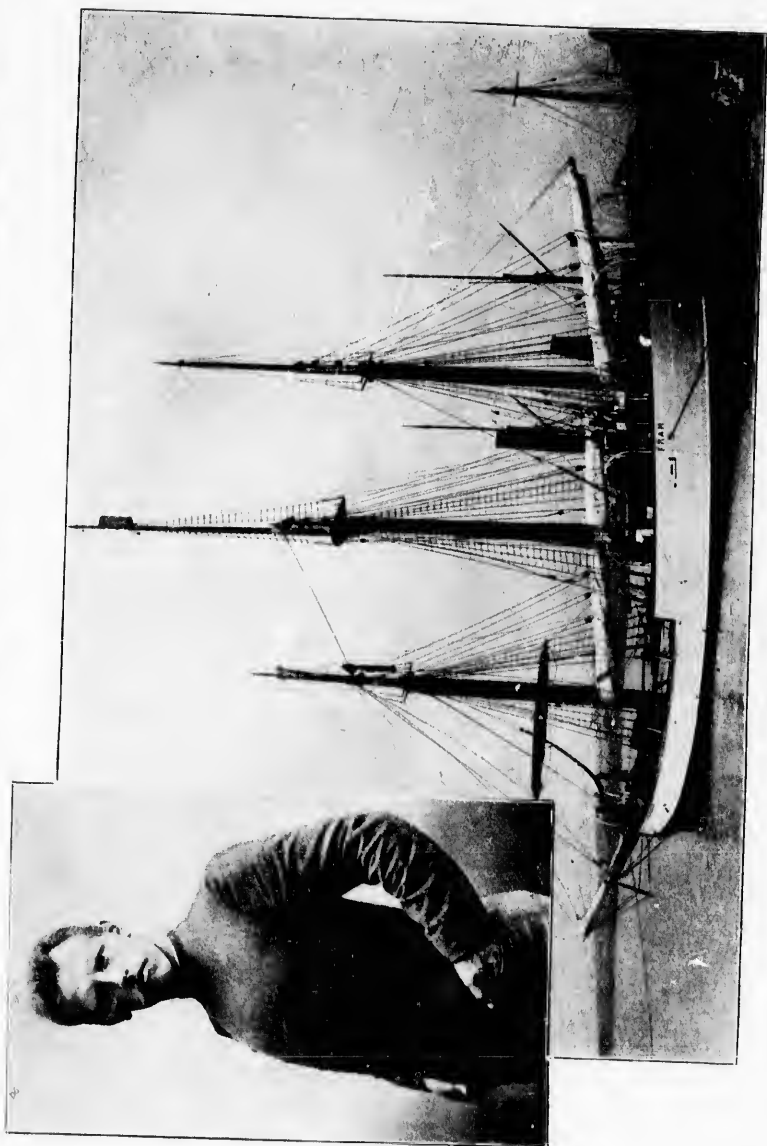
worse than the handling of the meat we are to eat, and I reconcile myself to my fate.

The next morning the weather continued gloriously fine, and at half-past seven we were again off. Our road now lay right across the broad Whalstenholme Sound. Saunders' Island, situated about midway, we had intended to pass to the west, as this route was the shortest; but on reaching the western point of the island we were arrested by open water, and had to proceed eastward in order to reach the inner side. We did, however, not omit first to try the new steel-like ice just below the lofty mountain walls rising to a height of over two thousand feet, in order perhaps to save the long detour, but it was not good. The ice was too weak, and I cannot help confessing that I breathed more freely after the discovery, as my recent experiences on new ice were anything but pleasant. I may as well tell the story as we travel.

It was in the first half of February, just as the cold was severest, that I was traveling far to the north of our winter quarters for the purpose of obtaining meat for our many dogs, which were half starved. I had for companion a native, Kaschu by name, a lively, amusing fellow; but I must add he he was a thief and a liar of the first water to boot, under certain "extenuating circumstances." Here, out campaigning, he was a splendid fellow indeed. We had left the nearest colony at five in the morning, in brilliant moonshine, and had for hours, with twelve dogs, been speeding out towards the broad Smith's Sound, in order to reach new ice, where the walrus love to romp in winter time. When about twenty miles distant from the coast, we halted, tied the dogs to hummocks, and proceeded on foot a couple of miles farther out, watching for walrus, as these animals are in the habit of thrusting their big heads through the thin ice in order to breathe, and it is then that the Eskimo watches his opportunity of lanching his harpoon into their bodies, keeping them tied with the line till the animals are exhausted. A little after noon we succeeded in killing an enormous she-walrus, a task, however, comparatively easy, as we had both harpoon and

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Dr. Nansen and the "Fram."



Naperville, Illinois, June 18th, A. D. 1893, A. L. 5893.  
 BE IT RESOLVED by Euclid Lodge No. 65, F. and A. M., that this Apron be placed in charge of Brother Evelyn B. Baldwin with the request that he carry it with him to the "Land of Darkness" on his Expedition with Lieutenant R. E. Peary and return it to the Lodge if the "All-wise Providence" will permit him so to do.  
 The Prayers of the Brethren go with him, and if we should meet no more on earth, may we all assemble in "The Grand Lodge Above" and meet our Aries "in that Peaceful Harbor where the Wicked cease from troubling and the Weary shall find rest."

G. E. ROYCE, Coman.

ALVIN SCOTT, JR., W. M.  
 J. F. ROYCE, S. W.  
 CHAS. BETTS, J. W.



Masonic Apron Carried North by the Author.  
 (See Chapter XLVI.)



An Historic Flag, Gavel and Candle.  
 (See Chapter XLVI.)



rifle, and whilst Kaschu was cutting it up I was to fetch the sledge and dogs. At a rattling pace we sped seawards towards him. See him I could not, although it was only just after noon, as twilight had already set in, and only a faint streak in the south indicated where the long-looked-for sun was. Suddenly I felt a slight jerk of the sledge as it sped silently out upon the dark, violet-colored surface of elastic new ice; I at once concluded that in the gloaming we had steered right across a newly frozen "clear" in the ice, and although the sledge was already in a swaying motion, it looked at the moment as if we might be able to get safely over without accident. Just then one of the native sledge runners cut through, the pace slackened, and then almost ceased. The sledge was already partly under the ice! An icy bath I knew at once I was to have, so I slid off the sledge slowly, and gave at the same time a violent pull at the steering band, whereby the front part again reached the ice sheet, and then began a terrible fight for life as we slowly splashed through the water to the other side. The dogs needed no encouragement to pull now, the keen animals exerted themselves to their utmost, understanding quite well that it was a struggle for life. At one moment most of them were in the water, in the next they obtained foothold on the ice with their sharp claws, but only again to be immersed in the icy waves. I shall not enlarge upon the horrors of the situation and my reflections, but only add that we reached the solid ice at last on the other side of the "clear" more than forty feet wide, and that I was soaked to the armpits under a temperature of 40 degrees F. below freezing point, and no land in sight. I ran out to my companion in my heavy fur garments, which already began to be coated with icicles, and got him to drive me home at once. The dogs did their duty in the fine moonlight, and in four hours we were safely back in one of the warm earth huts of the natives. And I suffered no more from my awful immersion, but forget it I never shall.

We had, it may be remembered, been compelled to make a great detour eastwards to get past Saunders' Island on the

inside, and as we passed the east side of the island we came upon the tracks of three bears, two old ones and a young one. It is hardly possible to form an idea of the excitement produced upon the Eskimos—all ardent hunters—and their semi-savage dogs under such circumstances. The dogs pull violently at their leather traces and scan with raised ears keenly the snowy wastes, whilst their masters stop, converse in whispers, listen, scan the wastes, run a little, stop again, and then repeat the whole performance anew. It might be doubted whether men who so absolutely lose their coolness on coming upon the tracks of game are really worth anything as hunters. But the doubt is soon dispelled. The excitement, in fact, tends to stimulate their intellectual faculties and keenness, and the spectator is soon compelled to admire their qualifications as hunters and sportsmen of a very high order. In the present case, however, the hunt was fruitless. We followed three bear tracks right and left across the wide, dreary expanse of ice, until the sun's disk, huge and glowing, touched the snow-white horizon to the northwest, disappearing presently behind distant icebergs. In vain the natives scanned the vast white expanse with my glasses, the remarkable qualities of which they soon learnt to admire, but no sign of a living thing in any direction. We had, therefore, to abandon the quest and resume our journey along the coast south of the mouth of the fiord. A little later, we passed Cape Atholl, where the ice began; being snow free, we could advance much faster, and at midnight, after sixteen hours of incessant traveling, we halted at a spot called Igluduhugni. During our entire journey the dogs had gone at a great pace, the bear chase included, and the distance covered that day (sixteen hours) was equal to about a degree of latitude, or no less than seventy miles.

We had expected to find natives at this place, but all we could discover in the gloom of midnight was a long-deserted, tumbledown snow hut. Kolotengva and I at once set to work to repair the hut; whilst the old man and his woman began to dig in the snow under a huge traveled boulder, main-

taining that they would, according to an old charitable Eskimo custom, find seal blubber for the aid of needy travelers in general. Long and deep they dug, and blubber there was, sure enough, in plenty. The old man cut up some in bits for the dogs, whilst the woman prepared other for our lamps, making the pieces soft by chewing them with their teeth before putting them on the lamp saucers. In a short while we were snugly ensconced under our snow roof, consuming the remainder of our reindeer steak of yesterday, whilst chatting about the events of the day. And, indeed, we were on the point of getting fox steak, too, for supper that night, as just before we reached our quarters we enjoyed an exciting and remarkable chase after a couple of Arctic Reynards, which only got away by the skin of their teeth. The whole affair reminded me much of an English fox hunt, with the exception that we chased the foxes on sledges instead of on horseback; but for excitement and novelty I must accord the palm to the latter mode of hunting these vile animals. In the faint rays of the Arctic midnight sun these little foxes often tramp long distances across the silent, icy expanse, in search of the remnants of feasts by polar bears, dead seal cubs, and the like. It was two such midnight prowlers we had come upon. Hardly had the dogs spotted the two black little dots away in front of us—for they were so-called "blue" foxes—before they set off at such a terrific pace that we were just able to fling ourselves on the sledges and enjoy the chase too. Away galloped the foxes; after them raced the dogs. But we did not gain much upon the vile beggars, as, of course, the sledges handicapped the dogs so much that one fox succeeded in at once escaping, having astutely enough made for the shore. The other, however, was just in front of us, but seemed to be getting away. What, then, do my worthy sporting friends, who in the most intense excitement have been watching the unequal chase, and who now begin to see a doubtful issue, do? Quick as thought Kolotengva seizes his knife, bends forward, and cuts with a single rapid stroke the trace of the fastest of our animals, a little lady dog. And, in an instant, his companion

follows his example. Like arrows shot from a bow the two animals dart forward. But one dog appears to gain over the other, and this does not please our companion at all, so, quick as lightning, he dispatches another gray touzler from his team, which is immediately followed by another from our side. Now follow encouraging shouts to the dogs from both contesting parties, exactly as in a north country coursing match, and a laughing, rattling, shrieking dispute between the two sledges as to the merits and chances of their respective animals. My dog won the match in securing the little terrified blue fox; but, alas! artful as ever, Reynard, at the moment of victory, jumped for dear life on to the top of a high, flat iceberg, where our dogs were unable to follow and our guns to reach it, as the fox lay down flat. And thus ended an exciting fox hunt and coursing match a la Eskimo.

The next day the weather was still magnificent, and at midday the sun became so warm that here and there a solitary seal was enticed to come up to his breathing hole in the ice in order to bask in the rays of the sun.

It was midnight again before we reached Cape York, the last inhabited spot in our journey; again we had traveled incessantly for sixteen hours, and covered a distance of fifty miles since daybreak. At this time only a few stars of the first magnitude glittered in the southern heavens, and we welcomed the lovely light nights of the Arctic summer. But I will at once confess that we were in no mood for such charming and idyllic reflections when we drove on that night before the stone huts at Imnaminomen. The glass stood at 24 degrees F. below zero (56 degrees of frost), and, being famishing like wolves, we felt the cutting night wind and the cold the more. But the natives at this place received us with customary Eskimo hospitality. Sleep and rest were what we most needed, and after a solid meal for ourselves and the dogs, we fell immediately asleep, only to awake when the sun had risen far into the heavens.

Two days (April 13 and 14) we remained at the colony to give our dogs a good rest and to await a change in the weather,

which had now become stormy. It cannot be denied that we felt ennui during these days of enforced idleness, as the North Greenland huts become rather confined to a European, however contented and frugal, when weather-bound for any length of time. But in the daytime our life was lively enough, and many were the questions put and answered on both sides, of the customs, sagas, and traditions of the North Greenlanders, as well as of the far-away southern lands and their many races, and especially, I venture to think, the Eskimos gained a good idea of my own fatherland, "Old Norway," with its "soughing" forests, green hillsides, roaring falls, and splendid climate. I had to describe them all over and over again. Equally interesting, perhaps, were the musical soirees, which took place in some hut or another, attended by the entire elite of the colony. At these charming reunions the blubber drum or "tom-tom" was heard incessantly, while hysterical witches and mystic old men in turns chanted monotonously half-wailing incantations to spirits supposed to be hovering about. Some of the so-called "Angekokkes," or sorcerers, exercise a most remarkable influence on their listeners, who frequently listen to their monotonous chants in trembling and breathless expectancy.

At last, early on the morning of April 15, we were able to continue our journey eastward. Kolotengva and I were now again alone, the old couple who had accompanied us on the previous days having remained at Cape York, the goal of their journey. Our course now lay straight for the islands in Melville Bay, whence I hoped to get a good view of the unknown shores within, in case ice should prevent my reaching them. During the morning we passed Bushman's Island, situated about twenty miles east of Cape York. Even before we reached it I became aware that the coast-land just to the northward of us formed no part of the mainland, but consisted, in fact, of two large islands hitherto unknown. During the afternoon, as we sledged farther and farther eastwards, we came in sight of enormous glaciers such as I had always been of opinion existed along the northeastern shores of Mel-

ville Bay. Indeed, I found that practically the whole coast line from Cape York eastwards, as far as the eye could reach, was continually broken by vast and active glaciers. At six p. m. we halted, having covered fifty miles, and built our snow hut for the night. We were then nearly directly south of Cape Melville, and only a few miles from the shore. The ice on which we sledged during the first part of our journey from Cape York was very smooth and quite different from what I had expected. With the exception of a belt of ice about two miles broad, the surface of which formed a chaos of irregularly-edged and wildly piled-up blocks, rising to a height of from six feet to eight feet, the rest of our road was perfectly level and smooth. This I may, perhaps, ascribe to Kolotengva's intimate knowledge of ice navigation.

Having enjoyed a refreshing night's rest in the hut, we continued, the following day, our journey in fine but hazy weather. About midday land was clearly discernible to the northeast, but in the afternoon everything was again hidden in a thick fog. We halted at five p. m., having covered forty miles. It then snowed hard. Again we had a good night's rest, but found the next morning that several inches of new snow had fallen, whilst the fog was as thick as ever and completely hid the land. But at noon, when everything seemed most dreary and hopeless, the fog suddenly lifted, like an enormous curtain, and displayed to our astonished gaze a panorama so grand and imposing that it will never fade from my mind. Lofty, somber mountains, gigantic, snowy glaciers, and aerial blue glittering snow cones, all charmingly bathed in the purple rays of the noonday sun, stretched in wild disorder along the horizon, the tout ensemble forming a most striking and fascinating spectacle of a land never trodden by human being.

By continuing our east-southeast course, which we had followed since morning, we reached, at about six p. m., a small, isolated island, where I decided to remain for a day or two in order to take observations. The island proved to be identical with Thom Island of the chart, having in its center a conically

shaped rock from three hundred to four hundred feet in height, which would afford a most desirably high plateau whence to fix the glaciers and capes of the mainland. We therefore built a snow hut at the bottom of a sheltered cleft in the rocks at the south side of the island, and found the weather the next morning, to our great satisfaction, all that could be desired. The air was remarkably clear, the most distant mountains standing forth distinctly. I obtained an observation of the sun at noon, as well as all requisite determinations of the mainland. The island I found to be situated in longitude  $75^{\circ} 41' 44''$  N., and the compass variation  $88\frac{1}{2}^{\circ}$  W. I delineated also the profile of the entire coast line, including several new islands of considerable size. While I was thus engaged my worthy friend had set off seal hunting, as we were in want of meat for ourselves and dogs, and blubber for the lamps. And he succeeded in an hour's time in killing a fine animal.

I watched him through my glasses as he cautiously and silently crawled, or rather hauled himself along towards the dozing seal. To me up here it seemed as if he was near enough to touch it with his hand; but still I waited and waited for the report of his rifle. At last a faint cloud arose, and the report rang through the still, clear air, and in the same instant Kolutengva's knife flashed for a second in the sun, burying itself in the next in the body of his valuable spoil, which now relieved us from all anxieties as to food for ourselves and our faithful, almost half-starved, companions for some time to come.

Of the fifty-miles-long coast line, bounded in the northwest by Cape Melville and in the southeast by Red Head, which I could overlook from the top of the little mountain ridge on Thom Island, nearly one-half consisted of larger and smaller glacier fronts. If to the glaciers here referred to, which I could overlook from the island, be added the glaciers which I discovered between Cape Melville and Cape York, as well as the enormous ice floe, the northern wall of which I was just able to discern south of Red Head, and which in all probability stretches down to the neighborhood of the "Devil's Thumb," the whole number of these ice streams covers an area of some

two hundred miles. They form a magnificent overflow for the ice masses inland, and are, therefore, of the highest importance. The glaciers of Melville Bay form, without doubt, the vastest glacial system yet discovered on the Greenland coast. Most of these glaciers are situated close to each other; indeed, as regards some of the larger, as, for instance, those of King Oscar, Peary, Rink, Nansen and Nordenskiöld, the land divisions among them are so insignificant that they might be really considered two huge glaciers of enormous dimensions.

As regards the geological character of the coast land itself, which here and there juts forth from the glacial cap, either as dominant headland and ness or single "nunatak" farther inland, I could discover nothing of particular interest. The trap formation, with its dark color, in strong contrast to the white snow cupolas which crowned its plateau-shaped surfaces, was apparently the most common, whilst the coast in general was of the usual archaic structure. The perpendicular walls nearest the ocean ice attained generally a height of about two thousand feet, whilst the "Hinterland," where such existed, rose to far greater heights; thus the snowy summit of Cape Walker has a height of quite three thousand feet, whilst a glittering cone, to which I gave the name of "Mount Haffner," after the Norwegian savant, and which is situated about fifteen miles inland on the north side of the bay, is, without doubt, five thousand feet in height. At Cape Melville there was a comparatively vast stretch of low land, but its nature I was unable to make out at this distance.

Having concluded my observations on the island, I built a small cairn on the top, in which I placed a tin box containing a brief notice of our visit. Before turning in that night we were pleasantly surprised by the sight of a snow sparrow, the first of the season, which occasioned us several times during supper (a daily meal of fresh seal's liver and dry ship's bread) to congratulate each other on the coming of summer.

The next morning we found the weather had completely changed in the course of the night; it was blowing a gale from the southeast, filling the air with the finest drifting snow. We



had, therefore, to lie weather-bound that day, which might have been dull enough if my companion had not sped the time by naively told tales of incidents from his own life, which in the most striking manner illustrated the admirable toughness, strength and courage of this little race of humanity in *la lutte pour la vie*. Among other things I was told that the bear hunters of the tribe often in their excursions reach the east coast of Melville Bay. I am, however, of the opinion that ere long some spring day the inhabitants of the northernmost Danish colony, Tessiusak, will be surprised by a visit, the first known, from the sledging wild men of Cape York. I have supplied them full particulars and instructions for such a journey.

The next day, April 20, the wind was still strong from the south. We were now again nearly out of meat and blubber, so that we did not care to venture far away from Cape York, which we had otherwise intended had the weather been better. After being weather-bound for a day we steered for the northeast, almost unknown, corner of Melville Bay, where I hoped to find something of interest, and where also we might slay a bear, which we greatly needed. We started at seven o'clock a. m., and shaped our course straight for the lofty mountain ridge, which, according to the vague indications of the chart, should be Cape Murdoch. But as we approached we found that this towering ridge did not constitute any projecting point in the coast line, but, on the contrary, rose far behind it, and was only a solitary "nunatak" in the vast ice field, the lofty perpendicular face of which completely arrested our progress. We halted at half past one by a small island, the inner side of which almost touched the ice wall, and here we had to remain for the rest of the day and the next night. Kolotengva at once began the erection of the indispensable snow hut, whilst I climbed the island, a few hundred feet in height, in order to take observations. By and by he, too, came up, anxious to see this forlorn corner of the bay, whither the lively sledge parties of his tribe had never yet penetrated. But even to the frugal-minded Eskimo at my side the desolate

spot could offer no attraction; he only shook his head and said with emphatic conviction: "Puyungi-toksua nuna manni!" ("the land about here is no good"). On the hard, rocky ground lay long adamant snowdrifts, carried thither by raging winds from the nearest glaciers, whilst here and there, where the naked rock terraces were visible through the snow, the "scouring" marks of former glacial action were distinctly observable. Having concluded my observations, we collected all the stones we were able to find and raised a small cairn on the summit, when we returned to the hut. But a few yards from it, right under the wall of an iceberg, we came upon some deep holes in the snow, a bear having evidently been engaged in digging for sea-holes. The same animal, or another, had curiously enough visited the summit of the island, to which even we had a difficulty in climbing. Kolotengva thought the bear had come on land in search of dead grass or moss, as polar bears are believed by the natives to like a certain amount of vegetable matter in their diet.

The next morning at seven we continued our journey in calm, hazy weather. We had barely traveled two hours before, on turning a headland, we suddenly espied the bear some eight hundred yards in front of us. At racing pace the dogs sped away across the hard snow, but the bear did not take long to consider his position and then to deal with it. He decided not to deal with the dilemma at all, and simply bolted. But we were down upon him, when Kolotengva quickly cut the single trace of the eight dogs, the sledge stopped dead, and the liberated dogs flew with redoubled energy at the hairy giant, who now turned to defend himself at last. During the short space of time occupied by us in coming up with the combatants, I had a good opportunity of watching the splendid tactics of the dogs. As soon as they came up with the bear they spread out in a semicircle right in front of their foe, and attacked him by making dashes at his long, thick coat with their sharp, glistening teeth, and they displayed during these proceedings such cuteness and skill that it was evident they quite understood that it was a question of "breakfast or no

breakfast" for them. Whenever the bear angrily raised one of his huge paws to crush one of his tormentors, the latter slid away in the most agile manner, whilst his companions gave the wretched brute enough to attend to in another direction. However, a few shots from our Winchesters soon ended the combat, and an hour later we had the large, magnificent bear-skin safely packed on the sledge, together with a good quantity of meat, whilst the dogs were treated to a substantial meal, which they indeed wanted badly, and we again continued our journey.

Our course now lay straight for an island some ten miles west-southwest from our last day's halting place. We reached it just before noon, and remained there some hours, during which I took the latitude and some determinations, the weather having now become very fine again. In the afternoon we proceeded, and halted eventually at half past five for the night, after a most interesting but very hard day.

On April 23 we reached again, safe and sound, Cape York and our friendly Eskimos. I decided to remain two days and let the dogs have a good rest, not because they actually wanted it, but because I thought they thoroughly deserved it after their preceding eight days' hard and steady work. The next day was beautifully fine, and almost summerlike, so that the entire colony, small and large, turned out en masse and squatted most of the day, basking in the sun's rays, on a small clearing in front of the huts where boxes and offal used to be thrown. True, the air was a bit chilly, but having built a wall of snow to shelter from the cutting north wind, and with the sun shining right upon our ruddy faces, and being well wrapped up in furs, we had a fine time of it, chatting merrily about the coming spring, for which we all longed so much.

In the midst of our merry group lay a huge piece of walrus meat, the somewhat "gamey" smell of which left no doubt as to its respectable age. Beside it lay an ax, which was used whenever any man or woman wanted to satisfy his hungry cravings, for the meat was frozen hard and had to be chopped. At the side of this lump of meat stood also a huge block of ice,

clear as crystal, whence the community obtained water, as in the center of it a cavity had been cut, at the bottom of which a stone was placed, of the size of a man's fist, on which there burned with a good flame a piece of moss intersected with blubber; and as the ice melted at the sides of the cavity, the water collected at the bottom in a small, clear pool, whence it was consumed by the many parched mouths by sucking it up through hollow reindeer marrow bones, in exactly the same manner as we enjoy a sherry cobbler through a straw. The whole party was throughout in the cheeriest and most talkative mood; and although no toasts were drunk or speeches made, the chatting and laughing of everybody of all sizes and ages proceeded so merrily that the incident furnished another strong proof of the thorough contentment of these people with their lot in life.

The next day I had an opportunity of seeing how the natives train their bear dogs. A bearskin is carried secretly by two lads out behind an iceberg close by, one of whom returns, whilst the other wraps the skin round his body and then emerges, appearing at a distance like a real bear, in the creamy fur on which the sun plays. Then an alarm is raised by the older hunters, and with fine histrionic skill the younger ones rush out as if in great excitement at the sight of the impudent bear. Some of the dogs have now also espied it, half a dozen sledges are harnessed, speeding towards the imagined foe, who then wisely lets fall his disguise.

After two days' rest I and my companion eventually said good-bye to our hospitable hosts. But at the last moment we were pleasantly surprised at learning that the whole colony had decided to accompany us in a body! It seemed as if a sudden mania for traveling had seized upon these free and unfettered persons. Why not, then, at once satisfy the desire? Their minds were made up on the spur of the moment, and half an hour had hardly elapsed before the whole colony had taken the field with all their belongings—furs, harpoons, lamps, suckling babies, blubber, meat, etc., well stowed away on their sledges. They numbered, including ours, nine in all, drawn

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by fifty-two splendid dogs. But we did not enjoy our merry escort long, as it left us by degrees, the members taking up their abodes along the coast in their airy skin tents, now being exchanged for the dark hovels of the long and dreary winter.

The first night after leaving Cape York we halted at the bottom of an inlet, where we had to remain for thirty-six hours through a storm. We found quarters in some old ruins of a hut. The next night we were enabled to proceed, and as it was the first on which the sun would remain above the horizon that season, we decided to travel all the night. The snow track was capital, and we advanced rapidly, reaching the western extremity of Saunders' Island at five a. m. Here we slept in a remarkable grotto, which runs in under the perpendicular mountain wall, about a thousand feet in height, the floor being below high water mark. We passed the colony "Akpan," situated on the southwest side of the island, then deserted. I mention it, as here, as well as on the mainland just south, there are remains of stone huts, which are now under water at high tide. The natives have, therefore, been obliged to vacate their old huts and erect others, the former having gradually been covered by the sea. Similar proofs of the depression of the land along these shores were at one time also observed by Dr. Kane somewhat farther south, who suggested that the axis of the oscillating movement to which it is generally assumed that the Greenland continent is subjected, should be found just south of the seventy-seventh degree of latitude. Judging by my own observations on Saunders' Island just referred to, and partly from statements made by natives, I am of opinion that this axis must be fixed somewhat farther south.

On April 29th, at about nine at night, we left Saunders' Island in splendid weather. We determined again to travel across country to Whale Sound to escape the journey around Cape Parry. On the way we succeeded in killing a hare, whose white coat up in a dark ravine offered a splendid target for our rifles. I shall not describe how welcome this piece of fresh meat was to us just then. Suffice it to say that for some days

we had lived from hand to mouth, and our provision bag was slenderer than just desirable.

We had decided to attempt to reach the south side of Whale Sound before again halting, which we did after twenty hours of hard traveling. For the last time we lit our blubber lamp, cooked the rest of the hare, and enjoyed a good long sleep under the tumbledown roof of a deserted native hut. We were still some thirty miles from the winter quarters of the expedition, but this we covered without more adventures on the following day, being back once more safe and sound, on April 30.

Our little journey was at an end, and although its geographical results, which, however, constituted the only ones yielded by the second Peary expedition, cannot be said to be "startling," the journey has to me been of great value and advantage, for it has more than ever before made me familiar with the methods of traveling followed for hundreds of years by the race dwelling in nearest proximity to the pole, and gained from experience during their extended sledge journey along the vast ice-choked shores of the land. And I feel confident that, had the tribe possessed the scientific enthusiasm which fires civilized nations, they would have reached the highly coveted goal long ago, and explored the mystic regions in which the great nations of the earth, in noble rivalry and self-sacrifice, have hitherto attempted to penetrate in vain. But suddenly to impart to these children of nature an ardent enthusiasm for this task of solving some of the greatest geographical and other scientific problems of the age would indeed be an impossibility. On the other hand, however, it might be that the sons of civilization themselves could learn from the natives, by sojourning among them, the best mode of solving those problems.

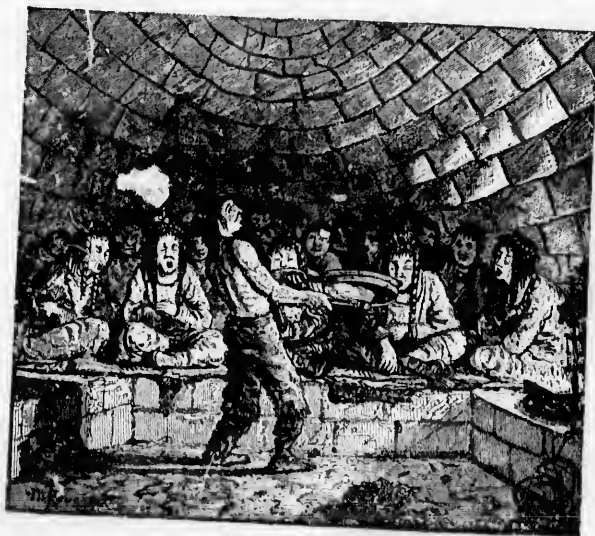
There are those who maintain that Nansen and his gallant little band will carry victory home; and no one who is acquainted with the brilliant equipment and manning of this expedition, with other factors to be considered, can deny that its prospects of success are highly promising. But should even

this be so, there will still remain many mysteries to be penetrated in the polar regions. No single expedition, be it ever so successful, could solve all these. There still are vast regions on both sides of the pole yet to be explored; and in this glorious labor it is to be hoped that the Scandinavian and Anglo-Saxon races may lead the way hand in hand.

EIVIND ASTRUP.

NOTE.—Since this article, which has been translated by Carl Siewers, was first received Eivind Astrup's death has been reported in the newspapers. The last paragraphs were written before the news of Nansen's success.—Editor Brooklyn Standard Union.

In the above article from the pen of our late companion, whose loss we deeply lament, we have allowed the names of the natives to appear as written by Mr. Astrup. Kolotengva and Kaschu are the same as Koo-loo-tin<sub>g</sub>-wah and Kesshu as written elsewhere.—The Author.



PLAYING THE KEY-LOW-TIK.

## CHAPTER XLI.

## NANSEN'S LAST FAMOUS VOYAGE.

While the "Falcon" lay at anchor at Philadelphia preparatory to taking our little party aboard for the voyage to North Greenland, in June, 1893, Dr. Frithjof Nansen's Expedition took its departure on the 24th of the same month, from the harbor at Christiania, Norway. The "race for the North Pole" was thus fairly inaugurated, and of the intrepid Scandinavian's part in the contest it is now our purpose to treat. Already is the reader familiar with Dr. Nansen through our account of his first crossing of Greenland, in 1888, six years previous to which he had made a sealing voyage to Denmark Strait, off the east coast of Greenland. In the interval between the two trips he occupied the position of Curator of the Museum at Bergen. Being now less than thirty-five years of age, and a graduate of the University of Christiania, he is in the very prime of his physical and mental powers.

The departure of the "Fram," or "Forward," as the name of the staunch little vessel carrying the explorers signifies, was witnessed by thousands of their enthusiastic countrymen, who assembled on the docks and filled the harbor in every variety of craft, all gaily decorated with bunting and silver birch. As the "Fram" passed the point on which his home is located, Dr. Nansen stood on deck and waved a farewell salute to his accomplished wife, who stood in front of the house, clad in a dress of pure white, while from the various batteries salutes of three guns were fired as the vessel passed them.

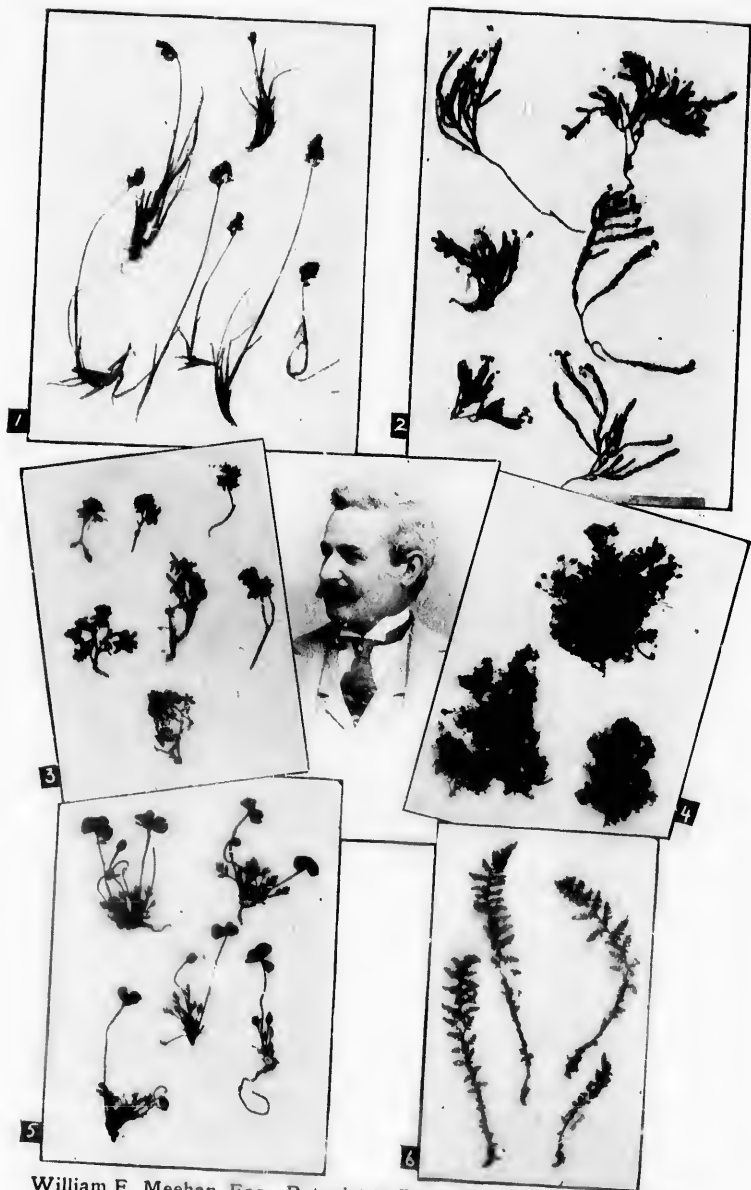
Owing to the special construction of the "Fram," with reference to navigation in ice, much is expected of her. A three-masted sailing schooner, she is also provided with a 160 horse-



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William E. Meehan, Esq., Botanist to Peary Relief Expedition, 1892.

1. *Hierochloa alpina*.
3. *Rhododendron lapponicum*.
5. *Papaver nudicaule* (Poppies).

2. *Cassiope tetragona*.
4. *Saxifraga oppositifolia*.
6. *Aspidium fragrans* (Ferns).

Mr. C. E. Borchgrevink (Norwegian), Amidst Antarctic Scenes, 1894-5.



Dr. Frederick A. Cook, M. D. (American), Physician and Surgeon Peary Expedition 1891-2, Leader of the "Miranda Party" and Organizer of Proposed Antarctic Expedition.  
(See Chapter XLII.)

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ADOL  
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F. H. J



NAMES AND AGES (1893) OF NANSEN'S  
ASSOCIATES.

LIEUT. HANSEN, 25.  
ADOLF JUELL, 33.  
A. AMUNDSEN, 40.  
F. H. JOHANSEN, 26.

DR. BLESSING, 27.  
CAPT. SVERDRUP, 38.  
P. L. HENRIKSEN, 34.

T. C. JACOBSEN, 38.  
I. O. I. MOGSTAD, 37.  
E. NORDAHL, 31.  
LARS PETERSEN, 33.

power steam engine, has a displacement of 800 tons, with her sides so formed as to force all ice meeting them to pass underneath her, thus preventing "nipping," "pinching," or "screwing."

Besides an allowance of about \$52,000 voted by the Norwegian Parliament, many private subscriptions, including one of \$5,000 by King Oscar, gave Nansen the means of building and equipping his vessel, which was launched October 25, 1892, at Laurwik, near Christiania. A Norwegian paper thus describes her fitting out:

"Bread is the chief food of Nansen and his associates. It is a kind of biscuit, large and round, white and very compact. Each man is allowed four of these each day. Silk is to be used for tents, as it shuts out the cold better than anything else.

"The cabin is heated by means of an English petroleum stove, which consumes three litres of petroleum per diem. A supply sufficient for eight or nine years was taken along. The library consists of one thousand volumes, one-half of which consists of scientific works, and the other half of novels, etc.

"All told the ship's complement of men numbers but twelve, all of whom occupy the cabin, which measures only thirteen feet square. There they dwell, eat and work. The suits they wear cannot be penetrated with water."

Nansen's companions are: Captain Otto Sverdrup, his associate in 1888, ship's master; Sigurd Scott Hansen, Lieutenant in the Navy, and director of the astronomical, meteorological and magnetic observations; Dr. H. G. Blessing, surgeon and botanist; Theodore C. Jacobsen, mate; Peder L. Henriksen, harpooner; Anton Amundsen, chief engineer; Lars Pettersen, second engineer; E. Hjalmar Johansen, officer in the Norwegian Army, fireman; Bernhard Nordahl, electrician; Ivan Mogstad, carpenter; Adolf Juell, steward.

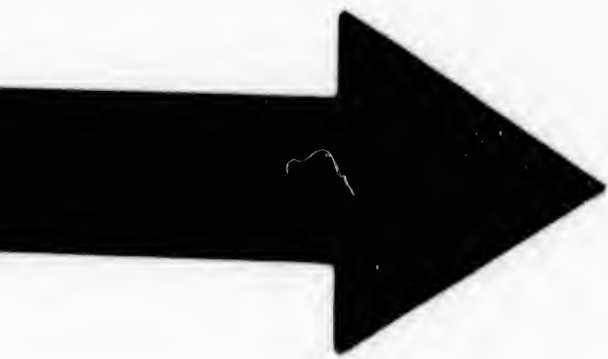
The last authentic information concerning the expedition was a dispatch from Vardoe, Norway, August 23d, two months after leaving Christiania. This stated that the "Fram," after excellent behavior in the ice, had reached the Kara Sea early

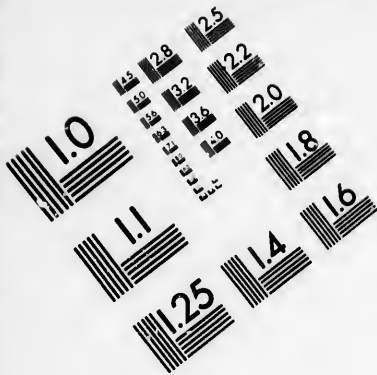
in the month. From this point, according to Dr. Nansen's plan, she was to proceed to the New Siberian Islands, and thence northward, carried by the drifting ice, skirting the western shores of any newly-discovered lands, near to if not immediately over the north geographical pole. This being attained, it is supposed that the "Fram" would then drift southward, off the eastern coast of Greenland, and so eventually work her way out of the ice and again enter the North Atlantic. Splendidly provisioned and equipped for a five years' absence, it is perhaps too early to conjecture with reference to the whereabouts of the expedition. Nevertheless, it behooves every friend to noble achievement—every lover of humanity to aid, should it become necessary, the return of these courageous investigators to friend and home, where their success may add lustre to the crowning glory of our nineteenth century civilization. Whether they are now returning by the outward route of the "Fram," whether by the New Siberian Islands and the Lena River, whether ice-locked in the midst of newly-discovered lands, whether they may yet strand off the north coast of Greenland, or even again drift in triumph into open water and safety, the conscientious application of the Golden Rule will silence all reproach and make the world not only better but wiser.

As we go to press, the dispatching of a vessel to the New Siberian Islands, in anticipation of the "Fram's" return to that locality, is being discussed in European circles. This, it appears to us, would be a wise measure, for sufficient time has now elapsed for the accomplishment of Dr. Nansen's prime object—the exploration of the region in the immediate vicinity of the Pole. That done, he would doubtless return by the safest and speediest route. Should this prove to be by way of the New Siberian Islands, assistance soon would doubtless be timely; if by way of Greenland, exploring parties sent thither a year or two hence would be likely to obtain some evidence of his success or failure, or perhaps be able to insure his return.

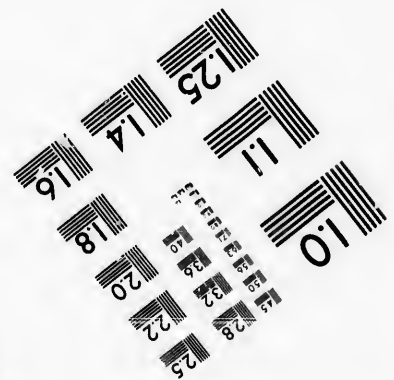
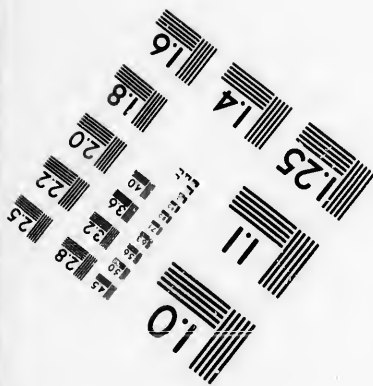
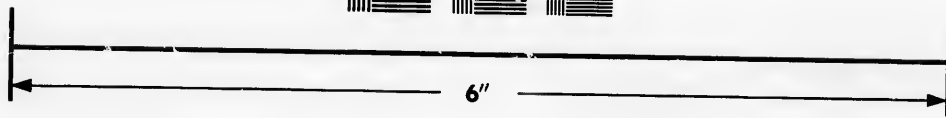
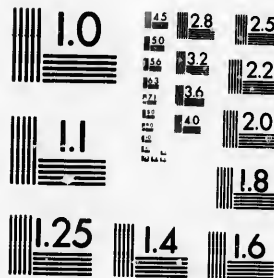
Years hence the reader will recall the first reports concerning the supposed return of Dr. Nansen and how for weeks and







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months the entire civilized world was kept in suspense speculating upon the probable outcome of the voyage. On the very day on which the publisher receives the manuscript for this book we have received the following dispatch:

"St. Petersburg, April 7.—At last the true origin of the story about Dr. Nansen's discovery of the north pole has been told. The story came from Tomsk, through the merchant Kuschnareff, who is the uncle of Kandakoff, the originator of the news. His statement is that his nephew did nothing more than transmit the report. It appears that in the New Siberian Islands there have been three parties in search of mammoth bones. One of these parties returned some time ago and said they had seen a ship in the neighborhood of the islands with Europeans on board. They did not attempt any communication with the ship, nor did they even watch it. Kandakoff, to whom the mammoth hunters brought the news, thought it might relate to Nansen, and wrote thus to Irkootsk, whence it was sent out all over the world. In the Siberian Islands there still remain two parties of hunters who will return in November, and who, perhaps, may bring some details."

In concluding our account of Dr. Nansen's Expedition it will be of interest to add that the so-called "Jeannette" relics which were reported to have been found off the southwest coast of Greenland by some of the sailors of the Greely relief ship, the "Yantic," and upon which Nansen is said to have based his belief in the existence of the great Arctic Ocean current, were spurious, as shown by Dr. Bessels, formerly of the Hall Expedition, and by Dr. Dall, of the Smithsonian Institution. Nansen knew of their doubtful origin before undertaking his voyage.



OODJOODJ (GRANUP).



ETAH (BOMBERZ).



KUDJUPPA-MUNE (ARDOTT).

## CHAPTER XLIV.

## THE ENGLISH IN FRANZ-JOSEF LAND.

While Dr. Nansen's plans are thus before the world, the English, represented by the Jackson-Harmsworth Expedition, are also endeavoring to solve the great mysteries of the North. It is just three hundred years since Barents wintered off the northeast coast of Nova Zembla and now, from Franz-Josef Land, less than four degrees of latitude farther north, do brave Englishmen struggle to honor their flag and race.

Having sailed from London, in July, 1894, on board the "Windward," the expedition, led by the intrepid young Jackson, made the coast of Franz-Josef Land at Cape Flora, on the 7th of September following. Here the "Windward" became ice-bound and spent the winter of 1894-5. On the 10th of March the party started north from headquarters, and by May had established a line of depots one hundred miles long, to latitude  $81^{\circ} 20'$ . In this work it is understood that large and amiable dogs from Western Siberia, and hardy Russian ponies were used. Their sledges, with broad runners like the Norwegian ski, are exceedingly light, and average in weight only sixteen pounds.

The house at headquarters was built of large pine logs and heated by means of a Russian stove.

On July 3d, 1895, the "Windward" started on the return trip, leaving all at the camp in good health and greatly encouraged at the outlook for the future. The vessel reached Vardoe, Norway, September 10th, having found the ice-pack of a very formidable character. When she again returns to Franz-Josef Land for the explorers in the course of the ensuing summer (1896) it is hoped and believed that she will learn of the successful exploration of that region and the determina-

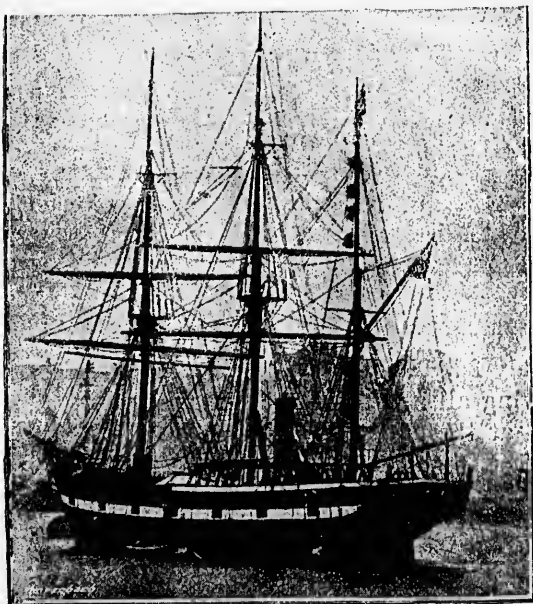
tion whether Franz-Josef Land be an archipelago or the southern extension of a great polar continent. For this will science ever be indebted to the generous young Mr. Harmsworth.



F. G. JACKSON.



A. C. HARMSWORTH.



THE "WINDWARD."

## CHAPTER XLV.

## TO THE NORTH POLE BY BALLOON.

At a session of The Sixth International Geographical Congress, held in London, from July 26 to August 3, 1895, Mr. S. A. Andrée's Balloon Expedition came in for its share of attention. Its promoter is an engineer in the patent office at Stockholm, and he has been very successful in previous balloon voyages. The expenses of the expedition will be about \$36,000, of which King Oscar II., of Sweden, heads the subscription list with a contribution of \$8,000.

Mr. Andrée expects to start from one of the small islands lying off the northwest coast of the mainland of Spitzbergen and hopes to reach the pole in forty-three hours, returning either to the inhabited regions of North America or Siberia. The construction of his great air-ship is thus described:

"It will be a double balloon, or rather a balloon in a balloon. The first or inner balloon will be made of a specially made silk cloth of three folds and covered with a water-proof varnish. Over this, covering two-thirds of the balloon, comes a cover of cloth highly saturated with oil. The object of the double balloon is that the air between the two balloons will guard against sudden changes of temperature, and also prevent snow and water from gathering on the varnished silk. From the oiled surface it will at once slide off, particularly when the balloon sways from side to side. Instead of the usual ventilator on the top of the balloon these will be placed one on each side, as experience has shown that from this ventilator the greatest loss of gas is made. To support the net a heavy iron ring is placed under a wooden roof resembling what is known in polar language as a 'Nunatak.' Below the balloon is placed an auto-

matic ventilator opening at a pressure of 10 mm. water, and permits the escape of superfluous gas.

"A novelty is the broad girdle surrounding the balloon in its lower part. This is for the purpose of guarding against wind pressure. When the lower part of the balloon commences to be empty of gas, the wind makes a hollow in the balloon and the girdle will prevent this.

#### SIZE OF THE BALLOON.

"The balloon has a diameter of 20.5 meters [one meter is 39.37 inches] and a volume of 4,500 cubic meters. The gondola is made of wicker, round in form, covered with a roof with two sleeping places, as there will always be a man on watch. The mattresses will serve as life-preservers in case of necessity, and the gondola has a slanting form to facilitate sliding along the ice if so near an approach to the earth is found necessary. The gondola is also provided with a trap-door to empty the water if the balloon should take a 'dip.'

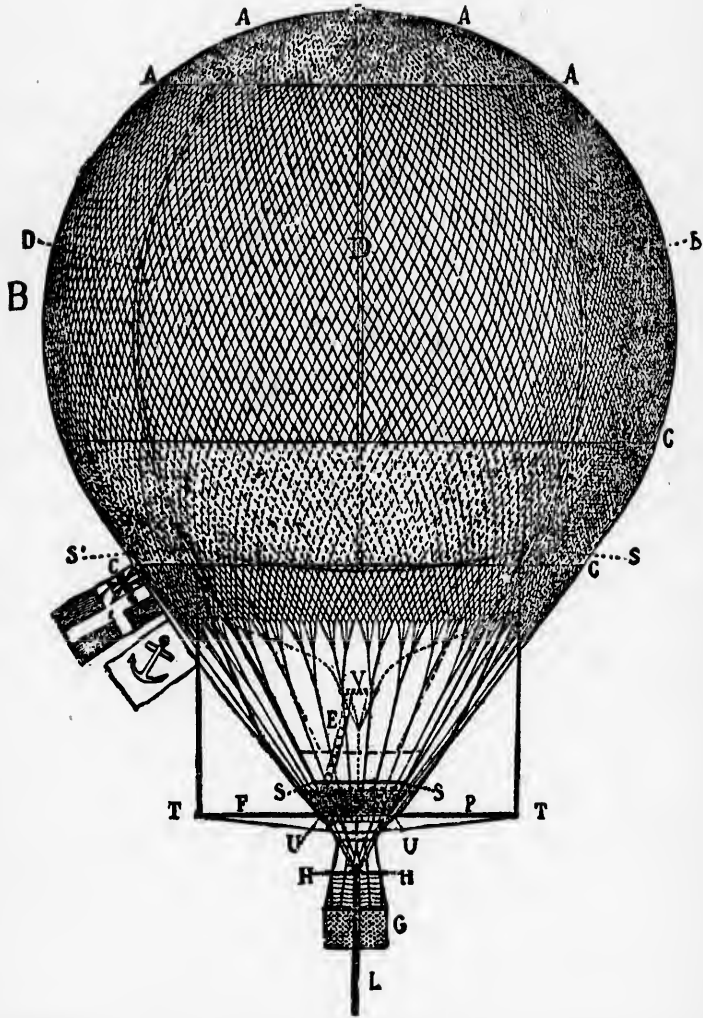
"M. Andr e has devised an ingenious contrivance for directing the balloon. The efficiency of this device has been tested by a trip which he took July 14, 1895. It is composed of a rudder sail secured to the apex of the balloon and to the car by a rope, so that it can move freely, and a guide rope which can be adjusted to different positions for 180 degrees of the circumference of the ring which is secured to the car.

"The guiding is assisted by means of this guide rope, which is allowed to drag on the ground or in the water. The eyelets are intended to receive the hook of this guide rope. When the hook is attached to the central eyelet the balloon will move in the line of the wind, but by adjusting the guide rope to the other eyelets motion in other directions is obtained.

"The balloon carries 2,100 kg. of ballast, provisions for four and one-half months, ammunition, a boat, heavy clothing, and every necessity that experience has shown is required.

#### PLANNING A QUICK TRIP.

"With a fair wind only six days would be required from



ANDREE'S BALLOON, SHOWING MECHANISM OF THE APPARATUS.

[BB, balloon. AAAA, outside balloon. CCCC, girdle. S'S'SS, middle sail. S'TU, side sail. D, ropes attached to the sails. F, cross-mast of bamboo. V, automatic ventilator. E, rope ladder. K, basket. G, gondola. H, railing. L, drag lines.]

Spitzbergen to Bering's Sound, across the pole, but time makes little difference, as the balloon will float with safety for 900 days and nights.

"King Oscar of Sweden is taking a most active interest in the preparations for the journey. The ascent will take place next July from one of the northwestern islands of the archipelago of Spitzbergen. A building will be constructed in Sweden and will be erected on this island to shelter the balloon during its inflation, as it may be a number of days before the wind will blow in the direction of the pole. M. Andr e will be accompanied by Nils Ekholm, the astronomer, who is now attached to the Central Meteorological Bureau of Stockholm, and also by one of the astronomers royal of the Swedish Academy of Science.

"In the season which M. Andr e has chosen the weather is usually fine in the Arctic regions, and there appears to be no good reason why the expedition should not be a success and of great scientific value. Every scientific society in Europe, with the exception of the English, has approved of the plan and believes it will be a success. The English say the north pole will only be reached by a water and land expedition, and intimate that if it will ever be done it will be found that the English flag will float at the north pole.

"The most favored of Arctic explorers rarely make more than four or five miles a day, so that the speed which can be obtained with a balloon will tend to do away with the great trouble which has heretofore blocked all the explorers—the shortness of the season."

The officers of the Hudson's Bay Company and of the Siberian Government have been instructed to watch for the appearance of the balloon at all points in British America and Siberia.



## CHAPTER XLVI.

## LOVERS OF THE ARTS AND SCIENCES: FREE AND ACCEPTED MASONRY IN ARCTIC EXPLORATION.

As all members of the great and noble Order of Free and Accepted Masons are "taught to be general lovers of the arts and sciences," it is not at all surprising that among the number should be found some of the most illustrious explorers, such, for example, as Dr. Kane, Dr. Hayes, Captain Wilson, General Greely, Chief Engineer George W. Melville, Louis P. Noros, Colonel W. H. Gilder, and, most recently "raised" (March 3d), Lieutenant Peary. Others there doubtless are, whose fraternal relations are unknown to the writer. Of those enumerated Kane, Hayes, Greely and Peary have each carried, with pardonable pride, emblems of our beloved order into the "farthest north."

Among the organizations conspicuous for their active interest in Polar research, Kane Lodge No. 454, F. and A. M., of New York City, deserves great praise. Her most distinguished sons of exploration will reflect credit upon her forever. And how very appropriate was it that she should have given recently (April, 1896) a grand reception to Arctic explorers and travelers, with nearly fifteen hundred persons present, among the noted Masonic speakers being Brothers Hon. Chauncey M. Depew, General Greely, Lieutenant Peary and Bishop Henry C. Potter. Addresses were also delivered by Mayor Strong and Judge Daly, of New York.

On this occasion Lieutenant Peary returned to the lodge its historic flag with which he had been entrusted and which he had carried with him to North Greenland. The flag is of red bunting, having upon it the Masonic emblems of the square

and compass worked in white. It was unfurled at or in the vicinity of Independence Bay, in latitude  $81^{\circ} 47'$ , in the summer of 1895.

In the preceding year (1894), mindful of the honor of the fraternity and with great pleasure to himself, the author had also carried with him on the sledge journey on the great ice-cap a silk-trimmed apron of genuine lamb-skin, the inscription on which, as may be gathered from the accompanying illustration, served to encourage and sustain during many trying occasions. Captain Henry B. Bartlett, of a St. John's, (Newfoundland) lodge, shared with him the honor of wearing it upon the first arrival of the "Falcon" at the head of Bowdoin Bay, in 1893.

The apron was duly returned to Euclid Lodge as requested.

As is well known, Dr. Kane carried with him a Masonic flag, and since writing the above we have, through the fraternal courtesy of Worshipfuls J. Morris Ward and George W. Brown, Jr., past and present masters respectively of Kane Lodge, received interesting details concerning the Arctic Masonic flags of Brothers Hayes and Greely as follows:

"The 'Hayes Flag' was intrusted by Kane Lodge, at the Chamber of Commerce (New York), to Brother I. I. Hayes, June 29, 1860, and carried by him to the east coast of Grinnell Land and planted there side by side with the Stars and Stripes, May 18, 1861, in latitude  $81^{\circ} 40'$ , and returned to the lodge by him January 2, 1866." The long lapse of time before the return of the flag to the lodge is believed to have been owing to the absence of Dr. Hayes as a surgeon in the Union Army during the Civil War.

"The 'Greely Flag' was cut and made by his own hands at Fort Conger,  $82^{\circ}$  north latitude. Lieutenant Lockwood and Sergeant Brainard carried it in the spring of 1882 to the shores of the Polar Sea, on the northwest coast of Greenland, where it was displayed at Lockwood Island, latitude  $83^{\circ} 24'$  north, longitude  $40^{\circ} 46'$  west, on May 13-15, 1882."

Truly do such emblems serve to inspire to action, and how very appropriate, that the flag of our country—the flag of

Washington, the first chief executive of a free and progressive people, should, especially in the conquests of art and science, be accompanied by the emblems of our order—the emblems of that same Washington, the first grand master of all Free and Accepted Masons in America!

Truly, too, do the lives of worthy men inspire to lofty effort, and the example of America's first great philosopher, Benjamin Franklin, in finding time to devote to Masonry, and the promotion of Arctic research, is also cause for congratulation among all lovers of human progress.

What Washington and Franklin were to Masonry and Patriotism toward the close of the eighteenth century, Jackson was to them a half century later, exalting and defending each with an iron will at a critical period, when the existence of both in America was threatened by foes, domestic as well as foreign.

What, therefore, could have afforded the author greater pleasure than to have celebrated Jackson Day in North Greenland in 1894, and to have given willing testimony concerning the same at a Jackson Day banquet at Aurora, Illinois, in 1896. To quote from *The Chicago Tribune*, *Aurora Daily Express* and other papers of January 9th, of the same year:

"One of the most interesting addresses of the evening was made by Evelyn B. Baldwin, the Arctic explorer, who went in search of the North Pole with Lieutenant Peary. Mr. Baldwin wore a silken flag badge which had been given him at a Jackson Day celebration of the Ladies' Hermitage Association, of Nashville, Tennessee. He had worn this badge on his trip to Greenland a few months later. It was worn by Baby Peary on the recurrence of Jackson Day in North Greenland, in commemoration of the noble ladies of the Hermitage Association, of Nashville, who originated 'Jackson Day,' and since Jackson's death have cared for the old home, 'The Hermitage.' At each annual banquet in Nashville by the Association is lighted one of a quantity of candles taken from the tent occupied by Lord Cornwallis at the surrender of Yorktown, in 1781.

"These candles on the death of Washington came into the possession of one of his staff officers, who presented them to

Jackson with the request that they be lighted annually thereafter by General Jackson to commemorate the famous victory at New Orleans. Since the death of Jackson, in 1845, the Hermitage Association has preserved this custom. In commemoration of the custom the speaker also lighted candles on Jackson Day in North Greenland, in 1894.

“Mr. Baldwin referred to another interesting historic association. One of the British soldiers who was wounded at New Orleans by Jackson’s men was a certain John Franklin, who four years later began a career as an Arctic explorer, which terminated with his last voyage and his sad fate in 1845, the very year of Jackson’s death. The little silk badge, from Jackson’s own home, was carried farther north than Sir John Franklin or any of his followers ever went.

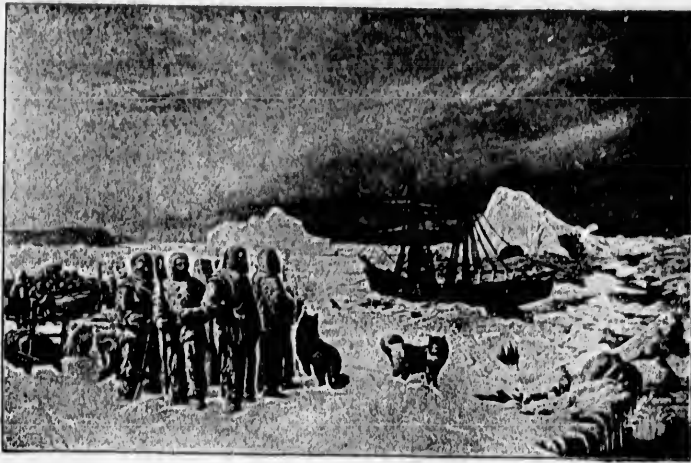
“The speaker closed by presenting to the Hickory Club on behalf of the Ladies’ Hermitage Association, a hickory gavel which had been cut from a tree growing by Jackson’s tomb.

“The gift was a complete surprise, and when it was received by the president the entire company arose to their feet and gave three cheers for Mr. Baldwin, three more for the Ladies’ Hermitage Association and at once sent a telegram to the ladies expressing their patriotic gratitude.”

One of the most memorable meetings of Kane Lodge No. 454 occurred June 4, 1889. Opened in due and ancient form, the prayer was followed by the chanting of the Lord’s Prayer, after which Kane Lodge No. 55, of Newark, New Jersey, was received and introduced as a body.

In the presentation of the visiting brethren the introducing brother, among other things, said: “It has been the peculiar fortune of our two lodges to pay especial regard to the achievements of those noble and daring men who have labored to add somewhat to our knowledge of the ends of the earth. This, our peculiar duty, has always been dear to the heart of every brother of Kane, and as our respective lodges have thus been closely united in the past, so we trust and believe they will ever continue in the future.”

In the response, delivered by one of the visiting brethren,



"FAREWELL."



"THE FAIR AUGUSTA."

the speaker rejoiced in the fact that the two lodges bore the same name, one that is "a constant reminder to noble action," and that the influence of Masonry spreads wherever civilization extends—even from the Arctic to the Southern Sea.

On this occasion the following Arctic explorers were introduced and accorded the hospitalities of the lodge:

Commodore Winfield Scott Schley, United States Navy; Captain John Wall Wilson and Mr. Amos Bonsall, the only two survivors of the Kane Expedition; Engineer-in-Chief George W. Melville, United States Navy; Colonel W. H. Gilder, of the Schwatka Expedition; Sergeants Biederbick and Long, of the "Lady Franklin Bay Expedition," and Messrs. Nindemann, Norcs and Smith.

Just a year previous to this meeting, an artist residing in New York had presented to the lodge, through one of its brethren, a picture of Lockwood and Brainard's "Camp on the Northwest Coast of Greenland, where the Arctic Masonic flag, presented to the Lodge by Brother Greely, was displayed to the chilling blasts of the 'Farthest North.'"

This artist was Mr. Albert Operti, who had meantime become an honored member of Kane Lodge. He was then introduced, and at the conclusion of an interesting address relative to the value of art work commemorative of Polar explorations, presented to the lodge his celebrated historical painting, the subject and description of which is as follows:

"FAREWELL."

OIL PAINTING.

Painted by Brother Albert Operti, under the personal supervision of Brother Captain J. Wall Wilson, late volunteer U. S. N. (survivor of the Second Grinnell Expedition in search of Sir John Franklin, 1853 to 1855.)

The scene represented is at Rensselaer Harbor, Greenland, Sunday, May 20, 1855, when Dr. Kane and companions abandoned the brig "Advance," just after they had removed from

the ship and placed in the bows of the whale-boat "Hope," the figure-head "The Fair Augusta," now in possession of Kane Lodge.

It is a dreary scene which the artist has depicted, and there are suggestions of the dangers as well as the grim monotony of a two years' sojourn in the solitude of the far North. The group of figures seen in the foreground, surrounded by the Eskimo dogs, includes Dr. Kane, Dr. Hayes, Messrs. Wilson, Bon-sall, Sonntag, Ohlsen, and others of the ship's company. The portraits are from photographs. Dr. Kane is looking off towards the brig, seen in the middle distance. The ship's spars and bulwarks are in part cut away, having been used for fire-wood, enough only being left to keep her seaworthy in case the ice should break up.

Beyond is "Fern Rock," with the little observatory in which the astronomical observations were carried on, and the cairn, marking the graves of the two sailors, Shubert and Baker.

To the right is a grounded conical iceberg, from which the party procured fresh water during their two years' imprisonment in Rensselaer Harbor, and in the distance is Cape Leiper. To the left, across the straits, lie Cape Hawkes and Cape Hayes, and floe-bergs and rubble-ice mark the line of the horizon. Floe-bergs are huge masses of ice. Rubble-ice is the broken, irregular piles of ice produced by the contact of one field with another, when in motion, and the destruction and upheaval of the edges of the conflicting floes.

On the ice-floe is the whale boat "Hope," mounted upon its sledge; a number of the crew, assisted by Eskimos, being busy stowing away the last few bags of provisions. The small sledge used by Dr. Kane stands near by. Everywhere is ice in various forms, in delicate and beautiful blues. An Arctic sky, flecked with slender frost feather-clouds, completes the picture. The whole scene is touched by warm sunlight, and all details are carefully worked out, the topography having been taken from government charts, surveys and photographs. The work occupied over a year of labor.

## "THE FAIR AUGUSTA."

Figure-head of the brig "Advance," the last piece of timber removed from the ship when she was abandoned in the ice by Dr. Kane and companions in Rensselaer Harbor, Greenland, latitude 78° 37' north, longitude 70° 41' 6" west, May 20, 1855.

Presented to Kane Lodge No. 454, F. & A. M., by the late Judge J. K. Kane, of Philadelphia, Pennsylvania.

The abandonment of the brig "Advance," as described by Dr. Kane, in "Arctic Explorations," Vol. II., 1856:

"We then went upon deck; the flags were hoisted and hauled down again, and our party walked once or twice around the brig, looking at her timbers and exchanging comments upon the scars, which reminded them of every stage of her dismantling. Our figure-head, 'The Fair Augusta,' the little blue girl with pink cheeks, who had lost her breast by an iceberg, and her nose by a nip off 'Bedevilled Reach,' was taken from our bows and placed aboard the 'Hope.' 'She is at any rate wood,' said the men, when I hesitated about giving them the additional burden, 'and if we cannot carry her far we can burn her.'"

In accepting the painting, Worshipful R. M. Morgan, Master of Kane Lodge, said, in part:

"An ancient author has said: 'The fine arts lose effect when they speak to the mind only, but they triumph when they touch the heart.'

"As you have suggested, it is the province of the artist, as well as of the historian, to deal with the history of the world, to treat with those subjects of human interest and thought, which most deeply engage the attention and stir the minds of men, to record the events that have made their impress on the generations in which they have transpired.

"You have used your skill and genius, wrought into this beautiful painting, to portray an event in the experience of the men who made the memorable struggle of which this



painting marks the beginning of the end; an event that appeals to our sympathy and commands our admiration for the moral strength and physical manhood of which they furnish such striking examples; an event which at the time it occurred moved the heart of the world.

"We honor and revere the character of that true man and Mason, whose virtues deserve the most worthy tribute words can weave, and whose name we, as a Lodge, aid in perpetuating."

Following the acceptance of the gift, numerous short addresses were made. Brief extracts from some of these are as follows:

Brother Captain J. W. Wilson, referring to the retreat from Rensselaer Harbor, said:

"While in Melville Bay, and in dire distress for want of proper food, we saw in the mist what appeared to be two vessels passing to the north, but thought this but the peculiar effect of the mirage so common in northern latitudes. Afterwards, by comparing notes, we found to our astonishment that what we saw must have been in reality the 'Rescue' and 'Arctic.' At this time, had our boats been crushed by the ice, we should have all perished beyond a doubt. Hartstene, on interviewing the Eskimos at Cape Alexander, was made to understand by signs upon the snow, that we had gone south in boats. He turned his ships at once, and fell in with us at Upernavik.

"I now take much pleasure in introducing to you my fellow voyager, Mr. Amos Bonsall, a man of many generous impulses, overflowing with that genial humor so essential to the pleasure of an Arctic voyager."

Mr. Bonsall said: "I was thinking to-day in looking upon this little piece of wood so honored by you gentlemen as a small piece of the little brig that left her bones to bleach upon the Arctic shore, that it might be pleasant to you to remember and to know perhaps how she met with this maiming, which makes her face not so pleasant and so delightful as I have

looked upon it; and I will relate just how that nose happened to come off.

"We were sailing up a line of the coast which was peculiarly treacherous, because it was only giving us throughout the whole range of our sailing about two feet under our keel, about eleven feet of water over what we called 'Bedevilled Reach.' It did bedevil us most unconscionably, and in sailing along that coast with a gale of wind at our back, we had been driven up into an ice-pack and jammed there until I certainly thought our bones would rest there—not only our ship's, but ours—for there seemed to be no possible hope of our escape; but by one of those magical occurrences in those icy regions, the gale subsided and the ice slackened down and let us through. We sailed up to what we called Godsend Island, where we found a pool of water into which we worked ourselves, not much larger than the one you see the other side of the brig as she lies there. There we lay several days in a calm. After awhile came a northerly wind and swept the ice away, and we were enabled, as we had hoped, to work our way up the coast. The vessel was going under sail, and we made our way forward, with the wind directly in our faces, by a series of tacks, of course, very slowly. I was conning the vessel in the afternoon, with a boat out ahead, sounding, so we would not go ashore. While watching the boat and conning the vessel, we had come in contact, or very closely in contact, on the inshore tack, with a piece of heavy floe, and had been compelled to allow the vessel to fall off. We lost our tack by this manoeuvre, and we were, therefore, prevented from making any headway whatever. This confounded piece of ice-floe would get in the way. I had the deck and had twice made tacks, and when we came again into the miserable ice, right at the time we wished to go about, I said, 'Let her go into it. If she knocks a stick out of her the vessel can stand the loss,' and 'The Fair Augusta' lost her nose in consequence.

"I will tell you another anecdote about this little block here. We had an Irishman aboard named Tom Hickey, the

second steward, pretty sturdy, but fiery. Some of our people found Tom in very close contact with 'The Fair Augusta' one morning. Tom was embracing her very affectionately, looking up into her face. Some of the boys twitted him afterwards about hugging the figurehead. 'Be jabbers,' said he, 'it has been six months since I saw the semblance of a woman. She looks like a woman, anyhow, and I don't care if I do put my arms around her.'"

Judge Daly followed, and said:

"Why should we not take an interest in the globe upon which we live—where God has placed us, and endowed us with faculties that enable us to discover everything about it. Should we not carry on the great work that began when the first savage left the rude hut he inhabited to learn something of the unknown regions around him? That grand march of civilization, which has gone on until our day, when we are practically applying the discovery of Franklin as the means of a more extensive inter-communication among the family of mankind, and which will go on, extending our knowledge of the earth, multiplying our enjoyments, increasing our happiness, and making us what God intended we should be—higher, greater and nobler."

Commodore W. S. Schley added:

"There are two sides to this Arctic problem. There is a material side and there is a scientific side. \* \* \* It has been asked—I refer to the material side of this problem—'What is the use of all this loss of life? What is the use of all these expeditions?' It may be said from the material side that millions of square miles of discovered territory have been added to our geography; that the gospel of Christ has been carried into this North land; that the domain of civilization has been extended; that the empire of commerce has been made to penetrate into this polar ocean, which has resulted in adding millions of money to our material possession and circulation. That being the case, it does seem to me that there is some compensation, certainly, for the small loss of life which has attended these expeditions.



HUNTING MUSK-CATTLE.

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"When I say there is a scientific side to this problem, I merely touch upon a mine of undeveloped intellectual wealth. Contributions to natural history, to botany, to mineralogy, to metallurgy, to magnetism, to paleontology, the effect of extreme cold upon animal and vegetable life, and upon the audible range of sounds, are all questions which affect the scientific world. These things are important enough to attract the attention of governments, and I hope will not be overlooked.

"Now, in regard to the loss of life in polar explorations, I have heard it said very often that the loss of life was terrible in these explorations. It may be interesting to know that in all the expeditions that have ever gone into that region, the loss of life in all of them is a little more than 2 $\frac{1}{4}$  per cent of the whole number of people engaged. That is not so great a loss as occurs in our profession in the pursuit of ordinary naval duty in other more favored parts of the world. It bears but an inappreciable proportion to the losses by wreckage alone occurring in one year around the British Isles."

Brother Engineer-in-Chief Melville spoke as follows:

"I came about two hundred forty miles, not to deliver a lecture, not to talk about the hardships of the Arctic or the glories of the Arctic, or the good times we have there, because we do have good times, as you gentlemen have here, but to be present at the presentation of this elegant work of art; and my only regret as I stand before you and the people of the United States to-day, is that a country such as ours is, with a treasury overflowing with wealth, that it cannot put forth its hand, not only to encourage the Arctic explorer, but also the artist who tries to depict to you such a scene as we have here to-night snatched from the ever glorious North."

Brother Colonel Gilder concluded the addresses, adding briefly:

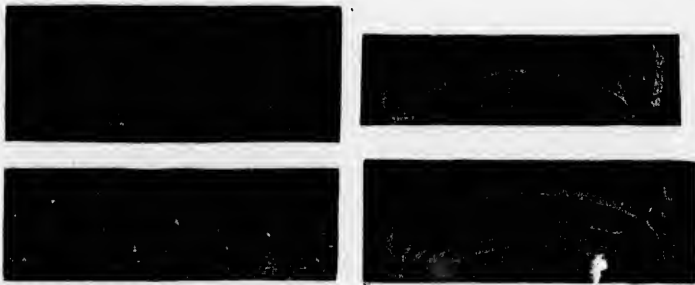
"As long as there is work to be done there (in the North), I think there will always be people to do it, provided they can have the backing of the people at home. There is a good

deal of work to be done there yet in the way of exploration. Expeditions to the North Magnetic Pole are the most important. It is a very hard place to reach. The best kind of work is to be done there."

In the preparation of the foregoing pages and in view of their consecration to polar research we have selected the following paragraph as a working principle and commend it to others:

"KEEPING EVERLASTINGLY AT IT.

"Genius is often only the power of making continuous efforts. The line between failure and success is so fine that we scarcely know when we pass it—so fine that we are often on the line and do not know it. How many a man has thrown up his hands at a time when a little more effort, a little more patience, would have achieved success. As the tide goes clear out, so it comes clear in. In business sometimes prospects may seem darkest when really they are on the turn. A little more persistence, a little more effort, and what seemed hopeless failure may turn to glorious success. There is no failure except in no longer trying. There is no defeat except from within, no really insurmountable barrier save our own inherent weakness of purpose."—[Electrical Review.]



AURORA BOREALISES AS SEEN FROM THE "VEGA."

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