CONQUERING THE ARCTIC ICE

EINAR MIKKELSEN

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CONQUERING THE ARCTIC ICE

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THE "DUCHESS OF BEDFORD" IN MIDWINTER.

CONQUERING THE ARCTIC ICE

BY

EJNAR MIKKELSEN

With numerous Illustrations and Maps.



LONDON
WILLIAM HEINEMANN
1909

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EJNAR MIKKELSEN.



ERNEST DE K. LEFFINGWELL.

PUBLISHER'S NOTE

MR. MIKKELSEN explains in his introduction the origin of the expedition of which his is the faithful record. I wish to add only a word to what he says. Mr. Mikkelsen came to see me in October, 1905, and I was very much struck by his enthusiasm, in fact I may say that I felt for the first time in my life sympathy with that extraordinary impulse which has induced so many men to risk their lives in the investigation of those vague masses of ice that separate us from the Magnetic Pole. I arranged with him to publish any book he might be able to write on the result of his expedition, and advanced him funds towards the cost of the expenses of equipment. The expedition established the fact that no land exists north of Alaska, and if this negative result was not exactly what he or I had hoped for, I realize that the account

of the hardships during his long journey over Arctic ice—which were more acute probably than those of any other Arctic explorer — and his fresh and vivid account of the Alaskan Eskimos make up a narrative of achievement and interest worthy to rank with previous traditions and presentations of earlier expeditions. It is not easy to predict the interest that "yet another" Arctic book will arouse, but I can truthfully say that even if the public are less keenly interested in Mr. Mikkelsen's pages than I have been—a thing I do not in the least anticipate—it will yet be a satisfaction for me to know that I could at a critical moment help this intrepid investigator to carry out his cherished plan. He was fortunate to find in Mr. Leffingwell a helper, who not only found, through his father, the largest share of funds, but who stood by him through thick and thin, and shared with him all the dangers and anxieties.

CONTENTS

CHAP. PAGE

INTRODUCTION 1

Partnership with Mr. Leffingwell—Contributors to the Expedition—Buy a Ship—Refitting of the Ship—Members of the Expedition—The Theory—The Plans.

I. ACROSS THE PACIFIC OCEAN AND BEHRING SEA 19

The Start—Head-winds and Gales—Arrival at Kodiak Island—Aground—Arrival at Dutch Harbour—St. Lawrence Island—Buying Dogs—Storms in Behring Strait—Arrival at Port Clarence—Discontented Crew—Arrival at Point Hope—Sign on New Sailors.

II. PASSAGE THROUGH THE ICE 56

Leave Point Hope—Enter the Ice—Arrive at Icy Cape—Heavy Ice—Beating up along the Coast—Pass the Steamers—Arrive at Point Barrow—Delayed by Ice—The Eskimos—Arrival of the Steamers from the East—Seek shelter in Elson Bay—Captain Cottle offers to tow the vessel through heavy ice—Leave Point Barrow—Decide to go into Winter Quarters—Arrive at Flaxman Island.

III. WINTER QUARTERS 96

Flaxman Island—Eskimos—Preparations for the Winter—A Hunting Excursion—Winter coming—First Sledging—Heavy Gales—More Natives arrive at Winter Quarters—Start with Sledges for Herschel Island—Dr. Howe returns—Sledge Trip on the Koogoora River—Life in an Eskimo House—Dr. Howe goes to the West—Natives Kill many Bears—Mr. Leffingwell returns—Dr. Howe returns—Christmas—Christmas Party for the Natives—Start for Ned's Cabin.

IV. WINTER QUARTERS 140

New Year—Life in Ned's Cabin—Unexpected Delay—Start for the Ship—Lost in a Gale—Return to Ned's Cabin—Arrive

CHAP. PAGE

at the Ship—Buying Dogs—Ship leaking—Small Sledge Trips in the vicinity—Gales—Preparations for the Sledge Trip—Sickness amongst the Natives—Getting ready to start on the Sledge Trip across Beaufort Sea.

V. EQUIPMENT OF A SLEDGE EXPEDITION. . . 159

Saving Weights—Permanent Weights—Sledges—Means of crossing Water—The Sledge Dogs—Their care and driving—Tent—Moisture in the Sleeping Bag—Means of preventing it—Clothing—Furs contra Wool—Food—Comparison between the Food of different Explorers—Malted Milk compared to Pemmican—Outfit taken on the Sledge Expedition.

VI. THE VOYAGE OVER THE PACK ICE 188

The Start—Open Lanes—Rubble Ice—Forced to return—Second Start—Continued Bad Weather—Fail off Cross Island—Succeed off Midway Island—Thin Ice—Lanes—Get on Old Ice—Cross forming Pressure-ridges—Hot Lunch—Dog dies—Hard going—Deep Water—Current—Other Dog dies—Stopped by Open Water—Return towards Land—Foggy Weather—Life on the Icefields.

VII. THE JOURNEY OVER THE PACK ICE. . . . 229

Storms on the Ice—Strong drift—Camping—Sledges breaking down—Kill Dogs for feed—Crossing Pressure-ridges—Discussion on the drift—Finding the edge of the Continental Shelf—Open Water—Shooting Seals—The Raft—Slow progress—Rubble Ice—Trying to regain Land—Bad weather and strong drift—Crossing lanes on slush ice—Hunting Bear—Reach the solid landfloe—The Lagoon—Eskimos—Arrive at the Ship.

VIII. AT FLAXMAN ISLAND IN SUMMER 278

The Ship leaking badly—Building a House ashore—Abandoning the Vessel—Mr. Stefansson—Native Dances—Spring—Arrangement of the Camp—Spring Hunting—Crew discontented—Preparations to send them Home—Start for Point Barrow—Meet Natives—Storkersen wounds himself—Return to Flaxman Island—Waiting for the Steamers to come—The first Steamer arrives—Leave for Herschel Island.

CHAP. PAGE

IX. ON HERSCHEL ISLAND AND FLAXMAN ISLAND . 309

Herschel Island—The Whaler's influence on the Natives—Catching White Whales or Seal—The Natives—Their life—Departure from the Island—Storkersen left—Sick Natives—Start for Hula-Hula River—Meet Ned and his outfit—Axel Anderson—Return to Flaxman Island—Decide to leave for Civilization—Make preparations—Farewell Festival.

X. THE SLEDGE TRIP FROM FLAXMAN ISLAND TO ICY CAPE 334

The Start—Good-bye to Mr. Leffingwell—Gales—Crossing Harrison's Bay—Lost on the Ice—Arrive at a Native Village—Reach Elson Bay—Arrive at Point Barrow—The Whaling Industry—The Natives—The Missionary—The School Teachers—Leave Point Barrow—Natives on the trail—Wainwright Inlet—Natives writing Letters—Hard travelling alone—Icy Cape.

XI. FROM ICY CAPE BACK TO CIVILIZATION . . 363

Leave Icy Cape—Sledge breaks down—Meet Natives—Travel with them—Arrive at Cape Lisburne—A Blizzard—Hard travelling to reach Point Hope—The Missionary—The Natives—Leave Point Hope—Keevalina—Kotzebue Mission—Dogs giving out—Arrive at Candle—Civilization again.

XII. FROM CANDLE TO FORT GIBBON 383

Leave Candle—Crossing Seward Peninsula—Extreme Cold Weather—Counsil—Nome—Leave Nome—A Blizzard—Crossing Norton Bay—Caught by the rising Water—Telegraph Stations—Kaltag—The Yukon—Over Nulato Portage—Stormy Weather on the River—Trading Stations on the Yukon—Fort Gibbon.

XIII. CONCLUSION 408

Leave for Fairbanks—Stage-driving—Mining Camps—Hotsprings—Fairbanks—Start for Valdez—Strike-breakers—Warm Weather—A Blizzard—Stay in a Road-house—Through the Keystone Cañon—Arrive at Valdez—Leave Alaska.

PAGE

APPENDIX I. 437

APPENDIX II. 441

APPENDIX III. 451

INDEX 457

LIST OF ILLUSTRATIONS

PAGE

THE "DUCHESS OF BEDFORD" IN MIDWINTER . . *Frontispiece*
EJNAR MIKKELSEN AND ERNEST DE K. LEFFINGWELL vii
"DUCHESS OF BEDFORD" AT VICTORIA, B.C. 7
AFTER THE CHRISTENING OF THE VESSEL 8
EJNAR DITLEVSEN 9
DR. GEORGE P. HOWE, M.D. 10
STORKERSEN 11
THUESEN AND DR. HOWE 12
WILLIAM HICKY 13
MAX FIEDLER 14
JOE CARROL 15
"DUCHESS OF BEDFORD" LEAVING ESQUIMALT 20
THE NATIVE CAMP ON KODIAK ISLAND 27
UNALASKA 33
A NATIVE HOUSE ON ST. LAWRENCE ISLAND WITH WHALE-JAWS USED AS SUPPORT FOR FISH-DRYING FRAMES 35
NATIVES ON ST. LAWRENCE ISLAND 41
S.S. "WILLIAM BAILIS" 45
WORKING ON THE QUARTERDECK IN PORT CLARENCE 46
A UMIAK CAME OUT TO US 47
BEACH SCENE AT POINT HOPE 49
NATIVES AND SUMMER TENT AT POINT HOPE 51
TRADING STEAMER IN THE ICE 58
MR. F. F. FELLOWS COMING ON BOARD 59
MR. HOBSON WITH HIS HALF-BRED CHILDREN, AND MR. LEFFINGWELL 70
ESKIMOS. UXRA AND UJARAJAK 74
ESKIMO CHILDREN 75
IGLOOROOK 76
"DUCHESS OF BEDFORD" OUTSIDE POINT BARROW 77
NATIVE HOUSES AT POINT BARROW 79
SEVERAL TONS OF DOG-FEED ALONGSIDE THE VESSEL . . . 84
UMIAK AND KAYAK IN OPEN WATER 86
S.S. "BELVEDERE" TOWING THE "DUCHESS OF BEDFORD" . . 88

PAGE

SACHAWACHICK OUTSIDE HIS IGLOO IN SUMMERTIME. AN ESKIMO HOUSE 96
TULLIK AND UXRA AND THEIR ADOPTED CHILD 97
TULLIK WITH NAGOOROK 98
UXRA'S TENT 103
TRAVELLING ALONG LAND 105
MR. STORKERSEN GOING ASHORE IN A RAFT TO FETCH THE BOATS GONE ADRIFT DURING A GALE 106
MR. LEFFINGWELL STARTS FOR HERSCHEL ISLAND 109
SACHAWACHICK 112
DOUGLAMANA 113
DOUGLAMANA AND TJIMIGOK 114
DOUGLAMANA WITH HER CHILDREN INSIDE THEIR IGLOO . . . 115
THE "DUCHESS OF BEDFORD" IN WINTER QUARTERS . . . 116
NANEGERAK AND KREESEEK 120
LUNCHING ON THE KOOGOORA RIVER 121
TAKLOOKSRAK AND HIS WIFE 122
TOPSIA AND KREESEEK 125
NATIVE CHILDREN 126
THE OLDEST COUPLE—SUKAREINNA AND UJARAK 127
KANARA 129
TJIMIGAK AND KRAJOOTAK 130
"DUCHESS OF BEDFORD" FROZEN IN THE ICE, AUTUMN, 1906 . . 132
"WENY" AND "UNIMACK" 139
EKAJUAK 141
NED'S BABY CHILDREN 142
ESKIMO WITH TEAM RETURNING TO THE SHIP 146
"KAMALOOK" 147
TREACHEROUS SNOW 149
FEEDING DOGS ALONGSIDE THE "DUCHESS OF BEDFORD" . . 150
CROPCANA 151
MR. LEFFINGWELL, MR. MIKKELSEN, AND DR. HOWE IN THE LATER PART OF FEBRUARY 157
OUR CACHÉ ASHORE AT THE END OF FEBRUARY 158
THE "DUCHESS OF BEDFORD" AS WE LEFT HER 160
OUR TENT ON THE ICE TRIP 171
SHOWING THE WIND-BREAK IN FRONT OF OUR TENT 173
"PUYARK" AND AN ESKIMO 184
A REST 187
THE SLEDGES LOADED AND READY TO START 188

PAGE

WE FOUND OLD ICE 189
ON SALTY ICE 190
A REST ON THE ICE 192
THE ICE WAS BROKEN UP INTO SMALL PIECES 193
A HIGH PRESSURE-RIDGE 194
OUR TENT AFTER THE GALE 197
TENT AND SLEDGES BURIED UNDER A HEAP OF SNOW . . . 201
OVER OLDER ICE 202
PILED UP IN IMMENSE PRESSURE-RIDGES 203
CAMPED NEAR A PRESSURE-RIDGE 205
"HOT" LUNCH 209
ENTERING A BELT OF HEAVY RUBBLE ICE 213
WE CAMPED ON THIS VERY HEAVY ICE 215
TAKING A SOUNDING THROUGH THE ICE 217
HEAVY OLD ICE 219
WE CAMPED ON ACCOUNT OF OPEN WATER 222
CROSSING A RIDGE 225
DOGS FALLEN INTO A CRACK 228
DOGS WAITING TO BE FED 231
DRYING OUR SLEEPING BAGS ON THE TENT 232
LOOKING FOR PASSABLE ICE 234
A PRESSURE-RIDGE BEFORE LEVELLING DOWN 236
THE SAME PRESSURE-RIDGE LEVELLED DOWN BEFORE TAKING THE SLEDGES OVER 237
CURING "MACK" OF HIS FEAR OF THE WATER 238
THE HUMMOCKS BEING THIRTY FEET HIGH AT THE VERY EDGE . 239
CRACKED UP IN DEEP AND RATHER WIDE FISSURES 241
TAKING A SLEDGE OVER A PRESSURE-RIDGE 247
RUGGED ICE 249
KNEELING DOWN AT THE BOW OF THE RAFT I BROKE THE ICE WITH A SHOVEL 251
STORKER STORKERSEN 253
SOFT DEEP SNOW BETWEEN THE RUBBLE 254
CROSSING A RIDGE 257
LEFFINGWELL TAKES AN OBSERVATION ON THE PACK ICE . . . 261
THE HIGHEST PRESSURE-RIDGE WE HAVE SEEN YET 262
A PIECE OF ICE ABOUT TWELVE FEET THICK HAD BEEN CRUSHED UPON A LOT OF RUBBLE 265
WE TRAVELLED OVER HEAVY ICE 267
HIGH UP ON THE SHORE THEY HAD BUILT A HOUSE 277

PAGE

OUR CAMP ASHORE 279
SACHAWACHICK AND UXRA 280
ON THE DECK WERE LARGE DRIFTS OF SNOW 284
DOGS TRYING TO FIND A DRY PLACE TO SLEEP IN 285
BREAKING UP THE "DUCHESS OF BEDFORD" 286
THE MUSICIANS 287
DANCING NATIVES 288
A HUNTING PARTY IN THE SPRING 289
THREE MEN AND TWO WOMEN DANCING 290
BANKING UP THE HOUSE WITH EARTH 291
FROM FLAXMAN ISLAND 293
DR. HOWE AND STEFANSSON 294
PETERALEGOOK AND HIS BOYS 295
PETERALEGOOK'S SONS 296
MET PETERALEGOOK WITH HIS FAMILY 297
AN OLD GRAVE 299
THE BEACH ON FLAXMAN ISLAND 301
ESKIMO TENT AND CACHÉ ON FLAXMAN ISLAND 302
ESKIMO'S ARRIVAL FROM POINT BARROW 303
DIGGING FOR ETHNOGRAPHICAL SPECIMENS 304
FROM THE MAST BEHIND THE HOUSE ON FLAXMAN ISLAND . . 305
S.S. "HERMAN" DISCHARGING STORES OFF FLAXMAN ISLAND . . 306
INVESTIGATING AN ESKIMO GRAVE ON FLAXMAN ISLAND . . . 307
GENERAL VIEW OF HERSCHEL ISLAND 309
ESKIMO WOMAN WITH CHILD ON HER BACK 310
AN OLD WOMAN WITH HER SON 311
NATIVE WOMAN CLEANING A SEAL-SKIN 312
ESKIMO CAMP ON HERSCHEL ISLAND 313
NATIVE WHALEBOAT RETURNED FROM A SUCCESSFUL CHASE OF WHITE WHALE 314
PURSUING SEAL IN A KAYAK 316
HIPANA 322
ESKIMO WOMEN PLUCKING BIRDS OUTSIDE OUR HOUSE . . . 324
NATIVE WOMEN SCRAPING SKINS 326
ESKIMOS ON A SUNNY SLOPE OUTSIDE OUR HOUSE 329
ESKIMO GRAVES 333
OUR HOUSE AND CACHÉ AS I LEFT IT ON OCTOBER 15, 1907 . . 334
GROUNDED ICE OFF PITT POINT 345
NATIVE HOUSES NEAR PITT POINT 346
NATIVE HOUSES AT POINT BARROW 349

PAGE

SCHOOL CHILDREN AT POINT BARROW 351
A PAGE OF LITTLE SHOODLAK'S DIARY 356
HOMEWARD BOUND 361
THE "BLOSSOM" MISSION AND SCHOOL AT KEGERTAVROOK . . 377
KEGERTAVROOK 379
I SAW THE SUN 383
OUR TEAM WINDING ITS WAY OVER A PORTAGE 385
CARSON'S ROAD-HOUSE 389
IN NORTON BAY 391
A LAKE . . . FRINGED WITH BEAUTIFUL, GRACEFUL BIRCH TREES . 393
MR. ADAMS WITH OUR TEAM ON THE YUKON RIVER 397
THE TRAIL OVER A PORTAGE 399
NEAR KOKRINES 402
KOKRINES TELEGRAPH STATION 403
LARGE BLOTCHES OF SNOW HUNG ALL OVER THE TRUNKS AND BRANCHES 404
NATIVE CAMP ON THE YUKON 405
TYPICAL VIEW ON THE YUKON 406
HORSE STAGE ON FISH LAKE 408
LAKE, FIFTEEN MILES SOUTH FROM FORT GIBBON 409
SULLIVAN CREEK ROAD-HOUSE AND HOTEL 410
MR. MANLEY'S LARGE HOTEL 411
THE HOTSPRINGS DISTRICT IN SUMMERTIME 412
VIEW EASTWARD FROM THE HILLS NORTH OF HOTSPRINGS . . 413
STRAIGHT AND BARE TRUNKS 414
A HORSE BREAKING THROUGH THE ICE ON THE DELTA RIVER . . 415
A GENERAL VIEW OF THE ALASKAN RANGE 416
THE ALASKAN RANGE AND AN ALASKAN MAIL-BOX 417
"OUR HOME" (A ROAD-HOUSE) 419
WATERING HORSES ON THE TRAIL 420
A "HORSE-STABLE" ON THE TRAIL 421
TRAIL NEAR "OUR HOME" ROAD-HOUSE AFTER THE HEAVY SNOWFALL 423
A VIEW OF THE UPPER COPPER RIVER 424
MOUNT DRUM SEEN FROM COPPER-CENTRE ROAD-HOUSE . . . 425
ON THE TOP OF THOMPSON'S PASS 426
VALDEZ SEEN FROM THE SEA 427
"HOTEL" BELOW THOMPSON'S PASS 428
A RAILROAD BRIDGE AT CARDOVA (NEAR VALDEZ) 429
STAGE ARRIVING AT VALDEZ 430
HEADING SOUTH FROM VALDEZ 431

PAGE

A FROZEN WATERFALL IN KEYSTONE CAÑON 432
MOUNTAINS IN "THE NARROWS," TEN MILES SOUTH OF VALDEZ . 433
ENTRANCE TO KEYSTONE CAÑON 434
ON THE TRAIL 435

MAPS

MAP . . . . . *To face p.* 254
MAP SHOWING THE ROUTE OF THE EXPEDITION . . . ,, 436
CURVE SHOWING THE SOUNDINGS ON THE EDGE OF THE CONTINENTAL SHELF . . . . . ,, 439

INTRODUCTION.

Partnership with Mr. Leffingwell—Contributors to the Expedition—Buy a Ship—Refitting of the Ship—Members of the Expedition—The Theory—The Plans.

In making arrangements for the Anglo-American Polar Expedition, of which Ernest de Koven Leffingwell and myself were to be joint commanders, it was agreed that the official narrative of the expedition should be written by me, while to him should be assigned the scientific reports.

It was in the spring of 1901 that I met Mr. Leffingwell as a fellow member of the first Baldwin-Ziegler Expedition. Though in temperament we were not at all alike, we found each other congenial, and there grew up between us a friendship which was tested and strengthened by the perils and hardships of Arctic adventure which we shared. During the long winter in Franz Joseph Land we were always together, and came to know and appreciate each other. On the *America* we occupied the same cabin, on the sledge trips we toiled and trailed together and slept in the same sleeping bag. Our comrades often spoke of us as "the Siamese Twins!"

Young and enthusiastic, we were entirely devoted to our work, and made up our minds that we would organize an expedition later on, with ourselves as joint commanders.

The Baldwin Expedition returned, and, in spite of its failure, in spite of the many disagreeable hours which were still fresh in our memories, we were nevertheless determined to take up any Arctic project which promised sufficient results, scientific and otherwise, to justify the work, the money and the time that we should be forced to expend upon it.

Years went by. Mr. Leffingwell and myself conceived many promising plans, but the money to carry out our plans, which we in our youthful enthusiasm had thought so easy to get, was still wanting, and the prospects of our return to the Arctic seemed farther and farther removed whenever we tried to raise funds for our enterprise.

In the summer of 1905, while on the river Gambia, on the west coast of Africa, I received a letter from Mr. Leffingwell, in which he told me that his father had promised him the sum of $5,000 to use for an Arctic expedition. He asked me to raise the same amount, as we thought that would be enough to carry out our project of exploring some part of the Beaufort Sea—the only place in the Arctic where travellers with limited means could hope to do interesting work. As soon as I came to Copenhagen, I left my ship and started in earnest to raise the amount of money which would be my share.

Sir Clements Markham was in Copenhagen at the time, and, knowing his readiness to help young explorers, I went to him, and we talked the project over. He thought well of it and advised me to go to London, as I might possibly be able to collect funds there.

In the beginning of October the first contribution toward the enterprise was secured from a Dane, Mr. Carl Aller, editor and proprietor of the weekly paper *Familiejournalen*. After that I went to England. Everywhere I was kindly received, especially by Dr. Scott-Keltie, also by several others who were interested in geographical matters.

But the days ran into weeks, and I had not yet met the multi-millionaire interested in Arctic research whom I had expected to find so easily.

At last, however, after many days, when I was almost despairing of success, fortune changed, and towards the end of October I thought that the thing was practically settled. Through my friend Mr. Chr. A. Bang I came in contact with the Publisher Mr. William Heinemann, to whom I proposed to sell the forthcoming narrative of the contemplated expedition. However, I had to return to Denmark with a half-promise from the Royal Geographical Society, Mr. Heinemann, and a third party, but I had hardly returned when I got a cable from the above-mentioned third party, in which he told me that something had happened preventing him from giving the amount he shortly before had thought himself able to promise.

This was a blow to our plans and prospects, but I had yet the Royal Geographical Society and Mr. Heinemann to build on, and I at once commenced to work in new channels.

A wish to obtain some photographs of musk oxen had led to

a correspondence with her Grace the Duchess of Bedford, and, when I failed to secure the money I had counted on, I wrote to her, explaining my troubles and asking her to support the expedition. The answer was very gratifying and came by return of post, accompanied by a cheque. I was highly pleased with the result, for if the Royal Geographical Society gave me the support of which I had reasonable hope and the negotiations with Mr. Heinemann were brought to a successful issue, I would have my share of the amount required for the expedition projected by Mr. Leffingwell and myself. In December I got a letter from Dr. Scott-Keltie, in which he told me that the Council of the Royal Geographical Society had finally agreed to grant us the amount they had half promised before, and after Christmas I received a contract from Mr. Heinemann, the signing of which meant a considerable sum towards carrying out our enterprise.

Preparations were now in full swing; sledges were being built by Hagen & Co., Christiania, furs were made by C. C. Möller in Drammen, and special sledge provision was manufactured by Beauvais in Copenhagen. These provisions later on turned out to be excellent, and great care had been taken in preparing and packing everything.

In the beginning of February I came over to America, and was met by a piece of news which was likely to affect our plans. The whalers on which we had relied for carrying our food were, with one exception, frozen up in the ice at Herschel Island and Cape Bathurst. The only whaler going north, S.S. *William Bailis,* was loaded to the trucks with provision and gear for its comrades, and could not possibly carry anything more. A supply ship had also been chartered by the different firms whose ships were laid up in the Arctic, but neither there nor anywhere else was there any possibility of getting provisions transported: everything was full.

This meant that we had to get a vessel of our own, an expense far beyond our means at that moment; but I started to look for further assistance, and through Dr. Cyrus A. Adams, who had shown the greatest interest in the enterprise, I succeeded in getting the American Geographical Society to support the plans and to make a large grant.

On February 25 I arrived in Chicago, where I met Mr.

Leffingwell. We talked the prospects over and made an agreement that we should jointly command the expedition as a whole, while remaining severally responsible for special departments of it. Mr. Leffingwell was to undertake the scientific research, and I was to have charge of all the movements of the expedition, etc.; no important question, not even in our special departments, was to be settled except by mutual consent. In case we should disagree on any point the vote of our messmates would be binding upon either of us.

Mr. Leffingwell and myself went through our one year and a half without having to resort to the vote of our messmates, and throughout pecuniary troubles, throughout the dangers of the winter and the hardships of the trail over the pack ice, and indeed, until I took my leave, Mr. Leffingwell remained to me the friend I knew from the Baldwin Expedition, who was willing to pay the greatest consideration to all my proposals. I think I can safely say that we could have gone through one more winter and come out even better friends than we went in. The money which he placed at my disposal was the real beginning of the expedition, as it became a foundation for further contributions, and I am very doubtful whether I should have met with the same success in raising the remaining amount if I had not had Mr. Leffingwell's $5,000 to begin with.

We left Chicago together and went out west, he to finish some geological work on Lake Chelan, and I to select a vessel. Before he returned east again, he came to Victoria, B.C., where I had now come in my search for a ship, to look at a vessel which I had found there, and which I thought would do for our enterprise. It was a small schooner, and, as far as I could find out, strong and sound. When Mr. Leffingwell and I had agreed on the business in Victoria, he went back to Chicago to finish some scientific work he had in hand there, and to buy instruments, arms, ammunition, and photographic outfit. As soon as he could he returned to Victoria to help me with the outfitting.

We bought the ship at a price of $2,600. However, that was considerably more than we had expected to give, and before long it was only too evident that we must raise more money.

Some friends in New York, Mr. and Mrs. Carl Mathiasen

and Mr. and Mrs. Feary, kindly gave substantial contribution when I explained our trouble, and Dr. R. A. Harris, of Washington, the man who had revived the old theories—and added new ones to them—regarding land in Beaufort Sea, helped us with good advice as well as with pecuniary support.

The Hon. Walter Rothschild answered a letter with a telegraphic money order, and both the Royal Geographical Society and the American Geographical Society gave additional grants.

But even these were inadequate for our purpose, and when further assistance was needed Lord Strathcona came forward, and so did the Canadian Government, from which, through the Hon. W. Templeman, we received a considerable grant. At the same time, Danes in Seattle, Mr. Lehman, Consul Jacobson, Messrs. Thompson and Hansen, and the Scandinavian-American Bank collected an additional amount, and the day before our departure we were also helped by my friend Mr. Bang.

On the eve of our departure I had to deliver a lecture in the City Hall in Victoria to raise a sufficient sum to pay our debts. Contributors in Victoria were Sir Henry Joli de Lobinierre, Mr. Dunsmuir, Mr. Holmes, Mr. Holland, Mr. Nantes, Mr. Chrease, and Mr. Campbell (drug store owner). Mr. Leffingwell also came forward and gave a large additional contribution beyond his original amount, and when we left we hoped that all financial troubles were over.

Some few days before we left Victoria the Rev. Mr. Campbell came down to the ship with his little daughter, a dear little girl aged nine. She handed me an envelope, and imagine my surprise when I saw that it contained a $5 gold piece, her savings for almost a year, and a letter in which she asked me to receive the contribution, telling me that she was not at all sorry to give it, and hoped that we could buy some clothing with it and thereby keep warm during the terrible cold in the Arctic.

However, the money did not go to buy clothing; I kept the small piece of gold as a proof of the interest our enterprise had aroused, and—why not admit it?—as a charm to bring luck. Not till many months later, on my long march southward, was I obliged to use the money to buy food for myself and for my starving dogs, which I should otherwise have had to go without, and my thoughts went back to Victoria and to a little figure in a white dress, fondling her doll in the burning sunlight, and

offering her year's savings to a party of men who were going out to penetrate into the unknown, to fight against the dangers and cold of the Arctic.

Besides money we received several other tokens of interest and assistance. Her Grace the Duchess of Bedford gave me a valuable pocket chronometer; the Waltham Watch Company gave us seven splendid watches; the Burroughs Wellcome Company, London, a very complete medicine chest and a photographic outfit; Mr. Leffingwell's brother, ten cases of lemons; Mr. Lehman, 160 sacks of cornmeal for dog feed; the Horlick's Malted Milk Company, 1,100 lbs. of their splendid milk products; and the Ziegler Estate Company, some dog harness and clothing.

A lady, Miss Hughes, had heard that I had no tobacco for myself, and, in fact, could not afford to buy any; the last day before our departure her brother came and gave me tobacco enough for two years. My joy at receiving this gift was great, and many a time later, while on board ship or in winter quarters, I thought of the giver's kind thoughts and sympathy.

All the different societies and people whom I have mentioned above gave their contributions out of kindness and interest in Arctic work, but great was my sorrow when I had to call on some of them a year and a half later to pay liabilities incurred by the expedition. The knowledge that they might look upon themselves as morally bound to give considerably more in addition to their first and ample contributions caused me many bitter hours on my sledge trip home, but so much the greater was my joy and satisfaction when I found out that they had not only paid, but regarded the difficulty in the same light as myself—as an accident unavoidable under the circumstances.

In order to pay the crew we had made arrangements with five men in Victoria, B.C., to buy the ship on our return for an amount large enough to cover their wages. However, this arrangement was frustrated by the loss of our ship, and thus it came to pass that we again had to ask our former supporters for assistance to pay the wages of the crew. Dr. Leffingwell, her Grace the Duchess of Bedford, the Royal Geographical Society, and the American Geographical Society kindly covered everything, and when I came back to civilization the

expedition had no other debts than those which I had been forced to contract in order to return from the Arctic.

Many people showed us kindness, and foremost among them Captain Hamlet, U.S.R.C.S., who, as well in the Arctic as in civilization, was more helpful to us than any one. The Danish Consul-General in New York, Mr. Clan, helped me likewise in



"DUCHESS OF BEDFORD" AT VICTORIA, B.C.

many ways, and without his kind assistance things would not have been easy for me in America. He received the shipments and forwarded them, he paid bills, and attended to all my business in the East while I was in Victoria. The Royal North-West Mounted Police at Herschel Island were kind and helpful, and so was Mr. Brawer at Point Barrow, as well as the captains of the whaling vessels.

I must mention the school teachers and missionaries along the coast, the people in Nome and along the trail to Fort Gibbon, where I stayed for ten days as the guest of Captain and Mrs. Clifton, in Fairbanks, and Valdez. To enumerate all my kind friends would be impossible, but even if their names are not

mentioned, their kindness to us during the expedition and to myself personally on the trail will always remain among my pleasant memories, to which I look back with nothing but the most profound gratitude.

The ship which we bought was called the *Beatrice*, was built in Japan in 1877, and in spite of its age it was a very



AFTER THE CHRISTENING OF THE VESSEL.

strong vessel. It was small, only of 55·86 gross tonnage, the length was 65 feet, its beam 20 feet, and depth of hold 7½ feet.

To honour the Duchess of Bedford, who, after Mr. Leffingwell, had been the first contributor to the expedition, and who also had been kind to us in other ways, I asked for permission to give the ship her name. Her Grace consented to this, as well as to become the formal owner of the ship, as we could not sail an English vessel under the American flag any more than we could stand as the owners of an English ship.

Our little craft had to be refitted entirely, and I set some carpenters and sailors to work on board. All the interior fittings were taken out, and the ship was thoroughly overhauled

as well inside as outside. New cabins and a new forecastle were built, the sky-lights were extended, and a sheeting of hard wood was placed from 2 feet above to 3 feet below the water line. The rigging was likewise completely overhauled under the able supervision of Captain Buckholz, and on the 10th of May the ship was renamed by Mrs. Nantes in the presence of the members of the Provincial Government and many others. We were all very well pleased with the vessel, which, however, had one drawback—the absolute want of any mechanical means of progress, as the instalment of a motor was too expensive. We thought that we could manage without it, but many times afterwards I was sorry that we had no motor or motor boat.



EJNAR DITLEVSEN.

On May 11 we commenced to take in coals and supplies. It was a tight fit, but we managed to get everything down below deck which might be hurt by exposure to rain, etc., and on May 21 we were ready for sea.

The expenses of the expedition had risen considerably above our calculations and amounted in all to $26,400, including the wages paid to the crew on their return, of which Mr. Leffingwell contributed $10,000.

This additional expenditure was due to the fact that we were forced to provide a ship of our own, and also to take a larger number of men than at first intended, men who were to have wages as well as to be fed and clothed. We were in all nine members of the expedition.

Mr. Ernest de K. Leffingwell, my friend and joint commander, had charge of the scientific work in general, but, being a trained geologist, he devoted much of his time to geological researches. He took numerous astronomical observations at our winter quarters and surveyed large tracts of the coast as well as

hitherto unexplored mountains. Mr. Leffingwell was born in Knoxville, Ill., in 1876, and was educated there. He then came to Chicago, where he studied mathematics and physics at the University. In 1901 he was a member of the Baldwin-Ziegler Polar Expedition, and on his return began the study of geology, on which subject he has done much work, especially in the State of Washington. For a short time he was superintendent of a boys' school, but eventually devoted himself to the more attractive occupation of geological fieldwork, and in 1906 we started together.



DR. GEORGE P. HOWE, M.D.

Mr. Ejnar Ditlevsen, zoologist and artist, my only compatriot on board the *Duchess of Bedford*, was a highly valued member of our little company.

He was born in Denmark in 1869, and passed through the high school, but his artistic tendencies soon induced him to conclude his studies, and he went through the art school in Copenhagen. He was chiefly interested in animals, and took courses in zoology. He had travelled much for the purpose of studying animals in their natural surroundings, and in 1900 he was a member of the Amdrup Expedition to the east coast of Greenland, where I met him. Since that time and until he joined the present expedition he was inspector at a technical school, which position he sacrificed in order to join the expedition.

Unfortunately he became ill, as will be seen in the following pages, and had to be sent home, leaving an empty place in our mess, while the serious nature of his illness caused us much anxiety as to the final outcome.

Dr. George P. Howe, M.D., was born in Boston, U.S.A., in 1879, and educated at St. Paul's School. He graduated at Harvard College in 1900 and at the Harvard Medical School in 1904. He then served two years in the Boston City Hospital

as house surgeon. He left the hospital to join the expedition. Dr. Howe was a good comrade, and we were very glad that we had been able to secure him for our party. He did us many a good turn, and now and then, when things were particularly hard, came forward with not inconsiderable loans. As a doctor we had, luckily, not much use for him, but he had quite a practice among the Eskimos, who thought him the best man who ever came their way, and his drastic but effectual cures gave him a great name throughout the country. His good humour and equable temperament helped to cheer many dreary hours. Some results of his experience will be found in the appendix from his pen.



STORKERSEN.

Mr. Vilhjalmr Stefansson was the son of Icelandic parents, but was born in Winnipeg, Canada. During his childhood his parents moved to North Dakota, and he graduated at the State University there. Afterwards he studied at Harvard College and became an instructor in anthropology. He was twenty-eight years old when he joined the expedition.

Mr. Stefansson joined us as an ethnologist, but as he wanted to make some ethnographical investigations along the Mackenzie River, he went that way to meet us at Herschel Island. Owing to the unusually difficult ice that year we were not able to go as far as we had intended, and Mr. Stefansson consequently lived with the Eskimos, on Eskimo fare and in Eskimo fashion.

He collected some valuable ethnographical data, and afterwards, in the spring of 1907, he came down to our winter quarters by sledge, where he dug out many interesting Eskimo remains.

As will be seen later on, the original crew was partly replaced at Port Clarence and Point Hope. The mate, *Mr. Edwards*, was discharged at the former place on account of illness contracted while sailing in the tropics. *J. Parker*, a young Englishman, was liked by everybody, but he joined the cook in a refusal to proceed, and both were discharged at Point Hope.

Mr. Edwards's place as mate was taken by *Storker Storkersen*, who joined the expedition a few hours before we left Victoria. He came on board as a sailor, but his good qualities soon made him liked by every one, and when the mate's place fell vacant he was promoted to it. He performed his work to our great satisfaction and was with us on the ice trip in the spring of 1907. We were very glad to have him, and I never had any reason to complain of him, until he left us in the summer without permission and in spite of the contract which he had signed shortly after the first ice trip. Although I was both angry and sorry at the time to see my plans frustrated, I cannot but admit that his action was perhaps justifiable from his point of view. It is much to ask of a man to risk his life for the attainment of a goal in which he has no interest whatsoever. He went back to Flaxman Island in the spring of 1908 at the request of Dr. Leffingwell, to help his son in the geological and geographical work which he intends to carry on during the summer and winter of 1908–9. Storkersen was, when he joined the expedition, only twenty-three years of age, was born in Tromsö, Norway, and had been to sea since his childhood.



THUESEN AND DR. HOWE.

Christopher Thuesen, twenty-seven years of age, was likewise a Norwegian by birth, and, being an expert with the blacksmith's hammer, the carpenter's axe, and the sewing machine, he was a highly useful man to take on an expedition. He had been with Mr. Leffingwell and myself on the Baldwin-Ziegler Expedition and had consequently some experience of Arctic work.

William Hicky, a Scotchman, twenty-two years of age, and *Max Fiedler*, a German of twenty-one, joined us at Point Hope as volunteers from the Revenue cutter *Thetis*. They were fine fellows, good sailors, and pleasant men; the only difficulty

which we had with them, and indeed with most of the others, was their home-sickness.

Joe Carrol, an old whaling sailor, was picked up off Point Barrow, and made an excellent cook, in which capacity he was engaged after he had done service on deck for a couple of weeks.

The crew was rather small, but the financial resources of the expedition were so limited that we dared not engage more men.

The purpose of the expedition was to explore the Beaufort Sea and settle the question as to the existence or non-existence of land north of Alaska. Many geographers believed in the existence of land, but they were hotly opposed by others who maintained that the edge of the Continental Shelf was not far from the American mainland.



WILLIAM HICKY.

The theory that land existed north of Alaska has been mooted for many years, and as far back as 1854 an attempt was made to solve the mysteries of Beaufort Sea by a sledge trip over the ice. It was Captain Collingson who wintered in Camden Bay from 1853-54 and started in the spring on a sledge trip across the ice. However, the ice was so bad that he could do nothing, and with his men disabled he returned to the ship after an absence of only two days.

The reason why former explorers thought that there might be land north of Alaska was that the ice was always found close in shore and of an exceptionally old and heavy kind. The ice which is a characteristic feature of Beaufort Sea is indeed so heavy and old that it is hard to explain how ice of so formidable a size can be formed in an open Polar sea where the ice is continually drifting out and getting renewed.

The heaviness of the ice was accounted for by the supposed

existence of a tract of land to the north of Alaska which prevented the ice from drifting away, and would to a certain extent explain why it would always be found close to the coast of Alaska.

The fact that large flocks of ducks and geese were reported to fly northwards from Point Barrow for the breeding season gave further strength to the theories of existing land, and this was also corroborated by Eskimo legends. The people of Point Barrow told of a man who had walked across the ice and had returned some time later with accounts of a wonderful land far away to the north, inhabited by Eskimos who spoke his own language. Other Eskimos have been drifted away on the ice, and they are mostly thought to have found their way to the unknown land, while others again claim to have seen it; so that these people have no doubt concerning the existence of land to the north of them.



MAX FIEDLER.

Writers like Serah Osborn and Sir Clements Markham wrote articles in scientific journals, supporting the theory that the people who once had inhabited the inhospitable shores of Lancaster Sound and the straits between the numerous islands of the Parry Archipelago to the south had come from Siberia and had travelled over stretches of land as yet unknown, and thus had reached the west end of Lancaster Sound. Then, to better their condition, they commenced travelling southwards along the straits, and, spreading out east and west along the shores of the mainland, met with a vigorous opposition whenever they came in contact with other people. This theory is based on the fact that it would be unnatural for a tribe inhabiting this part of the world to emigrate to the north, as their motive for moving could only be to improve their condition of life, and every Eskimo would know improvement

was not to be found northward. But, besides this, Baron Wrangel and others bring a legend from Siberia that the *Onkilons*, when hard pressed by incoming tribes from the south, emigrated to the New Siberian Islands, and from thence to the land northwards. The tribe was numerous, according to the legend, as numerous as "the stars of an Arctic night," and they are supposed to have left for land to the north in umiaks.

But no one had tried to solve the question of land or no land after Captain Collingson's unsuccessful attempt to sledge over the ice, and only now and again was the problem revived in scientific journals.



JOE CARROL.

In the beginning of the seventies land was said to have been seen from the whaling bark *Stamboul*, of New Bedford, while between Harrison and Camden Bay. Its captain, Mr. Keenan, and all the men on board the vessel saw the land plainly, and for a long time it was much talked of among whalers. Now, however, they mostly seem to discredit its existence, while none of those who were on board the *Stamboul* at the time are to be found. But as we proved deep water where the men from the *Stamboul* claimed to have seen land, there is little doubt but that they must have been mistaken, the more so as a piece of old ice seen at a distance, with the sun behind it, looks very much like land.

Captain Hovgaard, of the Royal Danish Navy, held some theories as to the existence of land north of Siberia, theories which were built to a large extent on the drift of the *Jeanette*. Captain Hovgaard wanted to reach the North Pole by going over to this hypothetical land and following its shore to the north. An expedition which he commanded in 1883 got beset in the ice in the Kara Sea, where the vessel sustained several

nips, was badly damaged, and forced to return to civilization in the following year.

But it is due to the efforts of Dr. R. A. Harris that the question as to the existence or non-existence of land north of Alaska and Siberia came to be discussed from a more scientific point of view, as he introduced a new phase of the problem, the proofs furnished by the tide.

In a clever article he discussed the probabilities of the existence of continental land on the American side of the North Pole, and he deduced the position of land which he thinks must be found some time. He based his theories as to the extent of this unknown land on deductions derived from the remarkable tide conditions, the combined drift of the *Jeanette* and the *Fram*, the heavy ice, the (supposed) immovable pack north of Alaska, the flight of the birds from Point Barrow northward, Captain Keenan's testimony, and the Eskimo legends.

The article of Dr. Harris was further discussed by Dr. Spencer, who took an opposite point of view and tried to prove that there could be no land between Alaska and the North Pole. He based his theory on the deep water in the Polar Ocean, as found by Nansen, and on the deep channels running north and west between the islands of the Parry Archipelago, concluding that the deep Polar basin extended almost from the Alaskan coast and the western shore of the Parry Islands to the deep water so unexpectedly found during the drift of the *Fram*.

Sir Clements Markham summarized every argument for and against the existence of the supposed land during the meeting of the Royal Geographical Society in November, 1906, when the plans of our expedition were for the first time laid before the public.

Our plans were later very essentially modified, particularly owing to the fact that the whalers on whom we had relied for the transport of our outfit had been caught in the Arctic the year before. We had to provide ourselves with a ship, and with her intended to skirt the Alaskan coast, to buy dogs wherever we could, and to seek winter quarters in Minto Inlet, Wollaston Land. That locality is an interesting field for work, and we hoped to fall in with the Eskimo tribes which Captain McClure and Captain Collingson saw there in 1852. We also

wished to do some surveying, to study the geology of the country, and to make some sledge trips to Banks Land, and if possible to Prince Patrick's Land. The next summer we intended to sail to the north-west corner of Banks Land, and the following spring to start from there and go out on the ice in a W.N.W. direction, until we either found land or reached 76° N. lat. and 145° W. long., when we would change our course for Point Barrow, or until we found a depth of water of 400 metres or more. In case we found this deep water, we would follow it south and westward, and return to the nearest coast when our supplies had become exhausted. The ship would return independently of the sledge party, which would, we hoped, be picked up by a passing whaler.

Such were our plans when we started, but the condition of the ice was so bad that we could not pass Point Barrow before the 5th of September, so late, that we ought to have gone into winter quarters before that date.

During the winter our ship was wrecked, and on a sledge trip in the spring of 1907 we found the deep water close to the Alaskan coast, thereby partly attaining the object of our expedition, or in other words proving that no land was to be found north of Alaska, at least not within such a distance of the coast as could be reached with dogs and sledges over the pack ice.

All the people with whom we came into contact during the rebuilding of the ship and its fitting out treated us very well, and everything which was sold to us was of the best quality. Our ship provisions were purchased from Messrs. Simon Leiser & Co., Victoria, B.C., and we had no reason to be otherwise than satisfied with the packing as well as the quality of the food.

I may perhaps here be allowed to say a word of thanks to all the tradesmen, merchants, and other people in Victoria who were directly interested in the rebuilding and outfitting of our ship, and I can safely say that it would be hard to find people more interested and courteous than those we dealt with in Victoria, B.C.

And now before I begin my narrative, I must beg the reader to be patient. I am a sailor, and descriptive writing is somewhat out of my line; but I shall attempt to bring before the

reader the details of our voyage, of our battle with the ice on board the ship and on the sledge-trips, of our joys and sorrows, the human beings with whom we came into such close contact, and who are born, grow up, and die in this country, where the unbroken day of the few summer months is followed by the dark, bleak winter, with its snows and storms. I have everywhere tried to be impartial to my comrades, and even if things do not always run as smoothly on an expedition as they ought to do, I can only say that a better company than the one which sailed northward on the *Duchess of Bedford* could hardly be found.

CHAPTER I.

ACROSS THE PACIFIC OCEAN AND BEHRING SEA.

The Start—Head-winds and Gales—Arrival at Kodiak Island—Aground—Arrival at Dutch Harbour—St. Lawrence Island—Buying Dogs—Storms in Behring Strait—Arrival at Port Clarence—Discontented Crew—Arrival at Point Hope—Sign on New Sailors.

On Sunday morning, May 20, 1906, we awoke early, and, as in the days of childhood when an outing had been planned, we at once made for the window to look at the weather. It was a beautiful day. The sun was shining brightly in a clear sky, and a shower during the night had refreshed the trees and flowers outside our windows. Nature apparently had done her best to make our last day in civilization as beautiful as possible; or was she mocking us, as we were leaving such a country for regions of snow, of ice and wind?

The morning was spent in hurried farewell visits to our best friends, and at 3 o'clock we were towed out to sea by a large tug. In the early morning a great number of people came to the quay to see us off, but as the day wore on the crowd changed, and only one man remained from the early morning until our departure—our Chinese cook, who was sitting apart far above the rest, waving his handkerchief and yelling at the top of his voice. Poor fellow, he would have liked to join us, but he was afraid of the cold and of going so far away from home.

A small accident happened when we steamed out of the harbour. The tug unexpectedly swung round and ran us into the quay. The *Duchess of Bedford* got an awful shaking up, but nothing happened, save the bursting of a jumper-stay, and the damage done was soon repaired.

The tug left us just outside the harbour and steamed back, dipping her colours and blowing her steam whistle. The racket was well meant. It was "Good-bye! God-speed to you and a safe return!"

We had to put into Esquimalt to get the deck into ship-shape order, which was certainly needed. On the deck we had about ten tons of coal, several cases of kerosene, while sledges and kayaks were piled on the water-tanks amidships. A boat was swung in tackle over the side, and another was lying on the quarterdeck, piled full, and surrounded by boxes containing all



"DUCHESS OF BEDFORD" LEAVING ESQUIMALT.

kinds of things. In the cabin we had to move very carefully, as the floor, the tables and the sofas were covered with odds and ends, for which we had not yet found a place. All hands were soon very busy tidying up things, and we were forced to hurry, as we did not want to lose much time in this occupation. The day's sailing was the first with the ship in sea trim, and we were all highly pleased with the way in which she behaved, as we sailed along with a fine leading breeze, and swung up for anchor at Esquimalt.

For two days we lay with the chain hove short and sail set, waiting for a wind strong enough to let us come out to sea, and

the delay tried our temper sadly. Night and day we were obliged to "stand by," and were often called up in the middle of the night, only to find a puff of wind which disappeared before we could use it.

On May 22, at 11 A.M., a ripple in the water of the bay announced the fact that the wind was rising, and as it was more lasting than anything we had had till then, we weighed anchor, hoisted the headsails, and the *Duchess of Bedford* slid through the water with the light breeze, outward and northward bound. But getting out from Esquimalt did not amount to a definite start, and we had to spend several days fighting with light head-winds and currents setting the opposite way.

Mr. Leffingwell and Dr. Howe offered to stand watch with us and help us with the navigation. Of course I was very pleased to get extra assistance in manœuvring the ship, as we were rather short-handed. Throughout the voyage they hauled in ropes, steered, stood watches, in short did everything a sailor was supposed to do, and even later on, when the waves were tossing the boat about in a highly disagreeable way, they stood their turn with the rest, although much disgusted with the behaviour of the ship. Mr. Ditlevsen had charge of the provisions, but though he was thus fully occupied, he helped us whenever an "all-hands-pull" was needed.

At noon on May 23 we left Cape Flattery behind, and the long dreary passage to Kodiak Island commenced. Day after day we lay there, either in a dead calm or in a howling gale which tore and shook the rigging and sails, while the waves were beating the sides of the vessel or pouring over the deck. Our hands got sore, blistered, and cracked with so much unwonted hauling and the constant handling of wet and stiff canvas, and even the sailors were having a hard time of it.

But the calm against which we had to fight at the beginning of the voyage changed into a howler out of the S.E. during the night of May 25. The wind was fair, but it blew harder and harder, and at 3 A.M. we had to call all hands to shorten sail. The rain was pouring down and the wind made an appalling noise. It howled in the rigging, varying from the highest treble to the deepest bass; the rain was beating on the taut canvas, the waves broke under our stern and along our sides, and poured volumes of water upon the main deck

with a deafening noise. It was impossible for the men to hear the orders. I shouted from the wheel where I stood, steadying it with both hands and one knee on the spokes. At last the mainsail came down and was furled. Although the crew, assisted by Mr. Leffingwell and Dr. Howe, worked hard and with good will, it took us a long time before everything was trimmed and the watch could go below.

The *Duchess of Bedford* was doing very well and making about seven to eight miles in the hour, thus proving herself a splendid seaboat, floating buoyantly on the waves; and after the sails were trimmed down in proportion to the wind she never shipped a wave.

We made a rather unpleasant discovery that afternoon. The ship was leaking more than we thought she ought to do after the overhauling she got in Victoria. The leak seemed to be somewhere in the stern and above water, as she never leaked while lying still, nor while sailing on the wind, but only with fair wind and storm. The crew liked it no more than we did, but there was nothing to be done. She was strong and sound, and the leaking meant only more work at the pumps.

The gale continued for two days, and when at last it abated we had made more than 300 miles. We had had some sea-sickness on board, and everybody felt pleased when the wind died down on Sunday, May 27. We left the stuffy cabin and lay down on the deck, enjoying life in the fine sunshine and the gentle breeze that had followed the gale. Any vessel passing us would surely have looked in wonder at the curious sight we presented, with blankets tied to the back-stays, on the fore and main boom, and with clothes of every description hanging on lines placed for that purpose. But this was unavoidable. The wet from above during the gale penetrated everything, and blankets and clothes were soaked.

The leakage decreased with the abating wind, and we felt more confident than ever that the leak was above water and would be easily repaired.

Then came a succession of calm, quiet days. The wind seemed to shun our vicinity, and the sea lay round us without a ripple, only heaving gently from time to time with a long, lazy swell. The first day of calm passed with little comment, the second with little more, but when the third broke with the

same weather we began to feel somewhat depressed. The ship looked disconsolate, with her large sails hanging slack and flapping from side to side when she moved on the broad back of the swell. The creaking blocks and tackles, the grinding of gaffs and booms, made a melancholy noise and fitted well with the gloomy picture of a vessel becalmed at sea. And the men on her deck were impatient, looking in all directions to be the first to see a little wind coming. For the last two days all our conversation had been about the wind, when it would come and where it would come from. Not a pleasant subject, and we were heartily tired of it, but nevertheless a small cloud or a darkening of the water on the horizon was enough to revive the talk from bow to stern, and if the wind did not reach us, the expressions of the men were not of the most elegant description.

Our only amusement was to watch the graceful seagulls which were following the ship in large numbers and fighting over every little morsel thrown overboard. The struggle for existence rages fiercely on the high seas amongst the gulls; every mouthful they manage to swallow is won by dint of strenuous work and of the utmost quickness in avoiding the shrieking multitude which chase their more fortunate comrades. We caught some of them, but set them free again with a label tied to their legs, telling those who might catch the same gull about its visit to the *Duchess of Bedford* and the position of the ship at the time.

Mr. Leffingwell and myself thought of abandoning any attempt to reach Kodiak Island, but Mr. Ditlevsen and Dr. Howe did not like the idea, and their looks were far from cheerful when this change in the programme was proposed. Like the rest of us, they had been looking forward eagerly to this part of our journey, and consequently they were unwilling to give it up, but if we did not get fair wind and plenty of it before long we should have to do so. The water supply was running seriously low, and on the 30th of May we had only enough for seven days more. There were 1,200 miles more to Unimack Pass, and if we did not get a fair wind before long we should be forced to run in earlier to find water.

But the weather up in these latitudes is always in extremes—it is either dead calm, or it blows so hard that we have to run with short sails. On May 31 the wind began to increase in the morning. At noon we commenced to take in sail, and

at 5 P.M. the ship was tearing through the water with only a foresail and a staysail.

Mr. Leffingwell and Dr. Howe were rapidly becoming fine sailors; they were as quick and as handy as the able seamen, and I saw that they would soon know as much as most of the crew.

Upon the whole we had a very fine run that day, and when night fell, it was as if we were running through an ocean of fire. The crests of the waves were glittering and shining; along the sides of the vessel millions of sparks lit up the dark water; our wake stood out plainly, an illuminated path, and the spray from the bow was flashing and glowing with phosphorescence. Our little ship was doing finely, jumping—so it seemed—from wave to wave; lurching, rolling, and pitching, she made her way across the turbulent sea with 8½ miles to her credit every hour. But again the leak made itself felt: the pumps were working, and we knew that the leak must be rather high up and away aft under the quarter.

Although it blew hard, the storm did not last long this time, and on June 1 at 8 P.M. we were again tossed about by the swell, without steerage way, and it was not until June 2 that the wind returned. It was fair and brisk, and we were making five miles in the hour. The wind was too tempting, and we held a council in the cabin, where it was unanimously agreed to go to Kodiak Island to take in water and, if possible, to get a Kodiak bear for the Hon. W. Rothschild.

By this time Mr. Ditlevsen began to show symptoms of illness, and Mr. Leffingwell and myself were somewhat anxious, as his condition seemed too serious to be regarded as indisposition caused by sea-sickness. However, we still hoped that he would soon recover.

On Tuesday, June 5, in spite of storms, calm, and head-winds, we had got so far that we could begin to look out for land, and we were very much interested in a bank of clouds on the northerly horizon. Land ought to be there; our noon observations had told us that it was less than sixty miles away, but it was not before 7 P.M. that the shout of "Land ho!" brought everybody on deck. There it was, the mountain tops rising above the low-lying clouds, and now and again we could see the lower land through a rift in the fog. It was too

thick to see anything plainly, and we dared not run on to so rocky a coast with our rather inaccurate observations and with night coming on. So we checked our impatience and stood off and on during the night.

At 5 A.M. on June 6 we bore off for the land. The weather was not very fine, it was rainy and foggy, but we could run close in without danger, as the sea was rather high and broke over any sunken rocks that could do us harm. At 8 A.M. we entered Kiliuak Fjord, and with a fair brisk breeze stood up it. The voyage from Victoria had in all taken sixteen days.

There were many rocks in the entrance, and we had to place a man on each bow heaving lead. Dr. Howe thought it looked like good fun and volunteered to relieve one of the lead-heavers, but his first attempt to heave was also his last, as he had not strength enough to swing the lead, and it fell on his own head. Happily he was not hurt much, but I never got him on the chain-plates again.

The sight of grassy slopes was very pleasing. Far back in the smaller fjords we could see rather high trees, and near the water's edge some scrub trees were fighting for existence. Fresh and green it all looked, and the trickling of numerous rivulets down the sides of the mountains, the singing of birds, the shrill calls of the numerous flocks of seagulls, disturbed in their accustomed peace by our arrival, formed a very agreeable contrast to the monotonous sea life we had been leading for the last two weeks.

When we had definitely entered the fjord the clouds lifted, and the high snow-covered mountain tops glittering in the brilliant sunshine made the whole scenery still more attractive.

With varied speed we crawled up the fjord, one minute with the sails drawing in a small breath of air, the next drifting about with the anchor at "stand by" to prevent us from being swept on the numerous rocks by the strong current. Before we had found a suitable anchorage a heavy rainstorm came up the fjord from the ocean, and we had no choice but to heave to and wait for more favourable conditions. While we were drifting about, a boat with seven or eight natives came to the side of the ship, apparently all very glad to see us. They had been out hunting, and had had the luck to come on the track of

a large bear, which, after a long climb, they had managed to shoot. They had all the meat and the skin in the boat. The meat we wanted badly, and a couple of plugs of tobacco was sufficient payment for all the good parts of the bear.

The natives—there were only men, their women had been left behind in their village at another fjord—were very dirty and looked poor. They did not at all resemble the class of natives which we met later on along the coast of Alaska. I can safely say that I have never seen such dirty, poorly clad, unintelligent-looking, and insolent natives as those we met on Kiliuak Fjord.

When the shower had passed the last remnant of wind had gone with it, and we had to get our boats out in order to tow the *Duchess of Bedford* to anchorage. Mr. Leffingwell and Dr. Howe went out to look for a good place, and, after searching for some time, they decided on a continuation of a sandbar rather close at hand. The water was very deep all through in the fjord, in fact too deep for us to anchor, and although we were very tired, we were forced to undertake the hard work of towing the ship. The crew went at it cheerfully enough. At first laughter and song were heard from the boats, but before long the singing ceased, and the men were anxiously watching the shore to see whether progress was made. A mark was taken ahead, and cheers from the crew told us on board when it was reached.

Toward nightfall the natives came out again and offered their assistance, but they would not work until the pay had been settled. When we had promised a piece of tobacco for each man and some molasses, they went ahead, and the *Duchess of Bedford* made considerably better headway. It was certainly a beautiful day, but we were working too hard to look at the scenery, to admire the exquisite reddish tints on the snow-clad mountains when the sun was setting, to watch the deep shadows beginning at the water's edge and slowly climbing upwards until the sun was so low that the rays did not touch even the highest peaks. On we went; inch by inch the ship was pulled towards the sandbars which Mr. Leffingwell had found, but it was past 10 P.M. before we could let go the anchor with nine fathoms of water under the bow and eleven feet under the stern.

Everybody was so tired that we turned in at once, even ignoring an excellent punch which had been brewed in honour of our arrival at land.

But it was only a temporary anchorage which we had found. It was too exposed to leave the ship in, and as soon as we had rested we again set to work towing with the boats ahead, now



THE NATIVE CAMP ON KODIAK ISLAND.

and then sailing a little or kedging. But, although all hands worked hard, it took us all day to advance a few miles, and it was not till late in the evening of June 7 that we came to a good anchorage. Mr. Ditlevsen was feeling a little better, but we had now another man on the sick list, Mr. Edwards, who was down with a serious attack of malaria. He was ill during most of our stay on Kodiak, and before we left Mr. Leffingwell and myself had made up our minds that we could not take a man suffering from malaria into the Arctic, and that he would have to be sent home from Port Clarence.

The natives, whom we vainly tried to take with us as guides, had told us that it was too early in the season for hunting bears, but of course there was a chance of our finding one all the same, and in the hope that this might be the case, Dr. Howe, Storkersen, and I started on Friday, June 8.

Mr. Leffingwell stayed behind to take some observations and

to correct instruments, and Mr. Ditlevsen had found an eagle's nest in which he was so interested that he too preferred to stay.

According to the advice of the natives, we went to the bottom of a fjord and up a small river as far as we could go. We had a delightful outing, but we saw no trace or sign of bears, although we hunted everywhere, tramped long distances, and moved our camp over to another river still further inland.

After three days' camping we had to return to the ship, footsore and not very pleased with our want of success.

As no one there had seen any sign of bears, although they had been roaming all over the country, we had to give up the hunt, take in water, and be off. Mr. Ditlevsen's health had not improved. We had all hoped that it might have been sea-sickness, but it was plain that it was something worse.

On June 13 we were again ready for sea, and started for Sheerwater Bay, where we anchored for the night. We reached the bay too late to take any observations for correcting our chronometers, and as the sun refused to show itself the following morning, we broke anchor and commenced beating out.

However, it was no more than a commencement, for we took the ground after the second tack. The fjord was narrow, and I wanted to make the tacks as long as possible, but came too near the shore. The ship touched ground while running up in the wind and had hardly any headway on, but, although we at once ran out a kedge anchor, we could not refloat her, as the water was falling rapidly. We hove her down with tackle on the masthead to make her list over shoreward, and then we could do no more, but had to wait patiently until the water again commenced rising.

At low water we had a list of about 30 to 35 degrees, and I was afraid that the water would run into her before she could straighten up again. Everything got caulked, but nothing happened, and with the rising water the ship slowly straightened herself.

At 3 P.M. we were almost afloat, and with all hands on the winch, our sails thrown back, we swung up for the kedge. The ship had not come to any harm, as we had been aground on sand-bottom.

The tide set so strongly into the fjord and the wind was so

light that, when later on we tried to beat out, we could not get the ship to stay, and more than once came very near to beaching her again. At last we gave it up, and at 7 P.M. we anchored in the same place which we had left in the morning.

On June 15 we had better luck, and though we made slow progress and again drifted dangerously near the rocks, we got out and went along before a fair breeze. There were many uncharted rocks along the south coast of Kodiak Island, and we had to keep our eyes well open to see the breakers through the thick weather. Often we discovered them too late, and had to change our course so rapidly that the mainsail came over with a bang which shook the rigging as well as the ship.

Night came; it was very dark and the weather was thick. We had to use our utmost vigilance in order to avoid breakers which showed themselves close at hand and in the most unexpected places. Of course we did not like this kind of sailing, but we might as well get used to it at once, as we were sure to get more of it up in the Arctic.

After passing Shumagin Islands we were again becalmed and spent almost three days in the same place, with not a breath of air. It was very depressing, but we tried to pass the time as well as we could. Luckily there was a great amount of codfish in the water, and the catching of them helped considerably to pass away a dreary time as well as to supply a pleasant change of diet.

During the three days' calm we had been drifting towards the north-west, but it had been cloudy, so that we could not get any observations. The consequence was that when the fog cleared on Wednesday morning, June 20, we found ourselves surrounded with rocks over which the sea broke continually. We had come too far north, and by good luck had managed to pass numerous breakers during the night without accident. We hauled under the wind and carefully felt our way southward, until we came into the channel between Sannak Island and the rocks to the north.

The weather had become bad again, but the wind was fair, and we made splendid headway toward Unimack Pass. Before night we saw, through rifts in the clouds, the high volcanoes which mark the east side of the pass, but it was almost dark when the fog lifted sufficiently to allow us to enjoy the splendid

grandeur of those magnificent mountains. The spectacle became all the more beautiful as the rays of the setting sun made the dazzlingly white mountain tops almost purple, while further down deep shadows from other peaks made the loveliest contrast. Here and there we could see some black rocks piercing through the white blanket of snow and breaking the monotonous whiteness, while further down a light green was visible in the gathering dusk. I suppose that we looked on it with all the greater pleasure as we were now within reach of our second goal.

One short strait to pass and we would be in Behring Sea!

The night fell only too soon, but we could still see the huge mountains darkly silhouetted against the light sky, while we were running with a fair wind toward Unimack Pass. We entered it at 2 A.M. on Thursday, June 21, but it took us many hours to pass it, as we were first becalmed and drifted out of it again, and after that had a strong breeze from N.E. which soon increased to a gale.

We sailed very hard that day. The leeward rail was almost at the water's level, and on deck, almost as far as the hatch, the water was washing backwards and forwards, while wave after wave broke over our bow and sent showers of spray over the forecastle. Far up ahead we had a point which we should clear; if the wind remained as it was we could make it, but if it changed ever so little to the northward we could not weather the cape. The wind increased and we took in sail, while the cape rapidly came nearer. It was an exciting run. If the current changed before we passed the cape, and it was on the very point of doing so, we could not get clear, but as the heavy sea made it impossible for us to stay, we would have to jibe, and even that was almost too late, as the land was less than a mile to leeward of us.

As we came nearer, all hands were on deck to see the fun, and our little ship was doing her best to justify the high ideas we had of her sailing abilities. Far, far back we saw the *Mary and Ann*, a whaling schooner which had been following our wake until she became afraid and tried to stay, and failing to do so, she jibed, very close in shore.

We had no choice now but "do or die." If anything had carried away or the wind had hauled, we should at once have

been down upon the inhospitable coast, less than half a mile to leeward. Thousands of birds were swarming around the pinnacles on shore, soaring high in the air and playing in the violent eddies of wind which came rushing down the gullies of the cliffs. At the foot of the cliffs the waves were dashing high on the rocks. It was a fine run, but the strain was almost too great. At 7.30 we cleared the cape by less than 300 yards from the outlying rocks, could slacken a little on the close-hauled sheets, and headed for Dutch Harbour. The night overtook us, and we had to stay outside waiting for daylight.

Friday, June 22, broke with thick and damp weather. We bore off and headed for the harbour, carried along by a gentle but fair breeze. After rounding the sandspit to the harbour, the wind failed us entirely, and, knowing that the place had a bad reputation for sudden and violent squalls, we proposed to anchor in as shoal water as possible, so as to be ready to move at any time. While drifting about with all sails on top, sounding for an anchorage, a squall struck us, throwing the ship over, and making her shoot through the water with a sudden jump. At the same moment I shouted orders to run down some of the sails, and Mr. Leffingwell, Dr. Howe, and Mr. Ditlevsen took the sails aft while the crew went forward to do the same. The next heave of the lead gave seven fathoms, and I sung out to let go anchor and haul down headsails. Out went the anchor with the chain clanging on the windlass until it was brought up with a jerk. The halyards were loosened, sails were flapping and making an infernal noise, the men were running from halyards to downhaulers to get the sails in, and the *Duchess of Bedford* was dancing on the water, tugging at the anchor chain until it broke with a snap, and the ship, with the headway it had, shot towards the shore. There stood the wreck of an old steamer, and we were making right for it. I shouted to the men to back up some of the headsails, and laid the helm hard over. She swung, and I thought that the jibboom was going, for it looked as if it must be caught in the standing iron of the old hulk. But she swung clear of it, with only a few inches between herself and the hulk, and kept on swinging until a submerged piece of the wreck caught her keel, and the *Duchess of Bedford* was again aground. We tried to haul her off at once, but this time as well as before we had run aground

with falling water, and had to leave her on the wreck until the next flood. During the hours between the grounding and the next high water (at 5 P.M.) the crew were trying to locate the anchor and chain, but with scant success, as it had fallen among a lot of old iron and was well hidden.

The after-crowd went ashore to say "How do you do" to the inhabitants of the place, and were very well treated. Mr. Schröder, the manager of the North-West trading post, kindly offered us his grapples and anything we might want in order to find the anchor, but he thought it very unlikely that we should see it again. After walking round the little cluster of houses—all exactly alike, built of wood, and painted grey, with red roofs—we made up our minds that there would be no excitement anywhere, and returned to the ship.

At 5 P.M. the *Duchess of Bedford* was refloated without any trouble whatever, and anchored in ten fathoms of water. The lost anchor and chain we had not yet been able to locate, although we thought that we had got hold of the chain a couple of times, but, as it was too heavy to lift, we had to let it go again. Once we were sure we had caught it, and got another boat to help, but after an hour's work we only brought to light an old grass rope which had originally belonged to our old friend the steamer.

From Saturday, June 23, to Tuesday, June 26, we stayed in Dutch Harbour. The first day or two were spent in looking for our lost anchor and chain, and for the rest of the time we sat on board listening to the howling of a blizzard from the south-west. It was our best chain that had gone, and we were much afraid that our remaining one would not be strong enough to stand the strain. We spent some very unpleasant hours anticipating all kinds of disasters from the snapping of our chain. That the ship would drift ashore was certain, that it would break up was almost certain, but, what was worse than both of these things, the expedition would then end, and with it our high hopes of doing good work.

But the gale at last spent itself, and the chain held. The United States lighthouse tender, S.S. *Heather*, had come in port for coal, and I went on board and saw the chief of the light-house service in the Northern Pacific, Commander Werlish, U.S.N. As soon as he heard about our trouble he kindly



UNALASKA.

offered to let us have a chain. It was too heavy for our little vessel, but it could be used, and so we were again provided with reliable ground tackle. Commander Werlish was very kind, and I spent a pleasant evening in his and Mrs. Werlish's company.

We started afresh on June 26 at 11 A.M., and came out from Dutch Harbour with a very light breeze. We had head-winds, but as the sea was very smooth at first, we made fine progress toward the north-east. Towards nightfall we saw the splendid volcanoes of Unimack Island at a distance of nearly seventy miles, and, judging by the look of the weather, we might expect a S.E. wind.

But the northerly wind continued; its strength increased, the weather became cloudy and wet, the sea rose, and for many days we kept running in the short choppy waves of Behring Sea, making only very poor progress, while the ship's course made our hearts ache. This continued until Sunday, July 1, when we got a calm, with clear sky and fine weather. It was quite warm, and the only thing needed to complete our happiness was a little wind blowing our way. It came on the same day at 10 P.M., and with every piece of canvas spread, and all of it trimmed as nicely as possible, the *Duchess of Bedford* slipped through the water at a speed of four miles an hour.

Mr. Edwards continued to have slighter attacks of malaria at intervals, and we clearly saw that we should have to send him home from Port Clarence. This was no great matter, for though he was a good sailor and a pleasant companion, a sailor could be replaced; but, unfortunately, Mr. Ditlevsen grew worse and worse. He did not complain, but we could see how he suffered. Dr. Howe did not quite know what was the matter, and though we still hoped that it might only be a passing illness, it seemed serious and was destined to become worse. Mr. Ditlevsen could not be replaced, either as a member of the expedition or as a friend and a pleasant, considerate comrade. Mr. Leffingwell and myself had some very serious talks about the case, and both of us were distressed about Ditlevsen's sickness, which meant so much for the expedition.

There was abundant animal life here, and we were having some useful sport. Mr. Leffingwell was our crack shot, and



A NATIVE HOUSE ON ST. LAWRENCE ISLAND WITH WHALE-JAWS USED AS SUPPORT FOR FISH-DRYING FRAMES.

from the bow of the ship he brought down birds enough for a couple of meals, while a man armed with a net attached to the end of a long stick landed them on deck. We saw several seals sleeping on the water, and a large humpback whale came up several times close to the ship and was quite playful in his clumsy way.

On the 4th of July we celebrated the anniversary of the American Independence with a fine dinner. The dinner and the day combined worked so strongly on Dr. Howe's patriotic feelings that he fired a salute—a somewhat irregular proceeding, I admit, but none the less very well meant.

We sighted St. Lawrence Island on July 5 at 4 A.M., but the fog was so dense that it was impossible to make out our position. We bore off to the westward, and ran so close along the coast that we could see through the fog the dark and forbidding-looking shore with a heavy surf.

At 8 A.M. the fog suddenly lifted, and we found out where we were. The higher land, which had been hidden in mist, was covered with millions of birds which bred on the inaccessible slopes. These birds, disturbed in their ordinary peaceful occupation, came up in immense flocks from the cliffs and the surface of the water, circled around the ship, and made a tremendous noise.

On the cliffs close to the water's edge we saw several ruined villages, but not till we came round the south-west point of the island did we meet human beings, or rather indications of their presence—a tent raised in a cove and a large boat hauled up on the beach. A calm overtook us when we were a few miles past the cape, and before long we saw a sail aft. By-and-by it came nearer, and at 2 P.M. the boat which we had passed lying on the beach was alongside of us, full of Eskimos. They were fine, sturdy fellows; their faces expressed considerably more intelligence than those of the natives we had met on Kodiak, while they were also cleaner and apparently much better off. They had a fine whaleboat with all necessary whaling gear, and they were—and had reason to be—proud of their possession. The Eskimos were much pleased to see us and laughed and talked a good deal. Some of them spoke a little English, and we found out from them that we could get dogs at their village further north.

As they were the first representatives of the people with whom we expected to come into close contact in the future, we did our best to make our visitors feel at home, and succeeded very easily by means of tobacco, crackers, and molasses. For some time they were entirely occupied in consuming a very large amount of crackers, but their brown, intelligent eyes followed all our movements with keen interest, possibly to see whether they could expect more to eat.

The wind was almost imperceptible, and it was not till 6 P.M. that we passed the sand-spit, on which a large village was situated. The " Stars and Stripes " was hoisted from the top of the two-storied house occupied by Dr. Campbell, who combined the functions of missionary, physician, teacher, trader, United States Marshal, and chief of police. Several large whale-boats were hauled up on the beach; the inhabitants seemed to be well off, and many large houses showed that a great number of people lived in the place.

Several boatloads of people set off as we passed, but to their surprise, and ours also, the current took us and carried us out to sea. Three of the boats hooked on, and Dr. Campbell came on board, followed by a swarm of natives. However, they soon took to their boats again, as they saw that we were drifting away from the village, and they had a stiff pull to regain the shore. Dr. Campbell stayed with us, and we found him a very pleasant companion, although he too was somewhat worried by the direction which the ship took. He told us that ours was the third vessel which had called that year, that the few whalers going in had not had much trading stuff aboard, and that he thought we could buy dogs at very reasonable prices in the village. As we kept drifting out to sea, we had to put him ashore, but a breeze sprang up at the same time, and we stood in. Before long we overhauled the boat, and, with Dr. Campbell as pilot, we ran in and anchored at 11 P.M. on an ugly-looking open beach. We sent word ashore that dogs were wanted and that they could be brought on board the following day.

Early in the morning of Friday, the 6th, people began to arrive, and we were aroused by the furious barking of the dogs which were tied down in the boats. After breakfast we started buying. Many Eskimos had come on board, bringing some forty

to fifty dogs, so there was plenty of choice. The trading progressed rather slowly at first, and it was about an hour and a half before the first dog had changed hands. By sad experience the natives had become experts in the art of trading; the whalers have been doing business with this people for a long time, and they have gradually acquired a very fair idea of the value and quality of things. Bargaining between white men and Eskimos is a proceeding not always creditable to the former; we are often obliged, for instance, to make a sack of sugar go considerably further than it ought to do, according to the actual amount of pounds it contains. The Eskimos know very well that something is called 1 lb. of sugar, but have no idea of the amount implied by a pound, and are as likely to ask for fifty as for twenty pounds. We have to praise our wares even if we know that their value is not very great, and try to find faults in the dog in order to make the price as low as possible, while on the other hand the Eskimo talks himself warm over the—mostly imaginary—good qualities of the dog he wants to sell. We had a small selection of our different articles on deck, and when we had found a dog we liked we began to haggle with the owner about the price. He wanted everything in sight, and it took a long while to satisfy him, and even when the bargain was supposed to be closed he would try to get something extra, or tell us that he had changed his mind about one of the articles which he shortly before was anxious to secure, and that he wanted something else instead.

If we had had only one party to deal with, our task would have been easier, but every one on board offered suggestions and advice, and seeing that the seller usually stopped to discuss each suggestion with the proposer of it, it was evident that every bargain must take a very long time.

However, when we got accustomed to their way of trading, we found that it worked much better to say exactly how much we would give instead of asking the seller what he wanted, and in most cases we had only to add some odds and ends by way of presents and encouragement to clinch the bargain.

The following will serve as an example of what a dog is considered worth by the natives in summertime:—

1 small pocket knife	$0.17
2 looking glasses	0.24
1 package of fishing hooks	0.20
1 fish line	0.30
7 yards calico	0.42
1 lb. of tobacco	0.35
1 box of hard tack	2.00
10 lbs. of sugar	0.45
	$4.13

In the course of the morning we bought twelve dogs and two pups, the dogs at an average price of $4.14 and the pups at an average price of $1.05.

The dogs looked fairly good, but it is impossible to say anything definite about the value of a dog before it has been tried. A big, strong-looking dog may not be worth anything at all, while a smaller one may well be not only stronger but of greater endurance than the larger one.

After lunch we went ashore to pay our respects to Mr. and Mrs. Campbell. We spent a pleasant time in their house, and went out for a walk through the village.

We were surprised at the well-to-do appearance of several of the houses; three or four of the natives had frame houses, built exactly like a white man's cabin. One old native proudly showed us his house, which had several rooms, and really would have been a good house for a white man, but was quite absurd for a native. For one thing, the price he had paid for the lumber was exorbitant, $800; secondly, the house gave him no real pleasure, as it was far too large for him to heat properly, and he and his family lived close to it in an old-fashioned igloo, although he had had the house for two years. But the man was very proud of showing it to other people, and this was the only fun he had out of his $800. Upon the whole it seemed to us that the fixed frame houses were a poor substitute for the igloos. People, when they have once become accustomed to live in them, will stay there in summer as well as in winter, and the Eskimos being very uncleanly, the rooms will soon be filthy and propagate disease.

The natives live entirely on whaling, and as they can get about $2,000 worth of supplies, etc., for a single bowhead, they are very well provided with food, as well as other more or less useful articles. Gramophones seem to be the rage among these people; as we passed through the village gramophone tunes sounded in all directions.

There was hardly any tattooing amongst the men, but many of the women had hands and faces elaborately decorated.

Their houses were large, about 40 by 50 feet in diameter. The walls were made of boards raised on end on the ground, about 6 feet high. The cracks were covered with other boards, the whole being thus fairly windproof. From the walls was raised a framework which was meant to support the sewn walrus hides which formed the roof. In this spacious hut three families were living, each of them in their own room. The large room was divided into many small enclosures by walls erected within the main walls, in the direction of the centre of the large room. The walls of the enclosures were made with reindeer skin, with which material the roof was also covered. The size of the rooms was about 6 feet by 8 feet. Only these small rooms were heated during the winter, the large space in the centre being used as a general store-room and kept cold. All doors opened westward.

As we were not desirous of spending another night on so open a coast, we set sail at 7 P.M. and stood out toward Siberia, where we expected to stay some days, buying dogs and wearing apparel.

At 2 P.M. on Saturday, July 7, Mr. Edwards called me and said that the fine clear weather had changed, and that a heavy fogbank had settled down round us. We kept on towards the shore, hoping to strike the native settlement we were making for, but the wind, which was right on shore, increased so much that we were obliged to give up our attempt to make Indian Point, and to strike across for Port Clarence.

The gale increased, but the wind was fair, and we hoped to reach Port Clarence. We had set our course allowing for about twenty miles drift, but not even that was enough. On Sunday morning, July 8, we barely escaped Cape Prince of Wales, which was about ten miles to leeward of the place we headed for.



NATIVES ON ST. LAWRENCE ISLAND.

It blew too hard to beat up to Port Clarence, so we hove to and trusted to luck to clear the islands and dangerous shores of Behring Strait. We had a very heavy sea running, and although we kept as near as possible to the wind, we shipped a lot of water, and the ship laboured heavily and was leaking considerably.

At 3 P.M., just as I had gone down, it was reported that we had twenty fathoms standing shorewards; ten minutes later we had seventeen, and immediately after we had fifteen. Before we could jibe round and lay outward we were on seven fathoms, which, although we headed west, decreased to six, and a quarter of an hour later to five fathoms. No breakers were visible from aloft, but nevertheless we had less and less water under us, and came down to about four fathoms with a very heavy ground swell.

We held the anchor in readiness, for in case the water should get still shoaler it was our only chance of safety, and, I admit, a very small one. Parker hove the lead, and did it admirably. It was very cold work, soaked as he was from the lead line and by the seas breaking over him, and standing exposed to the very cold wind; we all admired him for the way in which he stuck to his task and sang out the depth as near as he could judge. Everybody was on deck, except Mr. Ditlevsen, who was ill, and we all listened anxiously as Parker sang out the depth. Mr. Leffingwell and Dr. Howe stood aft with me, but not a murmur passed their lips to indicate that they realized the danger we were in, though the interest which they took in the soundings, and the way in which they looked at me, told more plainly than words that they too expected us to strike any minute, and so to end our career.

At last the water increased in depth. For more than fifteen minutes it had been about four fathoms; then it commenced to increase, very slightly at first, but increase it did. The faces of all on board showed their relief, though whenever the lead was hove they seemed to hold their breath for fear of what was coming. But at last the depth increased perceptibly, and we filled the sails a little more to get away from the dangerous neighbourhood.

We soon hove the lead again and had nine fathoms. Then the water increased rapidly, and before long we were again in twenty

and more fathoms of water. Everybody on board stood the strain well, and not one man showed by his actions that he was afraid. I feel sure that there was not one of us who had not made up his mind that the gates to the world beyond were kept open to receive us at the time when the water was shoalest.

The gale spent itself in the course of the night and the fog suddenly lifted, showing us the Diomede Islands to the south at a distance of about fifteen miles. To the west we could see the bold highlands of East Cape, and far away Cape Prince of Wales was hovering upon the horizon.

We had hoped for fair wind after the calm, but towards night a south-easterly wind began to blow again. Once more the fog settled down around us, and we were doing our best to beat up southward. At 10 P.M. we barely escaped stranding on East Cape. I happened to look up, and there it was, the top looming out through the fog, and looking as if it were right over our heads.

To put down the helm was a matter of seconds. The *Duchess of Bedford* swung round, went through the wind, and looking over the stern we could see the breakers some few cable lengths distant. We had twenty fathoms of water immediately after going about.

The whole of July 10 was spent in sailing backwards and forwards across Behring Strait, through heavy fog and with reefed down sails. Our only guide, a very poor one, was the lead.

The temperature of the water was of some assistance, as it was comparatively cold close under the Siberian coast, about 1° C., while it was about 4° C. under the Alaskan coast. But even so, sailing in the strait was more or less a matter of pure chance, as we might strike the rocks or the beach, in spite of the greatest care.

At 3 A.M. on July 11 the weather cleared once more, and again we could see the two extremities of the new and the old world rise black and sinister out of the water, with streaks of snow intensifying the blackness of the rock.

At 10 A.M. we got a fair wind, which increased rapidly, and we were again making time toward the south. Just before we came to the Diomede Islands something very exciting

happened. We saw, or thought we saw, a rock, not hitherto marked on any map. As we had heard from Commander Werlish that two new rocks had risen out of the water near the Aleutian Isles during the fearful earthquake in San Francisco, we now thought that a new one might have appeared here also; consequently we took angles to determine its locality, and to make quite sure we bore down towards what we supposed to be the rock. Everybody was on deck, excited beyond measure at the startling fact that something new had been cut out for us to find in the well-known Behring Strait waters. As we came nearer it looked strange, and we ceased talking too loud about the " new rock," or about the name we proposed to give it, etc., but we were within three-quarters of a mile before we were certain that a piece of dirty ice had led us on a wild goose chase, miles out of our course.

While we were sailing southward, bound for Nome, with a splendid breeze, Mr. Leffingwell and I had a long talk about Mr. Ditlevsen's illness. There was no longer any doubt about it; he was very ill indeed.

He thought himself that he had gallstone, and in that case we could hardly take him into the Arctic, though, on the other hand, we did not know what to do without him. We should miss him badly, and, what was worse, the work he was to do would then have to remain undone. We should be obliged to abandon all hope of drawings and of the zoological collections which we had promised to the Hon. W. Rothschild and the Duchess of Bedford. We made up our minds to call another doctor when we arrived at our destination, for a consultation with Dr. Howe; they could then decide whether Mr. Ditlevsen could continue the voyage into the Arctic, or whether we should lose the man, who was most universally liked on board.

We were heading for Nome, and came within fifty miles when the fair wind left us and a south-easter took its place. As Nome is an open beach exposed to all southerly winds, we could not lie there, and bore off again, making a fair wind of the south-easter and heading for Port Clarence, where we anchored just inside Port Spencer at 6 P.M.

Mr. Ditlevsen, Dr. Howe, and I went ashore. We had seen large herds of domestic reindeer in the neighbourhood, and Mr. Ditlevsen had a good opportunity for sketching the splendid

animals herding on the sand-spit, but, as he was in great pain, we had to go on board early. Next morning we started again for the watering-place near the mission and orphanage. The Norwegian, Mr. Brevik, was in charge, and invited us to his house, in one end of which he had many Eskimo children.

He was teaching the boys to work with our tools, while Mrs. Brevik taught the girls to make their own clothes, to keep themselves and their clothes clean, to make bread, and to make a proper use of white man's food. They also got religious teaching, but not exclusively. They are taught first to be useful to themselves and others, and then, in spare hours, religion. The children seemed to be fond of Mr. and Mrs. Brevik, who certainly were very fond of the children. We spent a very pleasant afternoon at the mission, and we were all glad to see the amount of real good which came to the children through the teaching they received.



S.S. "WILLIAM BAILIS."

We went "gamming," visiting, on board the whaler S.S. *William Bailis* and a schooner *Mary and Ann*. We talked about the condition of the ice and the prospects of getting east. They all seemed to think that the ice would be good that year, but they were not very enthusiastic about the idea of going there with a sailing vessel. Captain Bodfish, who commanded the *William Bailis*, even went so far as to assert that we would not come within fifty miles of his vessel, if he had to tie up on account of the ice. As we wanted to reach Teller and find out whether the provisions which we had bought from Battle Creek Sanatorium had come, we weighed anchor and stood over.

As answer to a telephone inquiry at Nome we were told that the food was there, and that we had better get it shipped up to Port Clarence, as the beach near Nome was very unsafe, and the Marshal promised to take the matter up.

The "town" Teller is a strange place, consisting of large wooden sheds, some stores, more saloons, and still more empty and dilapidated houses. The town was "boomed" on a report of gold, which, however, did not turn out as well as the promoters had expected, and two-thirds of the houses are now empty. There were some very nice people there, and we spent



WORKING ON THE QUARTERDECK IN PORT CLARENCE.

a pleasant afternoon. In the evening the boys from shore came out to the ship, and we stayed up late, having quite a good time.

We were lying off Teller from July 15 to July 22, as we were rather early, and it would have been useless to go north just yet. We had some trouble with the crew in this place—the cook and Parker were trying to run away. The cook had got shore-leave the first night we were lying there and refused to come back on board. Storkersen came on board and told me, and he and Thuesen brought the cook back by main force according to my orders. In justification of the man it may be said that he was drunk, but some days later the trouble began



A UMIAK CAME OUT TO US.

again. Thuesen, who was night watchman at the time, reported that the cook and Parker had tried to persuade him to go with them, or at least to let them have one of the ship's boats. We did not want to take unwilling men with us into the Arctic, but we could not let them go unless we found others to take their places. We were rather shorthanded as it was, and, knowing that the two men wanted to go, we were sure to take good care that they did not slip away. The affair came to a climax on Sunday, July 22, when both men refused to work and insisted on being paid off. Of course we could not do that, and I went over to the U.S. R.C. *Thetis*, which had anchored up alongside of us. The commander, Captain Hamlet, sent a lieutenant with a boat's crew on board to see what the trouble was. Having investigated the case, he told me that they had no reason to complain and that the quicker they went to work the better. They still refused, and we gave them two hours to reflect whether they would work or go on board the *Thetis* under arrest for mutiny. When the two hours had passed the men were called aft, and they told me that they had decided to go to work on condition that they were allowed to leave as soon as we found others to take their places. This was agreed to, and the men went back to work. The cook did not matter so much—he was one of those who always gave trouble—but we were sorry for Parker ; he was a good sailor, and would have made a good man on any expedition if he had not come under the influence of the cook.

The provisions from Battle Creek had come, but they were in an awful state. The boxes were broken open and lots of things were missing, while others were wet and spoiled ; worst of all, there was a freight bill of $295.

We felt rather bitter at that time against the people of Battle Creek, as they had known we were to sail at a certain date and the order was filed in ample time. Their tardiness in sending the ordered goods cost us dear, with the increased freight and with the not inconsiderable loss and damage to the food.

At Port Clarence Mr. Edwards was discharged and sent home with a sailing vessel. His malaria was getting worse, and he would probably have died if we had kept him with us.

Storkersen was promoted to mate, and we had great hopes



BEACH SCENE AT POINT HOPE.

of him ; he was a splendid sailor, an intelligent and willing man, and a pleasant messmate.

But to crown our troubles, Mr. Ditlevsen was also obliged to leave us ; his pains were getting almost intolerable. We were all very sorry to see him go. For a long time we missed him, and often spoke of him during the winter, wondering how he was getting on, hoping for the best and almost fearing the worst.

With our little crew diminished by two and with two unwilling men, we weighed anchor at 3 P.M. on July 22, and stood out of Port Clarence with a fair wind, which increased as we came out to sea. Once more we passed Behring Strait, and on the following morning we approached the Arctic circle. We were not in the mood for inflicting the usual baptismal rites upon those who had not yet passed the Arctic circle, so Dr. Howe escaped the ordeal.

At 7 P.M. on Thursday, July 24, we anchored off Point Hope, partly because the weather had become too stormy for sailing, partly to get more dogs.

As soon as we had anchored, a umiak came out to us with some of the beach whalers on board. They told us that the whaling trade had been bad that year for the white men as well as for the natives, and that they would all possibly be in want of necessities during the coming winter. They stayed on board for some hours, and we were debating the all-important question, was it going to be a good or a bad ice year? We did not like the permanent north-easterly winds, but the men from shore maintained that it was all right and said that a north-easterly wind would set the ice away from land on the north coast of Alaska. It seemed incredible, but they ought to have known, as they were old whalers themselves.

We had come in expecting to stay for that night only, but it became a rather long stay, as the wind blew too hard and the sea went too high to allow us to continue our journey till July 29.

The day after our arrival it blew too hard for us to venture ashore, but some Eskimos who were very eager to sell their dogs came out to us. We bought two brothers, rather fine animals. The price we paid was $4.17 apiece, but it took us three hours to conclude the bargain, sufficient proof that the

Eskimos were no better to trade with up here than they had been further south. We bought in all six dogs at Point Hope, at an average price of $8.99, though for one particularly fine dog we paid $18.40. The price of the dogs was higher, but



NATIVES AND SUMMER TENT AT POINT HOPE.

on the other hand the animals were better-looking than the ones we bought at St. Lawrence Island.

Neither was our trading outfit particularly well adapted to the wants of the people in this place, as they had knives, needles, etc., and wanted only provisions. Upon the whole we found that all along the Arctic coast cheap and rough food was the chief trading article, and that we could get much more for provisions as trade than for anything else. We could not well afford to sell any of our own provisions, but we were bound to have dogs, and owing to the fact that only one whaler had been here that year, the Eskimos were almost out of food; consequently flour, sugar, beans, coffee, and tea were the trading articles which they really valued.

Mr. Leffingwell, Dr. Howe, and myself went ashore the day

after we had anchored off the houses, and were rather surprised to see so many white men. There were about ten of them living with Eskimo women; they had rather large families—pretty and intelligent-looking children. Most of the places looked prosperous, but the inhabitants asserted that business was slack and that they had only caught six small whales during the last spring.

As we did not wish to go too far away from our boat, we did not visit the Eskimo village further out towards the point, nor Dr. Driggs, the missionary, but stayed in "Jabbertown," the place where almost all the white whalers lived. The name of the place, by the way, seemed very appropriate to us, as their chief subject of conversation was the doings and sayings of their neighbours. We passed most of our time with a young American, Jim Allen, who did us good service, especially in pointing out some good dogs. He made us a present of a pup, but that pup brought an illness, something very like hydrophobia, among our dogs, of which many of them died later on.

An old German had collected and salted down numerous eggs taken on an auk's rookery at Cape Lisburne. They tasted very nice, and we bought as many as we could possibly use.

As the wind abated a little on July 26, we tried to go, but as soon as we came outside the shelter of the sand-spit the sea was so heavy that we could do absolutely nothing, and had to return to Cape Thompson to take in water supplies.

We had to be very careful while running along the shore from Point Hope to Cape Thompson, as the wind came down the gullies in violent squalls. We had barely time to see them coming on the water before they were over us with so great a force as almost to throw the schooner on her beam ends. Sometimes we would get into a head-wind, and get the wind from all points of the compass in the course of a few minutes. We anchored outside a small river, close to the Revenue Cutter *Thetis*, and immediately sent our boats ashore for water.

The *Thetis* was also taking in water, and steamed up to the village when the work was done. When, later on in the day, we had managed to beat back against the wind, we anchored alongside of her, and while Mr. Leffingwell went ashore I went over to the *Thetis* to talk things over with Captain Hamlet. We

did not want to carry the two discontented men along with us much further, and I asked Captain Hamlet whether he could let us have some of his men. Volunteers were called upon, and three of the men offered to go. They all seemed fine fellows, and Captain Hamlet gave them a good testimonial. The only drawback was the salary. The men who were to be discharged had $25 and $35 a month, while the men we could get from the *Thetis* would not go for less than $40, the wages they had on board. As it was absolutely necessary to get some new men, we had no choice, but signed them on the *Duchess of Bedford*. They were the Scotchman, William Hicky, the Englishman, J. Allister, and a German, Max Fiedler. Thuesen took over the cooking and did it fairly well, being one of those who could do almost anything.

The two men who were to go were rather depressed at the prospect of being dumped on a coast like Point Hope, which was not as good as the promised land, Alaska, but Captain Hamlet and myself thought that it would be a good lesson for them to stay there until the Revenue Cutter came back. They looked very dejected when they were landed on the beach, and the white men there were not anxious to assist them, though they had promised us to give them anything they absolutely needed and to find them a cabin to sleep in.

The gale kept on blowing, and we felt rather worried, partly because we were afraid that this north-easterly wind might set the ice hard on Point Barrow, and partly because it was getting late in the season. The S.S. *William Bailis* and *Mount Ray* had left several days before we came, and the *Thetis* left on July 28 with a very strong head-wind.

At 4.30 P.M. on Sunday, July 29, we passed Point Hope with so little wind that we could hardly steer, and were almost drifted on the Point itself by the current. But we just shot clear with a few fathoms to spare, and could square off for a fair but light wind, northward bound.

Just as we passed the Point the dogs ashore smelt our dogs on board, and an awful concert was the result. A dog ashore commenced howling, and was almost immediately joined by others. A couple of dogs on board answered, and each minute more and more joined on both sides, till at last all our twenty-two dogs were sitting down on their haunches with

their noses turned towards the sky, and howling with all their might and in all keys. On shore the chorus consisted of a hundred or more, which, of course, aroused the whole village. People came running out of their tents or houses to find out what was the matter; seeing that there was nothing really amiss, some angry individuals took sticks or stones and flung them at the singing animals, usually hitting, whereat yelps of pain would mingle with the high-pitched howls of some hundred and fifty dogs.

Our dogs were getting on very well, but the two pups which we got at St. Lawrence were not worth much. The storm we had just after our departure made them shiver with cold, and they were drenched all day long until we took them down into the cabin. Mr. Leffingwell was very good to them—fed them, dried them, and nursed them for some days until they got better. His care most certainly saved their lives. We had dogs everywhere; on the main deck, on the hatch, on the poop, wherever we could find room for a dog, a dog stood tied up; and we had to manœuvre carefully when we went along the deck, as some of them were rather vicious and took their revenge for being tied up so long by biting anybody who happened to come too close. I often wished we had had kennels, as it was really too hard on the dogs to stand outside in all kinds of weather, but we had no room for kennels anywhere.

The fair wind we had after passing Point Hope lasted only for a short time. First we were becalmed, and then came a head-wind, so very light that we could hardly make any headway at all. The swell was strong, but we looked upon that as a good omen, for we could not think that ice could be near us with so strong a motion in the water.

Our new arrangement with the crew worked very well, and Thuesen developed into a fine cook. Our food was better prepared, and we were also saving provisions, chiefly, perhaps, through the efforts of Mr. Leffingwell. After Mr. Ditlevsen's departure, he had taken over the provisions and had worked out a bill of fare for a week, in which due attention was paid to the leavings from one meal which could be used for the next. Thuesen also did much to further our new economical way of living; he was very anxious not to waste anything at all, and

showed great ability in using whatever odds and ends there were left.

Perhaps it was only a case of new brooms sweeping better than the old ones, but upon the whole I was very well satisfied, and it was quite a pleasure to see the cheerful faces of the new crew, and to feel that willing hands did every piece of work which had to be done.

The weather cleared on Tuesday, July 31, but we were still heading out W.N.W., a bad course for Point Barrow. We saw rather a heavy ice-blink towards the east, but we could not see the ice itself. At noon we were 70° 00′ N. lat., and at 4 P.M. we commenced to see some white streaks in the horizon, and before long we were in the ice.

We still hoped that they were only stray pieces which the prevailing north-easterly winds had blown away from the pack, and not the real thing itself, as we were rather far out and could lay a course for Icy Cape if the wind held. The ice became heavier at 10 P.M., and at midnight Mr. Leffingwell and myself had to talk the situation over. We did not like the idea of getting into the real pack, but as long as we had slack ice we might as well keep on, as the ice-blink we had seen to the east of us did not promise well for that direction. We decided to continue until we ran into the heavier pack, then make about and go towards the shore.

To pass Point Barrow before the 5th of August, the date Captain McClure passed it in 1852 (H.M.S. *Investigator*), had been our secret ambition during the latter part of our journey. If the ice were passable along the shore from Point Belcher to Point Barrow, we still hoped to be able to do so, but we had grave fear as to the condition of the ice, a fear which our experience later on amply justified.

CHAPTER II.

PASSAGE THROUGH THE ICE.

Leave Point Hope—Enter the Ice—Arrive at Icy Cape—Heavy ice—Beating up along the coast—Pass the steamers—Arrive at Point Barrow—Delayed by ice—The Eskimos—Arrival of the steamers from the East—Seek shelter in Elson Bay—Captain Cottle offers to tow the vessel through heavy ice—Leave Point Barrow—Decide to go into winter quarters—Arrive at Flaxman Island.

Wednesday, August 1.—The month of August commenced with fine weather, but we saw very heavy pack ice a couple of miles away. We had to go about and stand eastward, and at 3 A.M. we came into a large expanse of open water.

We quickly imagined that our troubles were a thing of the past. No such luck! We ran out of the open water and had to enter into heavy ice, where long crooked narrow lanes separated the floes. The whole day was spent in working through it. It was a hard struggle, and with the hauling and slacking of sheets, with running the headsails down or up, with now and again taking out a line ahead and heaving the ship through a narrow channel, all hands were needed, and Mr. Leffingwell and Dr. Howe helped as usual. With care and hard work we managed to manœuvre the vessel better than I ever thought a sailing vessel could be manœuvred, and we felt very cheerful.

The weather was hazy, at times so foggy that we could not see a mile ahead of us, and several times we were obliged to tie up and wait for the fog to clear.

In the morning we commenced to work southward, more or less, for a fair wind; we had come too close to the heavy main pack, where the ice was too dense for us to manœuvre in. We tried to get into the coast water, as that would be more open, but toward night the wind failed entirely, and from 8 P.M. we had calm but clear weather. When the sun was almost under the horizon we were all on deck to admire the beautiful sight.

The water was so quiet and shining that a short distance from the ship it looked as if oil had been poured over it, and the rays of the setting sun coloured the white ice with a delicate pink, while the dark blue shadows on the ice facing south looked deeper and bluer against the white and red. It was fine, but would have been still finer if we had been able to make a run of two or three miles an hour towards land, towards open water, and towards Point Barrow, the place we were especially anxious to pass.

Thursday, August 2.—I stayed on deck till 3 A.M. We had not been sailing for the last five hours—only drifting. As the ship got stuck in some young ice and could not move, I went below to sleep, leaving Mr. Storkersen in charge.

While I was below, Mr. Leffingwell, Dr. Howe, and Storkersen saw a bear and went after it, with the satisfactory result that they called me at 7 A.M. to tell me the news of the bear's death. Besides the bear they had the good luck to shoot a walrus, and were very busy when I at last came on deck. The weather was splendid—not a breath of air, the sky clear as crystal, and the sun shining on the glittering white ice with such brilliancy that it hurt the eyes to look at it; on a small piece near at hand Dr. Howe with some of the men were busy skinning the bear. In the tackles the walrus was hanging, also ready for skinning, and the dogs, crazy with joy, tugged at their chains and jumped backwards and forwards in their desire to get loose, never for a second losing sight of the pleasing spectacle of meat and of blood running over the snow. When the meat was got on board, every dog seemed quite beside himself, and not till each of them had got a large chunk did the noise subside, but even then only for a short time, as the dogs had not been fed on meat since we left St. Lawrence Island. To-day they had all they wanted; let the morrow take care for itself!

At noon a light breeze sprang up, and we left the icefloe we had been tied to, leaving ample evidence of the killing of the bear and walrus in the blood on its hitherto spotless surface. From the crow's-nest we could see a dark streak far away on the horizon, which we at first thought was water, but later on it turned out to be land.

At any rate we made for it, thinking that even if it were land

we should find some open water there, and in the afternoon we spoke the S.S. *Harald Dollar*, the smoke of which we had seen all day. The *Harald Dollar* was a supply ship to the whalers which had now been in the ice with full crews for more than ten months longer than was expected. The ice pilot, Captain Mogs, told us that we were off Wainwright Inlet, maintaining



TRADING STEAMER IN THE ICE.

that he had been told so by some natives who had come out to the ship, and as he spoke their language rather well, there was no reason why we should doubt his words. Great was our joy, as we had thought that we were no higher than Icy Cape.

As the ice was very close to the north and it was almost calm, we bore in to the land to anchor in the shelter of the ground ice. At 9 P.M. we dropped anchor in a little cove, formed of heavy ice which stood hard on the bottom, giving us very good protection.

Friday, August 3.—Another fine day, though we would have preferred to see it blow, particularly from the east, as that might have opened the ice. The outlook was not cheerful. So far as we could see to the north there was nothing but ice, and not a drop of water in sight. Far off we could see the riggings of the *Thetis* and *William Bailis* with their hulls below the

horizon, while nearer to us the *Harald Dollar* was fast in the ice, and to the south an old whaling barque lay becalmed, with its large sails hanging slack from the yards. A piece of ice in our very neighbourhood began to show signs that the hot sun was telling on its stability, and we warped the ship away to a safer place. We had hardly reached it before our last shelter



MR. F. F. FELLOWS COMING ON BOARD.

collapsed, turning somersault, setting the water in violent motion and breaking up into numerous small pieces.

Here we met Mr. F. F. Fellows, a school teacher, who had just been landed from the Revenue Cutter and had not even a house ashore. He lived in a tent awaiting the arrival of a supply ship. When he saw us, he came out in a boat to pay us a visit.

From him we learned the sad truth that we were only at Icy Cape and about sixty miles to the south of Wainwright Inlet. He stayed with us until his boat crew became impatient, as they wanted to go out to the pack ice and hunt walrus, and he joined to see the sport.

No one went ashore, for we might have to move the ship at any minute, and we tried to pass away the time as well as we could. When night came we could still see the steamers; at

least it was a consolation to think that they were also fast in the ice.

The prospect of a quick passage seemed small upon the whole, as the ice was exceptionally heavy for that time of year.

Saturday, August 4.—A considerable change in the weather. Instead of being calm and clear it was blowing hard from N.E., and a heavy fog obscured everything beyond our immediate neighbourhood.

We tried to get under way, but had to go back to our old anchorage, partly because it blew too hard and partly because it was impossible to see what we were doing. These were tiresome days, lying still, chafing with impatience to be advancing toward the north, and with no prospects of a speedy delivery.

At 11 P.M., almost an hour after we had turned in, I was roused by some fearful howls from the ice and jumped on deck. It was the watchman, who had been out for a walk on the grounded ice, and while he was there a sea or some shock broke it up, and the pieces commenced to float away. Luckily for him, he happened to be on a piece of ice where a line from the ship was made fast, or he would have drifted away. We had the ship moored to three pieces of ice which now all were adrift, each plucking and tearing at our poor ship and trying to break loose.

We got the man on board, ran a new line over to an icefloe which was yet aground, and cut the others. Half an hour later the excitement had died down and we turned in, in order to fortify ourselves with a good sleep for the battle of the morrow.

Sunday, August 5.—To-day we had hoped to be off Point Barrow, or beyond, but no such luck! We have almost two hundred miles before us, with all sorts of ice, and current and wind against us. It was still blowing hard, but it was fairly clear, so that we could see several waterways to the north, and at 6 A.M. we left our harbour of refuge. Head-wind and current are hard odds to fight against, particularly when we have to go through heavy ice, but we must round the Blossom Shoals and must take our chance of being caught in the ice. So we launched into it, banged about and almost shook the rigging out of the ship, but we made ground for each tack, and from the crow's-nest I

could see fairly open water far ahead. It was strenuous work, and it blew so hard that we were obliged to have a reef in the mainsail. All hands were on deck. Mr. Leffingwell and Dr. Howe were at the mainsheet, one man was at the wheel, another was at the foresail, while I myself was in the crow's-nest, being shaken about in great style whenever the ship hit a piece of ice.

All went well, and though we often bumped so hard against the ice that I thought we had stove in the ship, we got through it, and at 1 P.M. lay out westward over a rather large expanse of water. Between 5 and 7 P.M. we had some more hard work among heavy ice, but then we were through, and shortly afterwards we again saw the tops of the *Thetis* and the *William Bailis*, which now had been joined by the *Harald Dollar*. The wind slackened a bit, we could set full sail, and all in all we made fine headway.

Monday, August 6.—We anchored at 4 A.M. a short distance to leeward of the three vessels. As it was impossible to tell our whereabouts from the appearance of the coast, Mr. Storkersen went over to the Revenue Cutter and brought back the news that we were about fourteen miles south of Wainwright Inlet. We had done even better than I thought yesterday, and had made almost fifty miles in twenty-two hours. Mr. Storkersen also brought the news that there was great trouble on board the *William Bailis*. The crew had complained of their treatment by the captain, who had been arrested. He was taken on board the *Thetis*, and the command of the vessel was turned over to the mate. The charges brought against the captain were assault and manslaughter. The *Thetis* had two days ago been up as far as Wainwright Inlet, but had found the ice close inland and had returned to await better conditions.

They left about noon, but we hoped that the ice would clear out a little yet, as the wind was still against us. We were all very much depressed with the continuous north-easterly winds and the heavy ice. Also the summer was drawing near its close, and the nights, though light at present, would soon get rather dark, too dark at least for navigation in the ice.

Tuesday, August 7.—We weighed anchor at 7 A.M. and had a light E.S.E. wind. We hoped that it would last, but before

long it hauled back to its old quarter, N.E.—right in our teeth. All day long we continued beating through comparatively open water, and passed Wainwright Inlet at 4 P.M. The wind was light, and we were not making great headway. The mirage was very strong, showing the ice in most fantastic shapes, but although it was interesting and even beautiful to look upon, it spoiled our view ahead, and we could see no water, only ice as far as the eye could reach, until we came near it, when we always found that the refraction had shown up the white ice, so that we could not see the water from a distance.

About 6 P.M. we struck the pack ice and had to follow the edge of it eastward. The pack was very formidable-looking, there was no sign of water in it, and it was heavier and more rugged than any ice we had seen before, either on Kaiser Franz Joseph Land or on the east coast of Greenland.

Close inland we found it a little more open, but we did not dare to enter the pack, as it was getting dark, and we were all tired out with the hard work of beating through the heavy ice. We anchored at 11 P.M. at Point Belcher. Our prospects are getting darker and darker, time is going fast, and with the wind, current, and ice against us, we can scarcely hope to reach Point Barrow near the date when we had expected to arrive.

A very pleasant event, however, occurred on this day. One of the dogs which we had bought on St. Lawrence Island gave birth to six pups. Four of them were males, and those were kept alive; the remaining two were drowned. Although we had fixed up a box for her, she gave birth to her pups on some coal sacks which were lying on the deck. Mr. Leffingwell, who was in his room at the time, heard the whimpering, and, following it, found the puppies lying about in holes between the sacks. We gathered them together and put them into the box. The mother soon found that this was a far better place than the coal sacks, and likewise made herself at home there. We hope that the pups will do well, as the mother is a large, strong animal.

Wednesday, August 8.—We broke anchor at 4 A.M. and cruised up a narrow channel between ground ice and the shore. It was hard work and very exciting. The channel was half a mile wide on an average; on one side we had a high, unbroken barrier of ice, on the other the low coast. Going toward the

shore, we went about in ten feet of water and then outwards again, but, with the current setting down the coast, it was sometimes hard to get the ship in stays, and we took the ground several times during the day, every time, however, getting her off easily. Fortunately, there was hardly any loose ice in the channel, which helped us considerably. About 10 A.M. we saw the masts of the three steamers again, and as far as we could make out they were at anchor, not a very promising sight! At 4.30 P.M. we anchored alongside the *Thetis*, and I went on board to learn the condition of the ice further ahead. Captain Hamlet told me that he had followed a lane about twenty miles further, but had then been stopped by impenetrable ice, after which he had been obliged to return in order to find a better anchorage. There is a change coming now, as the ice has begun to drift northward, and the conditions may be better at any time. However, all agree that this is an exceedingly bad year, the worst that any one on the *Thetis* or the *William Bailis* has known. From the crow's-nest of the *Thetis* we can see a narrow streak of water along the shore, but out seaward and northward it is ice, and nothing but ice, as far as we can see. We will wait until to-morrow, and then endeavour to follow the lead along shore if the conditions do not change further out to sea. This is bad, very bad indeed, and we are all very depressed and tired. I wonder whether the wind is ever going to change.

Thursday, August 9.—We weighed anchor again about 5 A.M. and started to beat up along the land, but as usual the conditions were against us. Besides the head-wind the fog was very dense—so dense that we could only now and again see the land, less than half a mile distant. Twice we anchored when it was impossible to pick our way through the ice, and as soon as the weather cleared up a little, up went the anchor, and the work commenced afresh. We seemed to make fair headway, and at least the current was in our favour. About 11 A.M. we had to tie up for good, as we had come into a little less than two fathoms of water, and the ice barrier was only some few hundred yards away. Also the fog hung persistently over the land as well as over the ice, and we had no idea what kind of a hole we might be in. We were all getting utterly disgusted —everything wet and heavy, the ropes so swollen that they

could hardly pass through the blocks, while our hands were blistered by the continual hauling. And the wind since leaving Point Hope had been constantly in our teeth.

We were delighted to observe that the clouds were setting from the S.E. quite rapidly, and we all hoped that some fair wind might be coming. In case it should come and the weather remain fairly clear, we might beat the steamers yet. At any rate we are now ahead of them, and it certainly would be a joke to do it. Upon the whole we have high hopes for to-morrow.

Friday, August 10.—How long will this last? We woke up in the morning only to find things as grey as yesterday, and in spite of the clouds, which were still drifting from S.E., the N.E. wind was blowing. We could see absolutely nothing; the fog was low but heavy. Now and again a lighter shade of the fog ahead would indicate that some ice was coming. By-and-by it became visible, looking immensely high and large, and we were ready with long poles to push it away from the ship in case it should come too near; but when it came closer we saw that it was the smallest of small pieces of ice. This was the only thing to enliven to-day's monotony. For the rest of the time we walked about on deck, and no one felt particularly inclined to talk.

Mr. Leffingwell and I have had several serious discussions as to the outlook. The time is certainly running short, and still we are far away from Point Barrow. We are feeling more and more depressed, and no wonder. Suppose that we should not reach Point Barrow! It has happened before that ships have not been able to go so far, and with the present state of affairs it almost looks as if it might happen again this year.

What will be the outcome if we do not reach Point Barrow? What can we do here which is worth our while, and what will the people say who have placed their confidence in us? Those who thought that we could easily pass between the land and the ground ice if only the ship was sufficiently small (I myself had been among them) would certainly have to change their opinion!

Oh, the pity of the thing! For more than twelve years in succession ships have been able to go east long before this, and now, when so much depends on it, we have everything against

us—wind, current, fog, and ice—obstacles which are almost insurmountable. If we could only get as far as Cape Bathurst we could do something; but suppose we should be caught here in the ice and frozen up, what then?

But what is the use of worrying? Fortune may once more favour us, and all may be well.

At 1.30 P.M. the fog lifted, and Mr. Leffingwell and I went aloft to see what things looked like. It was a very pleasing sight which presented itself to us—a wide lane running parallel with the coast as far as we could see. But of course it is not right to go into a lane in the pack ice, with ice between ourselves and land. It may close up on us, and even if the ship is not crushed we may get caught so that we cannot get out again, and drift away into the unknown. But the season is very late and we are so far from our goal that we are justified in taking our chance, so here goes!

"Deck ahoy! hoist that mainsail and foresail, back up staysail to port, up anchor then, boys—lively now! That's right! we can see far ahead, open water, lively now to get under way!" The clearing lasted but for a little while, and we made for the entrance in the lead. To the south we could see the steamers lying in the same place, and they did not yet show any sign of moving, so apparently we were more fortunate than they.

Again the fog came down, thick and wet, but we were in the lead, had seen its course, and could follow it. But not more than an hour after starting we had to tie up to a floe, as we were again getting into a tight place. The floe was rather small and drifted southward against the heavier ice, and after several narrow escapes of getting nipped we started again and stood shoreward on the other tack, in order to anchor in water so shallow that the drifting ice would not be able to hurt us.

We had five fathoms of water at the time we started, and that decreased shortly to four and a half, remained so for a while, then again increased to eight fathoms while we were running towards the shore. We had a fine run, a fresh breeze, not much ice; only now and again did a piece loom through the fog. Luck had been with us; we had just managed to pass the Seahorse Islands and were running into Pearl Bay. At 9 P.M. the ice got very heavy ahead, and we dared not continue,

as the night was coming on and the fog getting thicker, so we tied up to a large floe.

We hung on until 10.30 P.M., when we were again forced to get under way. It looked as if we were to be shut in, but it was too foggy to see much. At any rate our good fortune guided us to a channel which we could follow for a while, and we ran along through darkness and fog, sometimes hitting pieces of ice, sometimes touching the points of the floe we were running alongside of. Strenuous sailing it was, as well for the ship as for the men.

Saturday, August 11.—It was about 2 A.M. before our progress was finally stopped, and we could find no leads through the ice ahead of us, although there probably were several. Our old enemy the fog was as heavy to-day as yesterday, and concealed everything from view. All day we have been talking of nothing but our very gloomy prospects, and discussing the situation from all points of view, but, however eagerly we may look for it, there is not a streak of light anywhere in the dark outlook ahead of us.

Sunday, August 12.—The day commenced without any discernible change in the weather. It was blowing hard, the fog was there still, and the ice as far as we could see was close and closing in. We are drifting toward W.N.W., and when the ice goes that way it must at least open a lead under land. We shall have to get away from here. It is now a week since we left Icy Cape, and during that week we have not made more than one hundred miles.

At 11 A.M. the welcome call from deck, "Fog's lifting," brought us all out of the stuffy cabin, and as soon as I saw the way in which the fog disappeared, I made at once for the crow's-nest. About seven miles distant land loomed up, and as far as I could see there was a fairly open lane of water along the coast. But we could not reach it. There were several lanes leading there, but they were right up in the wind, and the ice moved so fast that while we were looking on one lane closed up and another one opened. We had to give up all hopes of moving for the present, but at least we could see and were thus able to use the first opportunity. The wind was increasing in strength toward night and it blew half a gale.

What an influence the weather has upon the minds of all

human beings! Like the reptiles we feel wretched, stiff, and uncomfortable in rain and cloudy weather, but if the sun shines we wake up, shake off our gloomy fancies, and think that conditions are after all not quite as bad as we thought. The scenery surrounding us is marvellously beautiful. The sun is shining from a deep blue sky, showing us the most brilliant country God ever made. The magnificent, majestic ice, dazzling white in the sunshine, with its lofty pressure-ridges floating around in the azure blue water, is a sight which can only be imagined by those who have been in the Arctic. These hundreds or thousands of tons of ice are drifting fast, floe colliding with floe, with a crash that resounds far and wide over the silent ocean. They tear off large pieces of ice when they grind along each other's edges, turning up immense blocks, only to let them slide out and slip into the water with a splash when they separate, sending a shower of spray over everything around. Wherever a pressure-ridge is piled up on the edge of a floe, there are caves in it showing the most delicate colours, all shades of blue, from the lightest to the darkest.

Yes, it is all very beautiful, but we feel ourselves so small, so absolutely incapable of contending with the powers that create, move, and dissolve these immense bodies of ice.

More and more plainly we can see the water under the land. It extends its arms farther and farther toward us, and soon we hope we shall be able to make a break for it, reach the open water, and then Point Barrow! Far away to the south we can see the steamers. They have spread out and are trying to force their way north. It is one consolation that at least we are ahead of them.

We had some hard sailing this afternoon, and only succeeded in losing about a mile, and in smashing our bow. We hoisted sails and let go the line which held us to our floe, while from the crow's-nest I attempted to make out a lane which would lead us into the open water. But before the ship commenced to answer the helm we had drifted too far, and a mismanaged manœuvre was sending the ship straight upon a large solid floe. We certainly struck hard; I was almost shaken out of the crow's-nest, and looking down I saw some pieces of wood drifting along the side of the schooner. That did not look promising, and I sang out to lower the sails and make fast,

but before we could get a rope out we drifted again by, and once more we came down on a piece of ice, so hard that I thought we surely must be leaking. But the ship held out, the pumps were dry, and only the bow had been damaged. The iron bands which were strapped round it had been broken off and the outside timber smashed. Well, as long as she doesn't leak it does not matter much; we must take some chances to get out, as the time is getting very short.

Monday, August 13.—We had high hopes last night for the coming day, but they have been sadly disappointed, and again we have a nasty, foggy, and stormy morning. It is blowing from N.E., so we have at least the consolation to know that even if we cannot see it the ice must be clearing out, leaving us a highway for Point Barrow.

At noon we had a small clearing, and I was able to see that the ice had practically cleared away from the shore, but also that there were no lanes within reach leading in that direction. The fog shut down again before we could get a real chance to look, but it is bound to clear up again sooner or later.

The clearing came before we expected, and at 1.15 P.M. we left our floe with our sails reefed, though not more than was absolutely necessary. We had a lane to pass about three hundred yards long, with the wind right against us. Through it, we could bear off a little into more open water, and from there we could easily reach the large coast water. We stood across our own pool to get so much to windward that we could come down on the lane with a fair wind. After two tacks we managed to do so, and with slackened sheets the *Duchess of Bedford* flew through the water. As soon as we entered the lane, we ran her right into the wind, hauled down the headsails, and with the large sails flapping, our staunch little vessel shot up in the wind like an arrow. We all watched her with anxiety, for we had no time to lose, as the floes on both sides of us were fast nearing each other. With a great effort, however, we poled ourselves along for the remaining fifty yards, hoisted the headsails, and at last we were in open water, and once more felt our vessel move on the seas. The sea was running strong, and that promised well for a considerable space of open water further ahead.

We had just got through the last lane when the fog came

down again and shut us out from the world around, but we still stood shoreward until our lead told us that it was time to go about, and then seaward, until the rugged edge of the pack loomed through the fog. We shall probably be at Point Barrow to-morrow !

Tuesday, August 14.—We have been doing well all day. There is a headwind, but what does that matter as long as there is open water ? It has also been foggy most of the day, and only once in a while we could see a piece of ice through the heavy fog. We have sailed hard all day long, and have been able to lie on one tack for almost an hour and a half at the time. The wind is really too strong to carry full sails, but we must make the best of it, and press her as hard as we dare. Towards night the weather cleared up a little, and we saw a boat come out from behind the shore ice. It was the crew from a wrecked whaler, the *Bonanza*, who were on their way down to the ships to look for work. One of them, a sailor by name of Joe Carrol, applied for a place with us. He seemed an able, useful man, and as he had been in the country for a long while, he ought to know something about it ; so being still shorthanded, we let him sign on board as sailor, dog feeder, hunter, etc. Our poor dogs are very uncomfortable, getting wet every day, and never having time to rest, as they are tied all over the ship, and whenever one of us is moving, or we are working the ship, they are all disturbed. Poor things, we are sorry for them, but we cannot help them. We anchored about eight miles south of Cape Smyth, as the current was setting so strongly southward that we could do nothing more. Now at last Point Barrow is very near.

Wednesday, August 15.—Weighed anchor at about 7 A.M., and worked our way up shore against wind and tide. It was a hard day's work, and from the time we started till the time we came to Cape Smyth we never had a minute's rest. Mr. Leffingwell and Dr. Howe were aft at the mainsheet and peak halyard, and the crew forward, as we were often obliged to let go the anchor in order to prevent the ship from running aground, and to help her through the wind. The channel was very narrow, in places only about three hundred yards wide, and a very strong current was setting against us. At last, at 2 P.M., we had made the distance to Cape Smyth, and anchored to get some

lunch. We have several times been in great danger of being swept upon the ice, and once, with a umiak alongside, we had to anchor to prevent it. We were also aground three times during the forenoon. While we were eating, all the white men from the station came on board, telling us that our vessel was



MR. HOBSON WITH HIS HALF-BRED CHILDREN, AND MR. LEFFINGWELL. [ON THE LEFT.]

the second boat in; a small motor schooner had beaten us by less than one day.

We weighed anchor again, one hour later, and went outside the ridge in order to cover the rest of the distance as fast as possible. Messrs. Hobson, Gordon, and Hadley, from the whaling station ashore, went with us, and they told us the sad news that the ice was still on Point Barrow and that no passage to the east was possible.

The *Mount Ray*, the vessel that had come in before us, had been round the Point, but had been able to go only a few miles; from the crow's-nest only ice had been visible, and no water at all in sight. Not very cheerful news, to be sure, but

at any rate we have reached Point Barrow, and none of the steamers has shown up yet.

At 5 P.M. we anchored two miles north of the station, not far from the *Mount Ray*. Mr. Leffingwell, Dr. Howe, and myself went over there to ask the captain, Mr. Fowley, what he thought of the condition of the ice, and he confirmed the statements of our visitors in the afternoon. We spent a couple of pleasant hours on board, and went ashore to shoot the ducks which in large flocks were passing over the narrow sand-spit on their way south. However, it was too foggy, and we could not see the ducks clearly enough, and had to go on board with very little to show for our pains.

Thursday, August 16.—Dr. Howe and myself went up to the whaling station to-day. It was a very large house, and, judging from the amount of boats, a large whaling industry must be carried on from there in spring. Most of the natives were away on fishing trips, but we could see their houses, almost all frame houses, at least in the neighbourhood of the station. We went over to the Mission, but Mr. Spriggs had gone down to the *Thetis* to get the mail, as they were afraid that the boat would not be able to get in this year. We all regretted having missed him. Mrs. Spriggs, however, was very kind, and we had a pleasant time in her house. She, too, thought it rather improbable that we should be able to round Point Barrow for a while, and as she has been here six years she is likely to know a little about it. In the evening we gave a small party on board for the white men ashore, where Messrs. Hadley and Hobson amused the company with some clever songs.

No steamers in sight yet!

Friday, August 17.—Mr. Leffingwell and myself went ashore for a long walk to talk things over. We are beginning to realize that we may possibly have to stay here, but, of course, the conditions may change quickly in this country. The steamers came in while we were ashore, and we went on board to find out what they thought of the conditions. It is strange that the current, which in most other years is running up along the coast, should this year, almost without exception, have been setting down at an average of nearly two miles per hour. The wind has been blowing from magnetic N.E. practically all of the latter part of the spring and summer, and the general

impression is that we should probably have plain sailing if we could only round Point Barrow itself.

The wind is dying down, and that may mean that a change is coming, the change we have all been waiting for.

This heavy ice is also bad for the imprisoned whalers; they must be entirely out of food. The *Harald Dollar* will probably not even try to pass Point Barrow at so late a date, so the whalers will have to come here.

The United States S.S. *Thetis* is as much interested in the progress of the whalers as we are, but for other reasons. There is some trouble on board one of them, and there is a warrant out against her captain, but no ship is in sight yet—nothing but ice.

Saturday, August 18.—No change, although it may be expected every hour. This certainly is discouraging. Captain Hamlet came on board and spent a couple of hours with us. The wind is breezing up again from N.E.

Sunday, August 19.—Weighed anchor at 8.30, as the current was a little slacker. However, it increased shortly, and before we had been under way an hour its usual speed was reached. The wind was brisk and contrary, but we made good progress all the same and came to a point about four miles N.N.W. of Point Barrow. There the edge of the pack ice formed an impassable barrier, and a few miles further east it lay close on land. We followed it, but with no success. As far as we could see there was only ice, although a dark sky told us that there *was* open water beyond. We had to return, and anchored in a little cove at the very Point. We are commencing to make plans for the winter with Point Barrow as our base of operation.

Monday, August 20.—Wind and current are the same, so we could do nothing, and I went ashore for a walk.

There was great joy in Eskimo Town to-day. The *William Bailis* had caught a large whale, and after it was "cut in" Captain Hamlet let his steam launch tow it ashore. The natives flocked eagerly round the whale and were soon very busy. The men cut out the meat and "mugtook" (the skin of the whale and the favourite dish of the Eskimos), while the women and children straggled through the town with heavy loads of meat, blubber, and "mugtook" on their backs, bound for their different storehouses. The catching of such a whale means a good deal

for the natives, and everything is used, the meat and "mugtook" for food, and when the winter comes, with cold and darkness, the blubber will light and warm their huts.

Otherwise the Eskimos, as a rule, do not profit by their intercourse with the whalers, although they have now become dependent on them. In former days these people could live, and live well, on the products of the country, but now they must have flour, sugar, and tea; nay, even butter, canned fruit, and bacon have become almost necessities of life. In the summer they are all dressed in white men's clothing, their tents are white men's manufacture, they have white men's stoves, and use white men's blankets.

However, these people do not only buy necessities of life, but also accordions and gramophones, which at present sound from almost every tent. They have watches, and those with fancy brass cases are in high demand. They pay exorbitant prices for them, and only few of the happy owners have any idea of the time of the day.

But it is not so much the articles they have which are objectionable as the price they pay for them. An Eskimo will give all he has to possess a thing which takes his fancy, and often the results of a whole year's work will go to buy some absolutely unnecessary article.

The greatest harm, however, was done in days gone by, when fifty or sixty vessels, each with a crew of thirty-five to forty-five men, were whaling off Point Barrow and every night anchored outside the village. There were no Revenue Cutters then, no missionaries, and no white men, except those who wanted to cheat the natives and would use any means to buy a fox skin or a pound of whalebone from them.

Bad whisky was sold right and left; the village went "on the spree" from the time the fleet came until it went away. Their women, wives or daughters, were given over to the whalers, who demoralized them, letting them live an easy life, feeding them on good white men's food, dressing them (according to Eskimo fashion) in expensive clothes, and, worst of all, spreading diseases amongst them—diseases that ruined the health of the race and thus in course of time depopulated large villages. The Eskimos from villages where the whalers did not stop concentrated around the centres of life, left their

homes, and spent their time at Point Barrow or at Point Hope, drinking, dancing, and feasting, never thinking of the morrow or of the long winter to come.

When the beginning of winter forced the whalers to leave for the south, the Eskimos were scattered over the country, stripped of their furs and their whalebone, with their wives



ESKIMOS. UXRA AND UJARAJAK.

and daughters diseased, and their summer hunting spoiled. In consequence, the winters were hard, the people were starving, cold, and racked with disease, while their small supply of flour, sugar, and molasses was brewed into a highly intoxicating drink.

Though hitherto industrious and hardy, the Eskimos lost their powers as huntsmen; they could not stand the hardships of the winter trail, and moved together in larger settlements, to live upon those who had something to eat. Instead of spreading along the coast in places where the hunting and trapping were good, with no more people living at one place than the country could comfortably support, they were now huddled together in

settlements many times too large for the supply of game. The result was only too evident; starvation and disease soon became the constant visitors of the villages in winter time, while they were waiting for the whalers to return!

But one year there came a man who did not trade, who did not give them whisky or desire their women, who taught their



ESKIMO CHILDREN.

children the rules of civilized life, taught them to read and write, and thus improved the coming generation. Instead of spreading diseases, this man healed and cured where he could, and instead of going away in the autumn, as the whalers did, he stayed with the people through the winter, and up and down the coast, wherever Eskimos live, a new word was added to their vocabulary, an Eskimo word which as closely as possible resembles the white man's "missionary."

There have been many missionaries in the country since the first one arrived. Some have not had a good influence over the natives, but more have done good. Besides the missionaries, enterprising whalers settled on the coast, used the natives to work for them, and paid them well. Credit is due to these men, although they may receive it unwillingly, as well as to the missionaries, because they made it possible for the Eskimos to get the food which now had become essential to them throughout the year, as payment for work. The whalers have many families working for them, and give each family what

food and clothing is needed. They are there for "what's in it," and not for any philanthropic purpose, but for all that they have done much to redeem the Eskimo tribe by teaching and enforcing the rule, no work, no pay.

About the same time the whisky trade was stopped by the Government, which sent up a Revenue Cutter to search the ships for liquor, to stay among the whaling fleet, and by its moral support to prevent the further demoralization of the Eskimo tribe. The officers acted as police and judges, and the Eskimos obtained their first knowledge of white men's laws through the Revenue officers. Murderers and thieves were punished, and before long the Eskimos came to the Revenue Cutter with their smaller or greater troubles, to let the captain decide between them and abide by his decision.



IGLOOROOK.

The Eskimos are adaptable people. In a very few years they learned to work and to value their work, they learned to read and to write, and even grown-up people went to the school. They learned that neither they nor any white man in the country could do exactly as he liked, and that certain laws existed and would be enforced, whoever the offender might be. They are ambitious people, and from their ranks young men grew up, who themselves now have whaling stations and other Eskimos working under them. They have learned the value of their whalebone and the value of the different white man's articles, and if they cannot get the price they want through the whaling stations or vessels, they send their bone out and receive goods in the following year. And when the Government sent in domesticated reindeer and wanted young men as apprentices, offering them as payment a promise that in five years they would be their own masters and possess a

herd of deer, the best of the young men came, worked hard for five years, and are now living, and living well, on their increasing herds.

The women also have got other ideals in life than selling themselves to a whaler. They too have learned to read and write, to cook and sew, to keep the homes clean and tidy, and to take care



"DUCHESS OF BEDFORD" OUTSIDE POINT BARROW.
[TAKEN FROM "GJÖA"]

of their children. They have learnt that a woman must be the wife of one man, must work with him and help him in whatever way they can. There are still women who go to the whalers, but they are few, and for the most part are already spoiled and accustomed to a lazier and easier life than they can live with an Eskimo husband. The young girls are moral, and the tribe which twenty years ago was rapidly disappearing under the influence of drink, disease, and starvation is now comparatively flourishing, and its decadence, at least, has come to an end.

Tuesday, August 21.—No change; current, wind, and ice the same. The *Gjöa* came in from the east, and Captain Amundsen told us that the ice was beginning to open up, and that there

was plenty of water north and east of Herschel Island. The people on the *Gjöa* are feeling well and happy, and no wonder, as they are going out after a successful trip. Some letters we had brought for Lieutenant Hansen were very welcome, and we spent a pleasant evening together, first on the *Gjöa*, and, later, on board the *Duchess of Bedford*.

Some of the officers from the Revenue Cutter and Mr. Brawer came on board and stayed until late in the evening. Well, when a ship can come out the ice must be somewhat open, and if we only get a fair wind we will get in too.

Wednesday, August 22.—We had made up our minds to force our way eastward, and weighed anchor at 9 A.M., but as after four tacks we lost 400 yards, we anchored as near to our old place as possible. Towards nightfall we went down to the *Thetis* in one of our boats to see what could be done. Captain Hamlet was willing to tow us as far as the ice would let him go, but we agreed that it was no use trying yet, with this wind and heavy ice. While on board the *Thetis* we saw two whalers coming in, and as Captain Hamlet wished to get on board of one, he weighed anchor and steamed up there, while we went with him, glad to escape rowing about eight miles against the current.

Hicky, whom I had with me, got a cold bath as he tried to crawl down the mast of our small boat shortly after the *Thetis* had anchored alongside our vessel. The boat had no ballast in it, and he was promptly dumped out into the water, to the great amusement of the crew of the *Thetis* and the more qualified pleasure of poor Hicky himself.

The two whalers who had come through the ice told us that it was no use trying at the present moment, for we would never be able to get through as long as the wind and current lasted.

The *Gjöa* left early in the evening, and we passed them coming up with the *Thetis*. I sent my remembrances to my people at home by Lieutenant Hansen. It will interest them to hear something more about us than can be gathered from the rather uninteresting letters we feel inclined to write.

Thursday, August 23.—Went over to the *Thetis* to say good-bye, as we were going to try again. Captain Hamlet promised to tow us round the Cape if we failed to beat up. He has been exceedingly kind and has helped us in many ways.

The wind was strong, and after we had weighed anchor at 9 A.M. we made fine headway. For the first hour we did not gain much; if anything, we lost; but by-and-by we worked ourselves to windward, and when the fog cleared we saw that we were off the entrance to Elson Bay. We had at last passed Point Barrow, but seventeen days later than McClure, and with



NATIVE HOUSES AT POINT BARROW.

no open road eastward, where the ice was looking impenetrable. At 4 P.M. we had reached the end of open water and anchored about three miles east of the entrance to Elson Bay. Having little less than two fathoms of water under us, we can lie safely here, as the large ice cannot come in this shoal water. From the crow's-nest we could see dark water-sky, probably about ten miles away, but between that and us there was apparently a solid sheet of ice. Of course it was broken up, but we could see no lanes, and there was hardly any coast water, and what little there was was too shallow for us. About eight miles away we could see three steam whalers trying to force their way through the ice, but as far as we could see, before the fog closed down around us, they too had to give up the attempt.

We are now in a position to use any wind except an easterly one, and we all hope that it may come soon. A change in the wind or the current will set the ice off land, and we shall be able to get through somehow, even if we are forced to haul the ship all the way to the open water, which is not very far off.

Friday, August 24.—Suppressed excitement all day; the wind has changed at last! It is true that it is almost calm, but what wind we can feel is from N.W. The barometer is rising fast, and the prospects are good for a speedy delivery from this trap. Our worst enemy, the current, has slackened and is only running half a mile an hour, and we shall be off as soon as the wind increases a little. The joy is not unmixed, however; it is so foggy that we cannot see one ship's length, but the fog may lift, if we get a little more wind, and all have high hopes.

We sounded up the entrance to Elson Bay, where there is ample water, but we hope never to be obliged to run the vessel in there. We tried to sail at 2.30 P.M., but the wind was not yet strong enough for us to stem the current and we had to anchor again. This, of course, was rather discouraging, but the wind keeps in the north-west, so to-morrow we may have better luck.

Saturday, August 25.—It is blowing very hard to-day from N.E., but even if the wind had been fair we could not have started on account of the fog. We have apparently no chance of progress, and it is no wonder that we all look more or less dispirited.

Sunday, August 26.—The fog cleared a little when the sun rose, and the wind has slackened. At 8 A.M. we broke anchor and commenced beating eastward. We do not make much progress, but at any rate we are moving and have something to do, so that we can forget our troubles for a time. When the dinner hour came we anchored; all hands had been on deck, and we had to manœuvre too quickly to be able to manage with one watch. At 3.30 P.M. we were obliged to anchor again, as we had come to the end of open, or comparatively open, water. The edge of the pack is aground in three to four fathoms of water, but in the channel between that and the land loose ice in abundance has drifted in from the east and has been caught by the smaller pieces of ice aground there.

So far as we can see through the fog, there is absolutely no opening which gives even the faintest promise of carrying us through to the east.

This surely is hard luck! We can do nothing but wait, but waiting has been our lot for almost the whole of August.

"Wait, wait, and maybe it will change to-morrow," has been our refrain for days, and it is anything but pleasant.

It cleared a little at 8.30 P.M., and we have been aloft to look around; but nothing could be more discouraging than the sight which met our eyes. There is a belt of ice, about four to five miles across, and by no means heavy. It is all loose, caught on ground ice, and only a rise of the water is needed to clear it off, as the ground ice will then be floated and the whole will drift out east or west (the direction does not matter), and then we shall have plain sailing to the open water visible on the other side of the belt of ice. And beyond the open water, stretching all the way towards the horizon, there is still more open water. The sky is dark, with not a single white streak or spot to show the presence of ice. But what is the use of sitting up in the crow's-nest and looking at the water? It is only the more tantalizing when we know that at present we cannot reach it. The young ice is forming now every night, winter is coming, and we are only at Point Barrow! Four whalers are on the other side of the ice, steamers, which are trying as hard as they can to force their way through, but the barrier will not yield to their endeavours, and not even with a fair wind and the current in their favour can they force the few miles of ice.

Monday, August 27.—Lay still all day with nothing to do but to watch the ice. There is absolutely no change for the better; if anything, things are worse. Some loose ice has drifted in somewhere from the north-east, and the whalers, who have now about two miles of ice behind them, are no nearer Point Barrow than yesterday. There are now six of them, each trying at a different place. For five days almost they have been working at those five or six miles of ice, and out north-west, about four miles off land, are the *William Bailis*, *Mount Ray*, and the U.S. R.C. *Thetis*, trying to get east. They have made no progress for several hours, and I think that they will have to abandon the attempt and return. The weather has been fine all day, clear and calm.

Tuesday, August 28.—Again wind from N.E., and a very strong one; the current likewise is trying to make up for lost time, and is running as swiftly as ever before. The ice is closing in on us, and we were obliged to leave our

anchorage at 10 A.M. and undo all the work of yesterday. The ice had closed in considerably, and we had to run along in two fathoms of water or less. We were aground three times, although the lead was hove as fast as possible. As the ice grounds in this shoal water and gets exposed to pressure, it raises small gravel ridges, and when the ice later on either melts or is eaten away by the current, it leaves a gravel bar, which is a serious obstacle to ships running along close in shore, and the more so as the lead does not give any indication that we are near a bar. However, we got the ship off easily. Twice we sailed and rolled her off, only once we had to use the winch. To be safe against the incoming ice we jumped the bar outside Elson Bay. It was half a foot too shoal, but a brisk wind was blowing, and we easily got over it. We had to anchor right inside, as the current made the ship perfectly unmanageable. Two of the whalers have found a lead through the ice several miles northward, but the rest are still in sight to the east, and the *Thetis* is trying hard to reach them.

This is certainly a bad ice year, and I think we had almost better go into winter quarters at once, as the young ice is forming fast.

Wednesday, August 29.—As the ice was crowding us and the season was getting late, we made up our minds that we might as well run into Elson Bay, for in case an opportunity offered of going east, we should be as ready in there as out here. The current was strong, but still I thought that we could sail in. We tried, but failed, as we got swept on the beach, and pretty hard at that. We worked all day to refloat the vessel, but the ship baffled all attempts to get her off, and we commenced to take coals and other heavy articles ashore. Still she did not float, and at 10 P.M. we hauled everything tight and left her on the beach. Of course we expect to get her off to-morrow. The dogs are excited to be so near land; they would like a run ashore.

Thursday, August 30.—The wind had risen during the night and the sea was heavy, so the *Duchess of Bedford* was banging on the ground until 5 A.M., when the noise all of a sudden ceased, and the watchmen informed us that she had slid off. This saved us a lot of work, and we got the kedge anchor out at once and worked her into Elson Bay, where we anchored in

a secure place, which could, if necessary, be used for winter quarters. We took our dogs ashore to a place called " Dead Man's Island," an old Eskimo burial ground, and they were happy indeed. It seemed as if they would never get tired of running backwards and forwards, and whenever one of us landed on the island they came running in great numbers, jumping up against us, trying to lick our faces in the peculiar demonstrative dog manner, and showing their appreciation of the much-needed leave ashore. " Dead Man's Island " is only about 400 yards long and 200 wide, so the animals could not get lost, and we could safely leave them there.

We went over to the *Thetis* and had a talk with Captain Hamlet and the whaling masters. They all agree that there is nothing to be done unless we get a westerly wind to raise the water and float the ground ice that binds the loose drifting ice and blocks up the passage east. They all speak of beautiful open water to the east. It is maddening to think that here we are, half in winter quarters, with only a few miles between ourselves and open water.

We are near desperation, and almost wish to get frozen in as quickly as possible. The suspense which has lasted so long is almost wearing us out, and it would be a relief to have matters settled one way or the other.

We have had two deaths on board to-day. The bitch with pups had not been herself for several days, and this morning Mr. Leffingwell found one of the pups lying outside the box. He went to put it back and saw the other one lying dead with its head eaten off. Of course no one but the mother could have killed it, and as we had suspected that something was wrong with her, we took the live pup down in the cabin. For a while the bitch was quiet, but all of a sudden she commenced to bark and snap at everything near, and to foam at the mouth. We knew, of course, that she would have to be killed, but killing her was not very easy, as she practically owned the ship, and no one liked to approach her. Mr. Leffingwell stood on the mainboom and managed to catch her neck in a loop. Then we all became very brave, and finally succeeded in having her tied, but we soon saw that nothing could save her. While we were down for breakfast she broke her chain and jumped overboard, and when we came on deck again she was lying in the

water, yelping. We shot her then to put an end to her sufferings, and sincerely hope that this disease is not going to spread

Friday, August 31.—Mr. Storkersen was out hunting last night and had the good fortune to find a stranded whale carcase. We went out before breakfast to have a look at it; it may come in very handy, if we are to stay here, as dog-feed. The carcase was about 35 feet long, was considerably decayed, and was smelling very strong whenever we touched it, but it will make good dog-feed.



SEVERAL TONS OF DOG-FEED ALONGSIDE THE VESSEL.

After breakfast we again started out for it, this time with two boats, tackles, lines, and kedge anchor. It was hard work getting it into deep water and towing it on board, but as a recompense for almost a whole day's work we had the satisfaction of seeing several tons of dog-feed alongside the vessel when the night fell.

No change in the weather; one whaler came through the ice and anchored at Point Barrow.

Saturday, September 1.—With the coming of September ushered in by a strong north-east wind and fog, the last remnant of hope was killed. Everybody was writing letters, and not very cheerful were the epistles which were sent out to our friends and relatives anxiously awaiting news from us. I went on board the *Thetis* to have a talk with Captain Hamlet, and he advised us to wait and see how things developed before we dismantled the ship, as he might possibly be able to induce one of the whalers to give us a lift for a few miles. Needless to say, I returned to the ship in better spirits.

There are great doings at Point Barrow; the officers of the Revenue Cutter are busy with charges against the whalers of carrying women on board, and are investigating rumours of cruelty towards the crew, which charges, however, seem to be more or less unfounded. In true sailor fashion one man says one thing, the next another, and they are so keen on getting the captains fined, or worse, that many of the charges are decided inventions. There are several sick people on board the ships, who will be sent out in the *Harald Dollar*.

Sunday, September 2.—Foggy weather, and still blowing hard from N.E.

Although we are practically in winter quarters we cannot quite give up all hopes of further progress, and went on board the whaling vessels in order to inquire once more about the conditions to the east. They all say the same thing—once through the ice which we can see, it would be plain sailing for the rest of the way. I did not learn quite as much as I would have liked to, as the ships had just got whisky on board, and that, of course, was too tempting after the long period of enforced abstinence, and everybody on board was in a state of more or less perfect bliss. They were, however, extremely nice fellows, and I hung about for a while watching the fun. One of the captains, Mr. Cottle, S.S. *Belvedere*, told me that he would tow us round the ice when he had got his provisions on board, and told me to come out and anchor alongside his vessel, to be ready to start as soon as an opportunity offered itself.

When I came back I found that Mr. Leffingwell and Dr. Howe had gone across to the mainland to shoot ducks and intended to remain there for a day or two. They would be on the look-out for a signal from on board, in case we should have hopes of going on.

Our dogs are apparently feeling very well, they are getting clean and fat. They seem to think that they own the whale which we have hauled ashore, and eat of it to their heart's desire. But let them eat; we can always commence to save when we are sure that we will have to stay here.

Monday, September 3.—Captain Cottle and Lieutenant Hinckley came on board in the steam launch of the *Thetis*, and to my great joy he repeated the promise he had given

me on the previous day. He asked me to come round to his ship, and I joined them when they returned to the fleet.

It was too hazy for Mr. Leffingwell and Dr. Howe to see the signals of recall which we had hoisted on board the *Duchess of Bedford*, and when everything was settled I availed myself of Captain Hamlet's offer to let his steam launch land me at a spot on the outside of the sand-spit, as near as possible to where my comrades were.



UMIAK AND KAYAK IN OPEN WATER.

On coming to the other side of the sand-spit I was stopped by a lagoon too deep to ford, but I was bound to reach Mr. Leffingwell, and there was no other boat at hand than a kayak. I asked the owner to allow me to use it, and he consented—chiefly, I think, to have the pleasure of seeing me capsize. He went in another kayak to take his own property back, but kept at a safe distance. It was a rather shaky affair; I nearly capsized several times, but managed to cross the lagoon, 300 or 400 yards wide. But getting ashore was worse, and I tried several times in different ways. My friend sat at a distance, laughing at my careful manœuvring, and I admit that I was not particularly keen upon a dip in the cold water. At last I got broadside on to the beach, and as the owner now thought it quite safe to approach me, he came nearer to get a suitable reward for the loan. Just then the kayak slid away from under me, and I grabbed at the nearest thing at hand, which happened to be the Eskimo's kayak. It kept me up, but capsized him. I had never before seen an angry Eskimo, but I saw one shortly afterwards when he stood dripping on the beach and pouring the water out of his skiff and using all the fancy words which the whalers had taught him. I got wet too, but not so much, and had nothing to give him but some soaked tobacco. This he did not like, and on his way home, as far away as I could hear him, he expressed his opinion as to white men's ability to use a kayak and their lack of generosity. But I was across and

soon found the tent. It was empty, Mr. Leffingwell and Dr. Howe having gone up to the station. While I was drying my clothes they returned, and their joy was great at the good news I brought.

We started at once for the ship, but it blew too hard to pull the boat across, so we beached her on the sand-spit, got a long line, and commenced towing her round. It was hard work, the sea was running high, and the water was shoal. At 8.30 we gave it up, hauled the boat up on the sand-spit, and walked back to the ship. We arrived just opposite, and sang out for a boat, but it was against the wind, and for nearly two hours we stood there in our wet clothes with a strong wind blowing from the east, howling for some one to come and fetch us. At last the watchman saw our plight and came over. He had a bad quarter of an hour, as we were all three in no amiable mood, being wet, tired, cold, and very hungry. The crew started at once to get some of the gear on board which we had brought ashore on Dead Man's Island, while two went out for the boat with longer lines.

Tuesday, September 4.—Weighed anchor at 6 A.M., came out of the lagoon without any misfortune, and anchored amongst the fleet. As the U.S. R.C. *Thetis* was leaving, we went on board to bid our friends a last good-bye. They have been very good to us, and Captain Hamlet promised us to look after the affairs of the expedition at home. On board the whalers everybody was talking about Captain Hamlet and about the fines which the masters and officers of the ships had had to pay, but although they could not see why all at once Uncle Sam wanted to interfere with the idyllic conditions which had till then existed on board the whalers, they all agreed that Captain Hamlet had done his duty in a most gentlemanly way, and that he was in every respect a fine fellow and an honour to his country.

As it was impossible for us to persuade Captain Cottle to start that day, we did the next best thing, went on board the *Belvedere* where we spent the evening with him and his officers and had a very nice time. McAllister, one of the sailors from the *Thetis*, did not want to enter the Arctic after all, as we told the crew that we should stay three winters there, assuming that we got some more food. We now hope we are

through the worst and can do without him, so he has signed on board a whaler.

Still blowing hard from N.E. I wonder when it will stop.

Wednesday, September 5.—We woke at 6 A.M., roused by the steam whistle of the *Belvedere*. Captain Cottle was ready to move, and it did not take us long to get up our anchor and fasten a hawser on board the vessel that was to tow us. At 7 A.M. the rest of the whaling fleet wished us a happy journey and a safe return, by a frantic blowing of their steam-whistles. At last we could say good-bye to Point Barrow, more familiar to us than we really cared about, after our enforced stay of twenty-one days. We had to go through some very heavy ice, but it soon lay behind us, and ahead was open water, or partly open, and at any rate perfectly navigable. Captain Cottle has certainly done us a very good turn, as we could never have passed that belt of ice against the wind and current. He wants to go a little east, and as long as he is going our way we may as well hang on to him.



S.S. "BELVEDERE" TOWING THE "DUCHESS OF BEDFORD."

During the evening we had quite a shock. The *Belvedere* went close round a small piece of ice and towed us on to it, going almost seven miles an hour. The hawser broke, and I thought that the ship had suffered severely, but, in spite of all nothing whatever was wrong. In excellent spirits we turned in, knowing that at last we were on our way again.

Thursday, September 6.—All night we have been towed through fine open water and are making splendid headway.

But the fog was thick, and we had to anchor at 3.30 P.M., as we could not see to go any further. It was dead calm, and we had to wait for a wind. It remained calm all the rest of the day, and as we could not proceed, we went on board the *Belvedere* to spend the time and thank Captain Cottle for the welcome lift.

Friday, September 7.—Captain Cottle asked us to take a man, Mr. H. T. Erie, with his Eskimo wife and two children, as far east as Barter Island, and we got him, his boat, and some provisions on board last night. He has lived in the country for a long time and can act as a pilot, if we should be forced to go into the lagoon at the back of Cross Island. This morning it was still foggy and perfectly calm until 8 A.M., when a slight breeze, as usual from N.E., made us weigh anchor and start. The wind died away again, and we had to anchor within half a mile of the *Belvedere*. The current was setting westward rather strongly, but not nearly as hard as it did at Point Barrow.

About 10.30 the wind came back again, of course from N.E., and we started once more, this time for good. Captain Cottle also got under way, standing northward to fall in with the whales which he thought he might find when going westward along the ice. The wind is not quite as contrary as usual; we can get a slant standing out for one hour and in for two or three hours, and we are making fine headway. We are in the best of spirits, for now we can get a fine base for our first year's work, even if we cannot make Minto Inlet. We are optimistic, and most of us think that in spite of the lateness of the season, in spite of wind and current, we shall still be able to reach our destination. The north-east wind is rather warmer here, and is melting the thick coat of ice which formed all over the rigging during our stay at the inhospitable Point Barrow. It is dangerous to walk along the deck, as pieces of ice come tumbling down from above with a loud crash on deck. Every now and then a poor dog gets in the way of the falling ice, and his yelps and the care he afterwards takes when walking along deck tell plainly enough that it hurts. The nights are getting long now, but our last view in the fading daylight showed that there was open water ahead: so we kept on, and are now sailing through the darkness, in happy ignorance of what may be ahead, trusting to lead, look-out, and *luck*.

Saturday, September 8.—The day has been rather dull; the weather was thick in the morning, but cleared up later on. We saw lots of ice again, and had to haul close in shore in order to avoid it. There was no water visible seaward, and we shall have to go very near the outside of the sand-spits in order to get clear of the ice. In spite of the persistent easterly winds, it looks as if the ice has moved about ten miles eastward, as the whalers reported trouble with ice off Cross Island, where they had been delayed for several days. We passed Cross Island in fine open water, but could see the edge of the ice from the deck. Off Pole Island we encountered the ice, heavy, close, and apparently stationary. During the afternoon we ran among some grounded small ice, through the carelessness of the men on watch, and were aground three times before we came out again. We managed to sail the ship over the shoals under a press of sail, and did not waste much time. The fog came down again at 4.30 P.M., and we were obliged to anchor.

Yesterday we were very optimistic about reaching Minto Inlet; to-day we have abandoned the idea, after Mr. Leffingwell, Dr. Howe, and myself had talked things over carefully.

Our reasons for abandoning the plan of reaching Minto Inlet at the present moment, instead of waiting till we are compelled to do so, are the lateness of the season, the permanent easterly winds, the heavy ice, the dark nights, and the long way we yet have to go before reaching our original place of destination—in all about 600 miles.

Probably we could make Herschel Island, possibly even Cape Bathurst, but in neither of these places should we have so good a chance as from this vicinity of doing work upon the exploration of Beaufort Sea. From a winter quarter at Flaxman Island or Barter Island we shall be able to make a trip over the ice and be in an interesting section of Beaufort Sea at once. The ice which every year lies very close to Cross Island must apparently be held in place by some solid obstructions to the north. All the whalers have told us that the ice hardly ever moves off Cross Island, except slightly, and only in an eastern or western direction, keeping its distance from land.

Taking into consideration the fact that Captain Keenan claims to have seen land in this vicinity, that several of the natives tell stories about a land visible somewhere N.N.E. of

Harrison Bay, and that the tide observations, as far as they are known, according to Dr. Harris, point maybe to a land or island somewhere off this coast, it seems probable that it is this hypothetical land which holds in place the ice off Cross Island and off the sand-spit to the east and west of it. Besides the work which we can do over the ice, there seem to be a good many other things to be done here as well. The sand-spits are not mapped correctly, no more than the coast inside, at any rate as far as we can see it. At some distance from the coast there is a high range of mountains never yet explored, and this mountain range, with the low land in front of it, is drained by several large rivers, unknown, save to the natives and white men living there and unexplored. There seems to be a great field here; but what appeals most to us is the fact that during the first winter we can do some interesting work over the ice of Beaufort Sea, instead of waiting until the second winter.

Another reason is that the season is so far advanced that whenever it is calm new ice is formed. We might, as I said above, possibly reach Herschel Island, but to spend the winter there would be sheer waste of time. Supposing that we arrived at Herschel Island, one day at least would be spent in buying dogs, another in going down to King Point to meet Mr. Stefansson, as we have got a letter from him by one of the whalers stating that he is there. Herschel Island is about 200 miles distant, and from there to Minto Inlet we should have about 400 miles to cover. Of course, that would not be so very far if we could only get a little fair wind; but whenever we have not been becalmed the wind has been contrary for the last month and a half, while most of the time the current has been setting against us. If we do not get a thorough change of wind, we cannot make Minto Inlet before the winter sets in, as we are able to beat up only about forty miles a day. Besides, the nights are so dark now that we must anchor if there is any ice at all, and the current with these permanent easterly winds will be likely to set us about twenty miles a day to the west. We cannot escape some calm days, and they too will count against our prospect of reaching Minto Inlet.

Everything considered, it seems most advisable to stop now. We may at any time be caught in young ice and be forced to winter in undesirable quarters, where we cannot do any work

at all. Our adventurous spirit compels us to push on, to risk everything to reach Minto Inlet, and so carry out our plans in spite of the very adverse conditions.

But common sense must rule, the voice of adventure is hushed, and we all agree to take up winter quarters which we can choose ourselves, and from which we can do some work. Flaxman Island is good; it is well situated as a base for work over the ice, as well as for work on shore, and is furthermore the home of natives who can help us considerably. Next year we shall be able to go to Banks Land, and, in case the supplies we have asked for should fail to come, we could send out the vessel that autumn.

So here goes for winter quarters at Flaxman Island!

Sunday, September 9, *to Wednesday*, 12. — Every day but the last has been spent in working eastward against a rather strong east wind. We are working in the lagoon, as the ice is lying so close to the sand-spits that we cannot beat through it. It is slow and tiresome work; the lagoon is narrow, and gets narrower and shoaler the further east we get. It is so shoal that most of the time we have only a couple of feet between our keel and the bottom. We have been aground several times, but we are getting used to that, and work the ship off easily enough. It has been calm all day, and we have used the time to sound up a channel almost the whole way to Flaxman Island. We can carry ten feet, so I suppose we shall come in without any trouble; our draught is 8 feet 6 inches. Mr. Leffingwell and I went ashore to-day and missed the ship in the dense fog. We came out to the sand-spits, and had made up our minds that we would have to camp out until the weather cleared, and we had already killed a couple of ducks for our supper. Then we heard a shot, and, following the sound, found our vessel again, and spent the night in a more pleasant manner than we had expected. We have to anchor at 7 P.M. now; the nights are rapidly getting darker.

Thursday, September 13.—The barometer has been falling so much that we are almost bound to get wind from somewhere, but we are afraid that it will be too strong when it comes. The weather has been most disagreeable all day; not much wind, but the fog has been so thick that we could not see a

ship's length ahead of us. Some of us have been out with boats, sounding up the lagoon, and shots were continually fired from the ship, so that the people in the boats at any time could know where to find the vessel. Although we thought that we had found a channel all the way to Flaxman Island, a bank with only six feet of water was reported to-day, which seemed to be stretching all the way across the lagoon. On the other side of it the water was deep once more. We shall have to go out sounding to-morrow again.

Friday, September 14.—Calm, dead calm, and foggy. Pleasant climate this! A small and exceedingly light puff of wind from the westward came about 10 o'clock, but it disappeared very fast, as if it were ashamed of being the forerunner of the first fair wind we had had for months. Well, we never had more than that puff; the wind seems to have left this part of the world. We would have given anything now for a motor, either in the ship or in a separate boat, but unfortunately we have none, as we could not afford it. However, we have all learned a lesson, never to go back to the Arctic without a motor. I think that we should have been very far east if we had had one on board; but what is the use of crying over spilt milk?

We were out sounding again, and found a place where we thought we could cross over the bank. The moment we returned to the ship the fog cleared, and within a few minutes it disappeared entirely to disclose a fine, clear sky overhead. We weighed anchor at noon, and assisted by a very light wind we felt our way toward Flaxman Island. However, one hour after starting we came aground on a narrow ridge, and although it was only a few yards across, it took us until 5 P.M. before we were afloat again. We anchored at 7 P.M., when it had become too dark to see the marks on the sounding line, and as we had only a few inches of water between our keel and the bottom, we could not be too careful. When we had anchored, volunteers were called to go up to Flaxman Island sounding, and Storkersen, Hicky, and Fiedler agreed to go. The ice is lying close on the sand-spits, and there is no water visible anywhere. Although we were rather anxious as to the result of the sounding excursion, we turned in before the men came back.

Saturday, September 15.—Mr. Storkersen called me when he came on board, in order to tell me that they had found a very narrow channel close in shore, through which we might manage to pass if we took good care. Early in the morning it was buoyed off, and we started under a light north-east wind. We came across the bar without taking the bottom, and followed along a twelve feet channel, eastward.

However, there was no room to beat up, and we had to anchor shortly after crossing the bar. A boat was sent up to Flaxman Island and soon came back telling us that they had deep water, that is eleven to twelve feet, and that they had found a good place to anchor the ship in. The wind had died down and a heavy fog had again settled round us, spreading gloom and dissatisfaction everywhere.

Sunday, September 16.—Calm and foggy weather, as usual. As we were tired of waiting for a fair wind, we ran out a kedge anchor and started kedging the ship along. At last we grounded, and although there ought to have been more than an inch under us, we were not able to move at all, and decided to lie there until next morning. We had kedged from 7 A.M. to 7.30 P.M. and had made two-and-half miles—fine progress.

A native family came alongside, and as we expected that they would probably be our neighbours during the winter, we treated them well, took them down into the cabin, and gave them crackers and tea. They were nice-looking people and had three children. We wanted to strike a bargain with them about some deerskin they had in the boat, and finally came to an arrangement. But after the man had been round the ship and seen what we had, he came back and wanted about three times as much in exchange as we had just agreed to give. Naturally he got his skins back; they were not worth the price he asked. We must be careful, of course, not to begin by paying too high prices for things, seeing that we shall have to live here for almost a year.

Hicky is ill to-day; he has a bad cold. I am sorry, as we cannot very well do without our full crew, but it cannot be helped.

Monday, September 17.—We had floated off during the night, and as soon as it was light enough we started to tow the ship the last three miles. It is surprising to see how much better

we tow now than at Kodiak Island. There we could hardly move the ship; now we are getting along at a rate of one-and-half mile an hour. This is partly owing to practice, partly because the crew we have now is much stronger and better than the last. At 10 A.M. we came to a good place for wintering, and dropped anchor in ten feet of water, about one hundred yards from the beach.

Mr. Leffingwell and I took a walk ashore to see what our future home looked like. It was not much to look at, but we found plenty of fresh water with a small number of ducks swimming about in it, and a great amount of driftwood. About three miles farther off there are some Eskimo houses, but there is nobody in them as yet. We took our dogs ashore, and they certainly were delighted, ran about, rolled themselves in the grass, fought and snarled at each other, while a few made a bee-line for the Eskimo houses of the island. As we were afraid to let the dogs roam about at large, we tied them to the driftwood after they had been at liberty for a couple of hours. The dogs upon the whole have stood the voyage well, but we have lost three from a kind of hydrophobia. The first was the pup we had received as a present from Jim Allen at Point Hope and which was thrown overboard on August 8. The second one was the bitch shot on August 29, and yesterday we had to shoot "Baby." The poor thing had been suffering awfully, and at last we tied him up with a heavy chain so far from all the other dogs that he could not bite any of them. We wanted to see whether the disease was deadly, and decided not to shoot him, but to let him live until he either pulled round or succumbed. But "Baby" became worse and worse, and though we tried to deaden the pain with morphia, it was of no use; so at last, when we could not see the dog suffer any longer, we had to shoot him. I do not like this disease, knowing from experience on the Baldwin-Ziegler Expedition what harm it can cause in a pack of dogs.

Hicky is worse and is under the Doctor's treatment.

CHAPTER III.

WINTER QUARTERS.

Flaxman Island — Eskimos — Preparations for the Winter—A Hunting Excursion—Winter coming—First Sledging—Heavy Gales—More Natives arrive at Winter Quarters—Start with Sledges for Herschel Island—Dr. Howe returns—Sledge trip on the Koogoora River—Life in an Eskimo House—Dr. Howe goes to the West—Natives Kill many Bears—Mr. Leffingwell returns—Dr. Howe returns—Christmas—Christmas Party for the Natives—Start for Ned's Cabin.

A BUSY time followed our arrival on Flaxman Island. We had to take provisions ashore, pile up coal, deposit powder and



SACHAWACHICK OUTSIDE HIS IGLOO IN SUMMERTIME. AN ESKIMO HOUSE.

dynamite in a safe place at some distance from the shore, unbend and stow away the sails, while Mr. Leffingwell was engaged in starting the meteorological observations, getting a tide staff rigged up, and making an astronomical observatory out of old boxes.

Now and then we took a stroll round our island to see what interest it offered. Towards the extreme east we had seen some Eskimo houses and had been to visit them. Only one family had arrived, a young couple, Uxra and Tullik, with their adopted daughter, a small girl of six or eight months.

Uxra was a strapping young man of about thirty-five years, a great hustler and a good hunter. He was not born in this country, but had come from Kotzebue Sound. His wife Tullik was also young and had a very pleasant face, but spinal tuberculosis had made her a cripple. Poor girl, she was very vain and did not like to let us see her in profile. She dressed neatly and had



TULLIK AND UXRA AND THEIR ADOPTED CHILD.

comparatively cleanly habits, was a splendid sempstress and an industrious woman, but apart from that, a hindrance to her young and strong husband. She could not do the hard work which usually falls to the lot of an Eskimo woman, and Uxra had to do half of her work as well as his own. To his credit it must be said that he did it willingly, and it was a pleasure to see the way in which he relieved his invalid wife of the duties which other Eskimo women perform.

Otherwise Tullik was rather a complicated little piece of humanity, differing very much from the majority of the Eskimo women. One minute she was pleasant and kind, the next she was a perfect fury. She was ambitious and wanted her husband to be the first native in the country, and consequently she pushed him along, making him do things which would never

have entered the head of slow and easygoing Uxra. He furnished the labour and furs, she the brains, and between them they were shrewd, and never gave a pear unless they got an apple in return. However, they were always nice to us and apparently were glad to have us wintering at the island. They lived in a tent when we came, and were busy getting their winter home in trim. Their little baby Nagoorok was a Nunatamiut child, and had been adopted by Tullik, so it was said, for Uxra's sake, as he was very fond of children.



TULLIK WITH NAGOOROK.

On the extreme west of Flaxman Island there were some houses in ruins, while some tombs showed that the last inhabitants had died, caught, as we learned later, in a blizzard and frozen to death.

The island is not large, only about four miles long, and three-fourths of a mile broad. The east end is rather high, about thirty-five feet, the middle very low, not much above the level of the sea, and the west end is a little higher. Numerous small lakes are scattered over the surface of the island, and we could still see ducks and geese swimming about in them, although the bulk of the migratory birds had left for the south. Tall strong grass covers the surface of our little island, and on the beach is an immense amount of driftwood. Large trunks of pine or cottonwood, which must have come from the distant Mackenzie River, are mingled with small scrub trees from the numerous rivers which intersect the mainland, only two miles distant.

But the most interesting feature about our island is the fact that it is an ancient glacier. During the beginning of our stay Mr. Leffingwell had been out looking over the geology of the

place, and when he came back he told us about it. When later on we came ashore he showed me many places where we could see the ice in the face of the cliffs, with only one to two feet of soil on top.

The first days after our arrival were beautiful, calm, warm, and clear, and, although Hicky is still on the sick list, the work of unshipping provisions and coal is going on well. We put up a tent on shore, in which we stored the food, piling the coal about the bottom of the tent, and also building a large rack of driftwood on which to place our sledges, kayaks, and other bulky articles. The object was to get as much stuff as possible on shore and keep as little as possible on board.

As we wanted to be on a friendly footing with the Eskimos, we had told Tullik to come down to the ship so that Dr. Howe could do something to her back. She and Uxra came on the 21st, timid and rather scared, but we treated them kindly, and Dr. Howe fixed a plaster of Paris jacket so as to support her spine.

Uxra told us that he would go out hunting cariboo on the mainland when we got a west wind so that he could use his umiak, and as we were very desirous of getting some fresh meat, it was agreed that two of us should go along with him. As Mr. Leffingwell wanted to get his instruments in shape and commence studying the geology of Flaxman Island before the winter set in, Dr. Howe and myself made up our minds to go. Before starting we talked the situation over, and as we did not dare to go east with only one year's food, it was decided that we should try to raise some more money and have food for one more year sent up next summer. Mr. Leffingwell proposed to go to Herschel Island with the mail in time to reach the mounted police control; at the same time he wished to do some preliminary surveying work along the coast.

On September 23 we started with Uxra and Tullik. The umiak was rather overloaded, as we took a sledge and two dogs with us, besides food for four people for two weeks. Uxra had another sledge and three dogs, and a large tent, stove, cooking utensils, and a lot of more or less useless articles.

On the same morning, before we left the ship, Flora gave birth to eleven pups. As they were too many for her to take

care of, we killed five bitches, but even with the remaining six pups she will have all she can do to feed them.

The wind was westerly, the first we had for more than a month and a half, and the umiak made splendid headway through the water. Although the sea was rather high and the umiak overloaded, it never shipped any water. Neither Dr. Howe nor myself liked the way in which the boat moved, and thought that it looked too unstable to be quite safe. But it did not take us long to learn that the umiak was all right, and we were soon as unconcerned as Uxra, who steered, and Tullik, who sat on the top of the load, holding the child and keeping peace among the dogs. For sailing in heavy ice the Eskimo skiff is decidedly better than a wooden boat, as it does not stave in nearly as easily, and in case it should collide with a sharp piece of ice, so that a hole is punched, it is only a matter of minutes to get the umiak out on the ice, have the bottom turned up, and with thread and needle repair the harm done. A wooden boat will stave in with a lighter touch, and once stove, the damage is difficult to repair.

The second day out, while sailing along a sandbar, we saw cariboo ashore, and put in. We three men very quickly got the boat unloaded, carried the tent and gear on the bank, hauled the boat out of the water, and turned it over so as to dry the wet bottom skins. Tullik was gathering dry wood and cutting chips, and we had a fire lit practically the very moment the tent was pitched. We had camped too late to go out hunting that day, and turned in as soon as we had had our supper. On September 25 we started out for the deer, but had a very long tramp before we reached them. The country was low and level, and it was very difficult to come close enough, but when we had come within two hundred yards of the herd without scaring them away, we lay down on the wet, sloppy ground and fired at the same time. The herd, about twenty-five in number, was up and off as quick as lightning, while Uxra and myself continued to fire at the bewildered deer, now running east, now west, until at last they made off, straight for the mountains.

Uxra chased them for a while, but could not get within range. Only one animal had been brought down by the volley we fired. But before we came to the tent we were very pleased not to have more meat or skins to pack. We immediately skinned

the animal, took out the stomach, cut the body into pieces, strapped the meat on our backs, and made for home. Luckily we met Dr. Howe, who had gone in another direction, and he took part of the burden. Nevertheless we were exceedingly tired, for walking about ten miles over frozen grass and slippery ice in thin kamicks with no heels, and 45 lbs. on one's back, is certainly no easy task.

Next morning we took to our boat again, as Uxra wanted to hunt in a valley closer to the mountains and a little further to the east. It was only a short distance away, and we went out hunting the same day. Dr. Howe and Uxra went together while I strolled out to a sand-spit, Collingson's Point, where I could see numerous Eskimo houses in ruins.

Captain Collingson, H.M.S. *Enterprise*, wintered behind the point in 1853–54, being caught on the way back to civilization. Among other trips he endeavoured to make a sledge expedition north over the ice from his ship. The ice, however, was so rough and broken that he had to abandon his project.

Besides the ruins of Eskimo houses, there was a hut built by white men. The builders were a couple of miners who had come up to the coast of the Arctic ocean to look for gold. They had spent one year in the place, then they had left the country, like many a miner before them, poorer by some thousands of dollars, but very much richer in experience.

An immense amount of driftwood was scattered all over the sand-spit, and, judging by the number of ruins, the village must at one time have been pretty large.

It was to this place that the enterprising Eskimo traders from Point Barrow formerly went in large numbers during the spring season to trade with the people who in those days inhabited the country. Trading at that time was a dangerous occupation, as the knife was always ready to settle points of dispute. The people from the west left their women and children behind at Flaxman Island when they went to meet the Kokmoliks (the Eskimo word for "people living to the east"), and the men never returned without leaving one or more of their number behind them. It often happened that a whole umiak crew was surprised and killed while asleep, their trade goods stolen, and the umiak spoiled. But as dangerous as the occupation was, it suited the Eskimos of former days, and they were willing to

take the risk of getting killed for the excitement of the thing and for the costly furs that the Kokmoliks had, and which the western Eskimos could again trade away to people living further south, or later on to the whalers.

But now the place is dead! Where formerly dances were held and bloody tragedies were enacted, where people lived in hundreds, there is only old driftwood standing on end, showing the sites of numerous houses, while skulls and other human bones are scattered all over the place, a picture of utter desolation.

There were plenty of deer in the country, but they were all travelling and difficult to approach. Uxra, the Doctor, and myself were out every day, yet with the greatest care we got only two more cariboos.

The winter was setting in while we were out hunting. It became cold, large sheets of young ice were drifting about in the water, until one morning, September 30, there was no more water to be seen.

A few days later a gale broke up the ice again and packed it on the windward shore, thus giving us an opportunity of using the umiak for going home. We were rather tired of looking for deer, and as we had been strolling about the country for three days without having seen any sign of cariboo, the conclusion was forced upon us that the season was now so far advanced that the deer had gone into the mountains.

The days of gale we spent in the tent with our Eskimo friends. Tullik was very nice; she made boots for us, cooked our food, and taught us words and phrases of the Eskimo language. She was rather a clever woman, and easily understood what we meant as well when we said something to her in plain English as when we made an attempt to explain matters to her in her own tongue.

Uxra, as usual, helped his wife in her numerous duties. When the weather was too bad to hunt he played with the child, went out to fetch water, found and split firewood, and was the first one awake in the morning to make the fire. Most Eskimo men would never have thought of doing this; they would either have made the wife do it or have taken another woman; but Uxra went about his work and that of his wife without a murmur, and was always cheerful and smiling.



UXRA'S TENT.

The plaster of Paris jacket that Dr. Howe had put on Tullik was not a success. She could not rest, and one morning when we awoke she was sitting up in her blankets, looking utterly disgusted. She was very angry, and Uxra was dividing his attention between her and the shrieking baby. We asked what was the matter, and Tullik told us to take the jacket off, as she had not slept all night and itched all over—"all same me lousy," to use her own expression. It was stripped off, and Tullik was again happy.

On October 6 we started for the ship and tried to force our way through the young ice. But the umiak could not stand it, and when passing a point it was caught by the eddy and whirled about, unpleasantly close to some blocks of grounded ice. Tullik became hysterical, and we had to put on shore in order to pacify her. When we examined the boat we found that the boat skins were in very poor condition, being worn thin by constant grinding through young and sharp ice.

We had to abandon our attempt to return with the boat, and the next morning we started along the shore with dogs and sledges, but we had to go very carefully, as the ice was thin with many large holes. Uxra led the way with his outfit, then came our sledge, and we were fairly sure that where Uxra could go with his heavier sledge we could go without danger. Possibly on account of that we became too careless, and I had to suffer for it to the extent of being drenched to the waist. We had no change of clothes, so I had to go about in my wet, frozen clothes, which chafed my whole body in the most disagreeable manner.

My favourite dog, Journiska, had had several fits of late, and as these attacked him on two occasions while in harness he was turned loose. Instead of following the sledges as we had expected, he left us and followed the back track. We only discovered his absence when it was too late to hunt him up, and we all thought that he was quite lost.

At last we came so far that we could see the ship, but to our sorrow we had to camp on a sand-spit opposite the island, as an open water lane separated us from our temporary home. Next morning we were seen by some natives who had come to Flaxman Island during our absence, and a umiak came over to fetch us.



TRAVELLING ALONG LAND.

The new native family consisted of four members, Sachawachick, his wife Douglamana,[1] with their two children Krajootak and Tjimigok. They all looked very pleasant, and we liked them



MR. STORKERSEN GOING ASHORE IN A RAFT TO FETCH THE BOATS GONE ADRIFT DURING A GALE.

at once. Sachawachick later on turned out to be the best native in the vicinity, intelligent, helpful, and considerate.

[1] The names of the natives are spelled as correctly as is possible in Latin orthography. Even so, these names are possibly incorrect, as these Eskimos are in the habit of using the names which the whalers have given them—names derived from some bodily peculiarity, some trait of character, or perhaps only an abbreviation of their real name.

We were anxious to be home, and as soon as we had come to our own island we started off. Halfway to our house we met Mr. Leffingwell, who had been out training his dogs for the long "mush" to Herschel Island, and they all, except one, seemed to work well. Mr. Leffingwell would be ready to start in a few days, or at any rate as soon as the ice became solid enough to bear travellers. There was no reason to hurry yet, as the ice was so thin that we could force a boat through it.

The work on board had been performed to our entire satisfaction, and Mr. Storkersen had proved in more ways than one that he was very well able to work independently. He had got the food and coal ashore, put everything into shape for the winter, and had piled up driftwood for use when everything else would be covered with snow, and in case the amount of coal required for heating the ship should be larger than we had counted on. He had also, under Mr. Leffingwell's direction, got the ship housed in, using spars from the rigging to make the frames, and covering them with our larger sails, so that there now was a large and spacious room on deck.

An easterly gale had been blowing almost ever since we left, and the ship had been pounding so hard that it had been necessary to tie up the lamps in order to prevent them from falling down. The stern anchor had dragged, the ship had swung up to the head moorings, and had thereby come into rather shoal water. However, the pounding had not done her any harm at all; she was not leaking, and our confidence in the strength of our vessel increased considerably.

The tidal and meteorological observations had been discontinued for some days, partly because the weather had been too hard to send any one ashore, and partly because the ice was too great a hindrance to let a boat pass through every hour. Regular observations on shore would have to wait till the ice became strong enough to bear our weight.

Sachawachick and his family had arrived at the island a few days after our departure, and knowing that white men are usually eager to get cariboo meat, he had brought down a large piece unasked. He did not want payment for it, and shortly afterwards he brought a couple of seals for our dogs, also without payment. Possibly he thinks it good policy to be on good terms with so powerful a neighbour, but, whatever his motives

may be, it is nice of him to think of these things, and we all appreciate his kindness.

We are apparently not very lucky with our dogs. Mr. Leffingwell has likewise lost one of his team since our arrival on the island. The dog had bitten a man and was punished with a whipping. For a couple of days afterwards the dog had been ailing, and gradually he became worse and finally died. The whipping was not very severe, so that can hardly have been the cause of his death.

Thuesen and Carrol have changed places in the galley, and the new arrangement seems to work well. Carrol is quite an expert as far as this work goes and takes a great interest in it. A busy time followed my return. We were all writing letters to our supporters and friends, explaining the situation and the work we were going to do, with Flaxman Island as a base. Mr. Leffingwell was working at his outfit, weighing out provisions, getting his dog harness into shape, and fixing up a sledge for the long trip.

Douglamana was making furs for him, as the fur parkey which we had brought from Norway proved much too heavy and large for travelling.

On October 9 the ice between the ship and the shore was so solid that we could walk on it, if we took the necessary precautions; but a gale which sprang up the same day broke up the ice, and we spent a night full of anxiety listening to the way our vessel was hammering on the bottom. The gale increased, and the ship was working so hard that a bottle standing on a shelf fell down. I was afraid that she would not be able to stand the strain, but, to my great surprise, on the following morning there was no more water than usual in the hold.

Mr. Leffingwell had finished his preparations, and was only waiting until the ice became solid enough to start, but from October 10 to 14 we were confined to the ship; the slush ice was too heavy to allow a boat to pass, and too soft for a man to walk on. The general impression, however, was that we had seen the last of open water for that year, as a very strong gale blew on the 14th without breaking the ice. There were still open patches of water out in the sound, but they were right in the middle and were rapidly filling in.

On the 15th we were for the first time able to walk ashore, and Douglamana came down to the ship over the ice.

The land was everywhere covered with snow, and we had a rather heavy drift whenever it blew; the sound was frozen



MR. LEFFINGWELL STARTS FOR HERSCHEL ISLAND.

across, and upon the whole we might safely say that winter had commenced in good earnest!

At any rate the weather looked and felt wintry enough. We were down to —15° C. on October 16; the wind was blowing constantly, sending up clouds of snow, piling it up in drifts, and driving it into every little hole. Overhead the clouds were hanging low, and adding their contributions to the snowdrift, and the canvas used for housing on board the ship was covered with a heavy coat of ice. The dogs, which were now at liberty, were crowding together underneath the awning in order to be out of the snowdrift and the icy wind.

On October 17, a month after we arrived in winter quarters, the ice had become so firm that Mr. Leffingwell, with Storkersen as his companion, started out for Herschel Island. Dr. Howe, with Thuesen, was to accompany Mr. Leffingwell as far as Barter Island, to deposit some provisions and to bring back the meat we left when out hunting cariboo with Uxra.

They started at 9.30 A.M., and I went with them over to the mainland. The dogs pulled all right, but the sledge was heavy, and the men had to slug very hard in order to keep it moving, the more so as the team had not yet become sufficiently accustomed to work together, and was by no means doing its best.

The weight of Mr. Leffingwell's sledge with outfit was 520 lbs., and he carried provisions for men and dogs for one month. He was trying a new ration on the trip, with Horlick's Malted Milk as a base. After some alterations he decided upon the following :—

Article.	Food for 1 man 1 day.	Food for 2 men 1 month.	Proteit.	Fat.	Carbon Hydrates	Waste.	Total Food Value.
Malted Milk .	12 oz.	45 lbs.	16·5	8·7	69·3	5·5	94·5
Biscuits. .	12 ,,	45 ,,	16·0	0·1	74·0	10·0	90·0
Lard . .	5 ,,	19 ,,	—	95·0	—	5·0	95·0
Butter . .	2 ,,	9 ,,	0·7	83·0	—	16·0	84·0
Sugar . .	2 ,,	8 ,,	—	—	100·0	—	100·0
Tea . .	0·5 ,,	1 ,,	—	—	—	—	—
Salt . .		1 ,,	—	—	—	—	—
	33·5 oz.	128 lbs.	33·2	186·8	243·3	36·5	463·3

Of course his bill of fare could not but be very monotonous, but we both hoped that it would work well, as we were neither of us partial to a great variety of food on the trail. We thought it would necessitate too much packing and too much cooking.

Dr. Howe and Thuesen were going to work on a ration put up by Battle Creek Sanatorium, Mich.—purely vegetarian food —but Dr. Howe was not very enthusiastic about the experiment, as he thought the rations were neither ample enough nor sufficiently nourishing. The Battle Creek ration consisted of numerous small items, for instance, bromose and chocolate, all wrapped up in paper, which, of course, was very inconvenient, as the paper had to be peeled off barehanded, and while doing so the hands were in serious danger of freezing.

Of all the tiresome days I ever spent, the following days which I passed alone in the cabin were far the worst. From

early morning till late at night I was alone, doing odd jobs to pass the time. Now and then some Eskimos would come over, bringing a couple of seals, some deer meat, or some piece of manufactured skin for sale. Douglamana arrived the day after the party had started and brought two large seals as dog-feed and several seal livers for our own table. The seal livers are really very palatable, and we ate all we could get with great relish. Throughout the winter we got most of the livers from the seals caught by the natives, and that although they themselves liked them very much.

Besides the livers she brought a parkey of mountain sheep-skins, a splendid kind of fur for clothing and sleeping bags, as it is warm and light. The woman was sewing it for her husband when I came and saw it, and we soon came to terms. I gave a large Colt revolver for it and all the cartridges I had, which, however, were only fifty. Some days later a man happened to come along with a new teapot, and Sachawachick liked it so much that he exchanged the revolver for the pot, thus getting a value of 50 cents for $25!

Douglamana was always busy. As soon as she came down into the cabin she at once started cleaning things up, and if she found some piece of wearing apparel which needed repairing, she asked for a needle and thread and went to work. She sewed very well and could get through an astonishing amount of work. She never got any payment for what she sewed on board, except the needle she used, and some food if she happened to be in the cabin when the meal was served. Usually, however, the Eskimos all managed to be about at meal hours, and came in the early morning so as to be sure to catch at least one. Later on they found out how the sun stood over the mountains at lunch, and throughout the winter one or usually more of the natives happened to appear just in time to get a bite of lunch, and looked as if they were highly surprised to see us eating, though we knew that they had been watching the sun for the last hour.

We fixed up a tide staff alongside the ship to take direct readings, and later we built a large ice hut over the hole. The tidal observations were continued without a break until January 1, and were taken every hour, night as well as day. Flood or ebb readings were taken every ten minutes, for one hour before till

one hour after change. It was at times rather difficult to keep the hole free of ice, but it never became so thick that it could not be removed with a shovel.

Every Sunday the Eskimos made free to come down to the *Duchess of Bedford*, and the first Sunday after the ice had frozen across I was visited by Sachawachick and Uxra, both of them with their families. Sachawachick had a purpose in his visit, coming to offer his service as a hunter. He would work as hard as he could and would give us all the meat which his family could not eat. In return he was to get what groceries he needed from the ship. As we knew him by reputation to be a very industrious and straightforward native, his proposal was accepted at once, and we never had any cause to regret it, as he furnished seal meat for our twenty dogs throughout the winter, and cariboo, bear, or liver for our table.



SACHAWACHICK.

Sachawachick is well known along the Arctic coast. There is not a man in the country, white or native, who does not know him, and none who knows him who does not like him. He is about forty-five years of age, and was born at Point Barrow, where his father, grandfather, and probably great-grandfather before him were powerful chiefs. Sachawachick had grown up in the years when unscrupulous whalers were the masters of the natives, and our friend with the rest became a slave of the whisky bottle. He worked for a white man, and once, while he was out hunting for the station, one of his employers got hold of his squaw and lived with her. Sachawachick heard of it and hurried home, determined to kill them both. News travels fast in the Arctic, and the rumour of Sachawachick's intentions travelled ahead of him, so that when he came home the bird had flown southward with its prey.

Sachawachick, still bent on shooting at sight, hitched up his team and chased the couple from village to village. He went as far as Kotzebue Sound, then he gave up the chase; but the white man with his Eskimo woman kept on travelling until they came to the south side of Kenai Peninsula. Not till they arrived there did they feel themselves safe. But Sachawachick returned to Point Hope, where he found Douglamana, and they moved along to Cape Lisburne. That was in 1898, when a whaling fleet of some fifteen vessels were caught at Point Barrow, and the U.S. Government got stirred into action. Lieutenant Jarvis, U.S.R.C.S., travelled as fast as he could along the coast from St. Michael's to Point Barrow in order to enforce law and order among the 600 or 700 men wintering at the latter place. He had great trouble to get dog-feed, as the white men at Point Hope had no sympathy with his mission, and it was not till he reached Sachawachick's house that he got what he wanted. Sachawachick also saved Lieutenant Howard, of the Lieutenant Stone Expedition, whom he met far inland, without any means of subsistence. Our Eskimo friend gave him every ounce of white man's food that he had, gave up a promising hunting excursion, and brought Lieutenant Howard safely back to Point Barrow.



DOUGLAMANA.

Douglamana gave birth to a son, and Sachawachick, knowing that no Eskimo boy can be brought up to hunt and live on the resources of the country at Point Barrow, in constant intercourse with the white man, left his own village and his own people and started out, looking for new hunting grounds. From the days of his youth, when he was a member of the trading expeditions to the Kokmoliks, he remembered Flaxman Island, and, thinking that as good as

any other place, he settled there, and has now lived here for five winters.

Some vegetarian food which had been put up by Mr. Eustace Miles, London, was found to be spoiled through some bottles of soup having fermented and cracked. We opened all the other boxes, about ten in number, and found that the same



DOUGLAMANA AND TJIMIGOK.

was the case with every one of them. We had plenty of sledging provisions, so it did not matter much, but we should have liked to experiment with the food.

The weather, which was cold when Mr. Leffingwell started for Herschel Island, changed on October 23 and became comparatively warm. The temperature rose to 2° C. At the same time it was snowing, and we thought that if the party had the same kind of weather they would have a very unpleasant time in dragging the heavy sledges through the soft and sticky snow.

The work of getting the ship into winter shape was now finished, and the ordinary winter routine begun.

We turned out at 7 A.M., when the cabin and forecastle were cleaned out, fires lit, and at 8 breakfast was served. The hours after breakfast were spent in cleaning lamps, pumping out the ship, clearing away the snow from the deck, and cutting up meat for dog-feed. The men were usually occupied in this manner until 12.30, when we had another meal of tea, bread, and butter, with jam thrice weekly. From 1.30 to 4 P.M. the men were doing all sorts of odd jobs, such as making dog

harness, looking over sledges, sewing overalls, etc. The dogs were fed at 4 P.M., each dog getting his dish with hot food, and the men watching to see that none got more than his share and that no fighting took place.

At 5.30 we had dinner, and after that time we listened to the gramophone—a present from Dr. Leffingwell—read,



DOUGLAMANA WITH HER CHILDREN INSIDE THEIR IGLOO.

or played games, until about 10 o'clock, when we thought that it was time to go to sleep, after rather a strenuous day. A watchman was the only man awake, and each hour he had to go out to read off the tide-pole. They were tiresome days, but a certain phlegmatic disposition rapidly settled over the party, and we learned very quickly to live a lazy life.

Hicky was acting as mate during Storkersen's absence, and performed his varied duties in a way which left no room for complaint.

Every day I walked down to the Eskimo village for the double purpose of getting some fresh air and learning the Eskimo language.

One day, when I went down to Sachawachick's house, I took a camera with me in order to take a flashlight photograph inside his igloo. Douglamana and her children were alone at home, and they watched me with great interest while I was focussing the camera, and still more when I lit the fuse to the magnesium. Off it went, a flash, and all was over; but what a shock to the



THE "DUCHESS OF BEDFORD" IN WINTER QUARTERS.

people in the cabin! The old lady rolled as far back as she could get. Tjimigok, the youngest child, buried himself in a pile of fur, so that only his feet were visible, while Krajootak was peeping at me from behind a large box to see whether more was coming. It lasted a long time before I, in my imperfect Eskimo language, could make Douglamana understand that no harm had been done to them, and much longer before I could induce them to stand up to a flashlight again.

On October 28 I took a long walk on the ice to the north of the island to see what it looked like. It was rather heavy walking, and I made up my mind that if it did not change we should have to hew a road through it when we started northward; but it might be better further out. Some pieces of old ice had grounded about a mile from the shore, and binding the young ice inside, made rather a good floe. But further outside large and heavy pieces of old ice had become frozen together, and from the top of a large piece about 25 feet high nothing but a surface of broken ice was visible.

We had reckoned that Dr. Howe would be back by this, but there was as yet no sign of him. I was feeling worried, and could not help thinking of all the things which might happen to inexperienced men on the trail. Thuesen had been a member of the Baldwin-Ziegler Expedition, but he had never been out on any of the larger trips and was hardly experienced enough to take care of himself on the trail. I thought that Mr. Leffingwell might have been stopped by open water and have kept Dr. Howe with him, and that was the only possible explanation; but it was certain that we would have to search for him if he did not come back shortly.

The rumour that a ship full of provisions was wintering at Flaxman Island had rapidly spread over the country, and several Eskimos, who were not in the habit of coming down to the coast, had arrived with their families.

On October 29 a large party consisting of six men, five women, and ten children had arrived and made their camp in the village on the east end of the island. I went down in the afternoon and saw when I approached that everything was astir and that there was great excitement everywhere. Each family was raising temporary homes around Sachawachick's house, because the visitors had no intention of doing any work themselves, and had been attracted by the number of seals he had in stock. The children were playing about with the sledge dogs and pups, but hurried along to their mothers as soon as I arrived, while those in tents or houses scrambled out with equal hurry to have a look at me, as soon as the words "Umialik kaily" announced my arrival.

As I wanted to see Sachawachick, I crawled into his house, but I had hardly sat down before the door opened, and in they came, big and small, squatting down on the floor, looking at me and smoking their horrid tobacco. I was formally introduced by the host, who told me the names of his unbidden guests, and as I pulled out all the tobacco I had in my pockets and told the visitors to help themselves, a pleasant understanding was soon established.

It was a weird scene, the six men, five women, and ten children, besides Sachawachick's family, stripped to the waist, chewing tobacco and smoking, and at the same time glaring at me as if I were an animal in a zoological garden, talking freely

about my looks, I suppose, and asking themselves whether I was to be considered an easy prey or not. The house was small, only about 10 by 15 feet, and before long the air became very oppressive, as the exhalations of so many warm and perspiring persons were mingled with tobacco smoke and the fumes of some swell repast which Douglamana was preparing in honour of her guests. Within twenty minutes I had had enough and went outside, where I walked about looking with envy at the splendid dogs of the Eskimos. The following day the ship was visited by a happy crowd of natives, all the new arrivals having come down with Douglamana as their "Fremdenführer," who considered herself as morally responsible for the behaviour of her kin.

When the natives had looked over the ship they took out some cariboo skins, and a brisk trade ensued. I came off rather badly, as the first skins I bought were not very good, and it was not till the poor skins had been disposed of that their good ones were offered for sale. The price was about 35 cents a skin. When the natives had sold all the skins they had, they were invited into the cabin, where Joe gave them tea, crackers, bread and butter, a meal which was certainly highly appreciated by our visitors, who consumed huge quantities of everything set before them. Although some of them had come from the east, none had seen Mr. Leffingwell or Dr. Howe, and I began to feel really worried about them.

During the night I made up my mind to start in search of Dr. Howe, and the next morning we commenced to pack a sledge.

While I was down in the cabin, thinking out what food to take, I heard some one running along the deck ; the companion way was flung open, and a second later a voice bellowed down : "Say, Captain, the Doctor's coming." I jumped on deck and was very glad to see him and Thuesen back safely.

The news they brought was, unfortunately, not very satisfactory. Mr. Leffingwell and his party had been stopped by open water at Collingson's Point and had been obliged to stay there for a whole week. There they had met Ned Erie with his family, and they had all camped together. Ned had a lot of deer meat in the mountains, and had told them that they could have it if they would only fetch it down themselves.

Dr. Howe started out at once with one of Ned's sons, a half-breed boy about seventeen years old. His name was Gallikar, and we all came to like him very much as a willing and intelligent chap.

Dr. Howe brought back about 250 lbs. of deer meat, and, better than that, Journiska, the dog which had run away from us when we returned from the east in the beginning of October. He had come running into camp one night and was apparently very glad to see his old friends again. He had lived about three weeks in the country on mice and lemming which he had caught and killed, and was fat and healthy when he returned. His roaming in the wilds had apparently cured him of his fits.

Dr. Howe and Thuesen had used the Battle Creek rations, but were highly disgusted with the result. They had stuck to the food for seven days, living on purely vegetarian diet, but they claimed that they lost their strength and became unfit for work. Then they commenced to eat meat and soon regained their wonted vigour.

Dr. Howe's opinion was that a man might live on the food, but that he could not work as hard as is necessary on a sledge trip. He, at least, would never try it again, and the Battle Creek rations were not used in the future except to supplement the pemmican.

Ned had come back with the Doctor and pulled up alongside the ship, where he camped. He was outward bound for Point Barrow, being obliged to leave the country on account of scarcity of food. We invited him to stay on board, but he preferred his tent at night, although he was with us all day.

October drew near its close, and we had not had much pleasure out of it. It had been comparatively warm, our lowest temperature being only — 14° C., though only for a few hours. The whole month had been stormy, it had been blowing almost continually, while the sky had been overcast nearly every day. There was a lot of snow on the ground, but it was not easy to say how much of it had fallen or how much had drifted in with the persistent and strong easterly winds. Our meat supplies had been largely increased. Besides the meat which Dr. Howe brought we had bought about

150 lbs. from the natives, and had got two hindquarters of some white bears which the Eskimos had killed.

November set in with fine weather and a considerably lower temperature.

Although I thought that we had bought all the cariboo-skins which the natives possessed, they kept on bringing more, and



NANEGERAK AND KREESEEK.

we bought all we needed for our clothing. Besides cariboo skins we bought some mountain sheepskins, which, however, were stowed away somewhere near Koogoora River (the big river which empties itself close to Flaxman Island). We wanted to use the skins for sleeping bags and had got them cheaply, though on the condition that we were to fetch them ourselves. As I had been indoors for a long while I started myself, leaving Dr. Howe in charge of the ship.

A young Eskimo, Kreeseek, went with me as a guide, and we started on November 6 with one sledge drawn by Journiska, Dad, and Baby. We had a hard time on the lower river, as the ice had been crushed in the early fall and was

now one mass of large ice splinters, standing on end and looking exactly like highly magnified glass splinters on the top of an old English garden wall. Snow had drifted in between the pieces, and the sledge was bouncing along on top of it, shooting off to the right or left, or, what was worse still, capsizing whenever it hit one of those ice splinters. My guide and I



LUNCHING ON THE KOOGOORA RIVER.

were wallowing along in deep snow and had a highly disagreeable time, the more so as we had left our snow-shoes behind, thinking that there would not be much snow on the river. We camped at 3 P.M., but we had no wood, and were obliged to break up all our boxes, thus managing to make a small fire, though it was hardly large enough to cook by, and we had to munch crackers and chocolate from our Battle Creek rations, with nothing to drink with it but water.

I spent a very unpleasant night, as I tried to sleep native fashion, viz., naked in the sleeping bag. I was shivering with cold for a couple of hours, then put on my shirt, next my trousers, and after that my stockings. A fur parkey on top of the shirt completed my dressing, but it was 5 A.M. before I had got all my clothes on ; and then we turned out to meet another day, with no other breakfast than crackers and water. That day again we were wading through deep snow over heavy ice, and every now and then we had to haul the sledge over some gravel bars. Progress became easier the further we advanced along the river, and instead of the low, monotonous coastland,

with its mudflats in the middle of the river, the banks became higher, while on small islands in the river, or in gullies along the sides, we saw comparatively tall willow-brush. On November 8 we pitched our camp on a small island so thickly studded with scrub trees that we had to clear a place for the tent. It was a fine place. The brush, though it



TAKLOOKSRAK AND HIS WIFE.

only reached to my shoulders, looked like a small forest, and our tent was warm and comfortable, with a big fire roaring in the stove and our bags spread on a mattress of willow twigs.

The whole of November 9 was spent in following up the windings of the river, and before nightfall we had reached the mountains. The skins which we were looking for turned out to be considerably further away than I had expected. We must have gone at least sixty-five miles, and Kreeseek told me that we had still two days' travelling before us. Fortunately, however, on November 10, when we had been travelling for about three hours, we saw a native in front of us. Kreeseek hallooed to him, and when we reached him my companion saw that it was his own brother. The whole family, whom he had thought at least one hundred miles to the west, on another river, had recently come over to the Koogoora. Food had been very scarce where they had been before, and they now hoped to be able to live a life of ease on the fish which they

might be able to catch during the winter at certain places on the river.

Half an hour's travelling brought us to the family abode, which had been put up on a small island surrounded by heavy willow-brush. Kreeseek's father, Taklooksrak, was an old and powerfully-built fellow with a most villainous face. I did not like his looks, but I found out before long that he was a very good man and willing to do anything to oblige me; in fact, many a month later, when I came to know them better, I liked him best of the whole family. His wife was a small, pleasant-looking woman, but the other son turned out to be one of the least-liked natives. He was a loafer, but, being besides rather a clever fellow, he had managed to impress the other Eskimos with a modification of the Christian religion, and was now the promoter of the said religion and high priest as well, living high on the toil of the other natives, and resorting to menaces, such as condemnation to eternal punishment, if they did not fall in with his wishes. The white men were his greatest enemies, and one day during the spring he carefully explained to Dr. Howe and Ned Erie that they would go to hell while he would be sitting in heaven playing the accordion and gloating over their misery. In explanation I may perhaps add that Dr. Howe had refused to give him some food which he thought himself entitled to. This gentleman's name was Topsia.

The last but by no means the least important member of the family was Kreeseek's baby brother, about six years of age, who cried whenever he saw me.

As it was impossible to induce Kreeseek to go further that day, I had to camp, assisted by his family, who were immensely taken up with my outfit. My food box and spare clothing bag especially were the objects of their great interest, and they told me that the former would be much safer in their tent than in mine, as the dogs might break through the canvas and eat all I had. They were rather offended when I allowed myself to have another opinion on that matter.

However, as I carried some Battle Creek food, and much of it only seemed so much superfluous weight, I gave them that as a peace offering, and they were very happy, although they had not much of an idea as to the way in which to prepare it;

for instance, when some hours later I came into the tent the woman was stirring something in a pot, and as I saw that they looked very serious all the while, I went nearer, and on investigating I saw that they were trying to boil peanuts and were highly surprised to see that they would not get soft though they had been boiling them for hours.

Their tent, in which I spent most of my day, was the ordinary Eskimo tent made of willow-sticks, bent in such a manner as to form one side of a half-circle. For a large tent they make use of sixteen to twenty poles, stuck on end in the ground and forming an oval. The projecting ends are tied together, and a frame made in this way and covered with canvas makes a very solid tent, for the wind cannot get hold of its half-round surface. As these people used the tent for a permanent abode, they had made a cover of winter cariboo skins, and on top of that again they had stretched a piece of drilling. A loose-hanging piece of skin makes the door. These tents are very warm, and many Eskimos live in them in summer as well as winter. The air in the tent is usually suffocating, as the door is never left open, but only opened as little as possible when a person crawls out or in.

Besides the four people living in this tent, there were many old and bad-smelling cariboo skins which, judging by their smell and their looks, had been used for many years as bedding. In a bucket they had some rancid seal oil, and the remains of meals were kept day after day in a corner of the tent, to be used as dog-feed when everything else gave out. All sorts of scraps were lying on the floor in goodly profusion, and an old kerosene tank, used as a stove and very leaky, completed the furniture.

These people take life very easily. Right outside their tent the river is roaring over the shallows, and only rarely is there any ice at all. Fish are swimming about in the pool, and they usually manage to catch enough to exist, but as they only fish when they get hungry, there is a chance that some day, when the weather is bad and stormy, they will have to go without.

The way of preparing the fish is also easy; they merely leave it outside the tent until it is frozen solid and they themselves feel ready to eat it. A deft cut with a knife loosens the skin at the back of the head, and after another cut along the back

the service of the knife for skinning the fish can be dispensed with. Then the teeth are used, and the skin is pulled off the fish in two parts. The belly is cut open, the entrails are broken out, and, again making use of the knife, they peel off long slices of the meat. These slices they eat, and every now and then they dip the fingers of their left hand in a tin can of seal oil, lick them, and with a loud smack resume the occupation of peeling.



TOPSIA AND KREESEEK.

They invited me to partake of their meal, but their way of eating it looked too revolting and I declined, much to my friends' relief; but had I known then as I did later the really excellent taste of a frozen salmon, there is little doubt that I would have taken my share of their gorgeous repast.

Kreeseek and Topsia started out for the skins on the following day, but before long they returned with faces and wrists badly frozen, as they had been overtaken by a blizzard the moment they came round the first bend of the river.

Where we were the weather was beautiful, perfectly clear, and −30° C. cold. The mountains were towering over our heads, and the sound of falling water was the only noise in the great frozen country. A waterfall was close to the house and I went up the river to have a look at it. A cloud of vapour hovered over the roaring waters and the rivulet which sprang out at the foot of the nearest mountain. Large icicles were hanging from the rocks about the waterfall and from the brushwood near it, and the rays of the rapidly setting sun were lending a golden tint to the water and the vapour above it. The water from the fall disappeared underneath the ice, which in this neighbourhood is very thin or open all the year round. Most of that and the following day, November 12, I spent in the tent of my

friends, or out fishing, with no other result than a frozen foot.

We thought that the natives we met on Kodiak Island were dirty, but I believe that there is little to choose between them and the people I found here. This, however, may to a certain extent be excused, as they had no soap, and it is only due to state that the first thing they begged of me was a piece of soap. When I asked why they did not move down to the coast, they answered with a grin that they had no clothes, but would come when the days again became warmer, and I was inclined to believe them. They walked about half-naked in the tent, and as soon as they had to go outside they wrapped themselves up in old blankets, the larger holes of which were patched over with some very dirty calico, while the smaller ones were stitched together with sinews.



NATIVE CHILDREN.

The child was the axis round which this little household rotated. If he wanted a thing he cried until he got it, and needles, knives, and other things which are not considered healthy toys for children were this little heathen's playthings.

His father or brothers would play with him and make figures with a piece of sinew exactly the same in kind as we made in our childhood, only more in number. They taught him songs and rhymes, and the little naked fellow would sit on a piece of fur and laugh at the keen competition between his father and brothers as to who could make the most fearful faces. Now and then the people would stop playing, look serious for a second, and then start an eager hunt for one of the many lice which inhabited their ragged furs and which now annoyed the owner by moving too fast. If caught, the louse was set out for a swim in the water bucket or blubber lamp. It was the mother's business to keep the head of her darling boy clean, and she had the remarkable but by no means uncommon

way of putting the louse out of harm's way for ever—by swallowing it!

To the credit of the Eskimos in these parts, I must say that with the exception of one other family these people were the dirtiest I ever met.

On November 13 we had secured our skins and started down



THE OLDEST COUPLE—SUKAREINNA AND UJARAK.

the river. The whole aspect of the country had changed. Where before we had deep, soft snow, we had now large expanses of glare ice over which the sledges (Topsia followed us down to the coast) were skimming as fast as the dogs could run, before a fair wind, with two of us riding while the third was running ahead, skipping and sliding over the smooth ice. On November 15 we reached the coast, having covered in two days the distance which it had taken us five days to travel when going up.

The Battle Creek food, as mentioned above, was also used on this trip, but not exclusively, pemmican being used besides. Kreeseek thought that it was rather queer stuff, and when I told him that the contents of a certain can of bromose were equal

to some pounds of meat, he tasted it, took a large mouthful, then ate it all, and, when he had finished, told me that he decidedly preferred the meat of the Eskimo to that of the white men.

I used furs on the trail, and had not been out of them since the first night; for nine days they had not been off my body by night or by day. They were slightly damp, but had only become so during the last two days' hard running, and I made up my mind to wear nothing but furs in the future.

Arriving at the ship on November 15, I found that everything had been going most satisfactorily and that the crew had behaved nicely.

Dr. Howe was going westward with one man to Cross Island, and if possible to Thetis Islands, to take some tide observations simultaneously with those on board, and as he should be off as soon as the weather got better, we at once commenced to work on his outfit.

The Eskimos at last had got an inkling of what we were going to do, chiefly through the agency of Ned and his boys, and an old woman, Sukareinna, claimed to have seen the disputed island off Harrison's Bay. It seemed incredible that she could have done so, as she said that they were at that time in the bottom of Harrison's Bay, and saw a high and conical mountain far away to the north. The land which this woman and others claim to have seen was doubtless only a heavy floe of old ice which in a certain light may very well deceive a casual observer. Sachawachick likewise told some tales about the land; he had never seen it himself, but he had heard much about it while living at Point Barrow, and there is not the slightest doubt in his mind that the land is there. The Eskimos were very much interested in our quest, but they thought us quite crazy to start out over the pack ice. Many natives had accidentally gone out on it and had never returned. How then could white men come back?

One day while down in the village I saw a pup which took my fancy. The pup belonged to Cropcana and Kanara, whom I shall have to mention later, and I went to them to see how much they asked for it. To my surprise they called their little girl Crapok and told me to make a bargain with her, saying that they had nothing to do with the dog, which belonged to her.

The Eskimos, as we learned later on, give each of their children a pup immediately after its birth, and the pup belongs to the child as long as it lives. Although the family was hard up for food, the little girl was allowed to choose whatever she wanted as payment for her dog, but it almost broke her heart when I took away her playmate. She hugged it, kissed it, and was weeping all the way down to the ship. And even all the nice things which she got in exchange were hardly enough to console her for the loss.



KANARA.

Several children had followed us down, and I gave them some candy. Instead of rushing at it, as I had expected, they only stood looking at it, although they very well knew that it was good to eat and that it was meant for them. Not one stirred. I told one of them, mentioning his name, to take some, and he was quick enough to comply; but I had to call each of the little ones by their names before they touched the much-loved sweets. I could not help thinking what white children would have done under similar circumstances, and that these little savages were better behaved than their white brothers and sisters. Another time I saw one little fellow with a piece of pie allow a dozen other little ones to have a mouthful each. Although the children rule the house as long as they are small, they become very gentle when they get older. Once, when I saw a child, old enough to know better, being very naughty, and the parents only laughing, I asked them why they did not punish him. They looked at me in surprise. Punish a child! They hardly understood what I meant. Why, the child did not know what it was doing; by-and-by, when it became older, it would be better and not do such things. And I must say that I have never seen grown-up people more kind and considerate towards their elders. So, after all, their way of

bringing up children does not seem very wrong; they certainly get good results.

Flaxman Island seems to be eternally plagued by storms. Day after day the wind blew hard and made outdoor work impossible. The snow was drifting by at times so thickly that we could not see the shore, which was only two hundred yards distant. It made its way through every little hole in the awnings over the ship and filled up the deck with large drifts; it came down into the cabin as soon as we opened the door, and the galley especially was very much exposed. The wind roared through the part of the rigging which had been left after dismantling the ship; it played in the taut stays, while a tackle or rope beat time against the mast. It was very pleasant to sit down in the cabin in such weather, to coil up on the sofa, to smoke and think while listening to the noise on deck. On November 23 we had an uncommonly strong wind, and I felt sorry for Mr. Leffingwell. He ought to be somewhere in the neighbourhood, and would, I felt sure, be confined to his tent, wishing to be back in the ship.



TJIMIGOK AND KRAJOOTAK.

Dr. Howe started on November 25, with Thuesen as his companion. They had food for one month, and had promised not to take any chances which might prolong their absence beyond December 20.

Ned abandoned his idea of a journey to Point Barrow after he had got some provisions, which he had asked me to lend him and which he said he would return in the course of the summer. I did not like to make the arrangement without Mr. Leffingwell's consent, but the decision could not wait till his return, so I asked Dr. Howe what he thought about it. Dr. Howe advised me to let him have what food he needed to get through the winter, as he would give us a good deal of deer meat, and we knew that he had large supplies coming next summer. So he got what he asked for, and his boys began to

sledge some of it home as soon as the fine weather commenced. I sent some new footwear with them for Mr. Leffingwell, to be left in Ned's house, and wrote explaining what arrangement we had made.

A native, Terigloo, his squaw, and three children came down to the ship on November 27, en route for Point Barrow. It is queer to see a caravan like that threading its way through darkness and storms to so distant a goal as Point Barrow. Terigloo's sledge was very heavy; he had food for about one month, and skins enough to make it worth their while to take so long a tramp. First came his squaw, with their youngest child on her back and leading another by the hand. It was her work to encourage the five dogs to do their utmost, calling them, whistling at them, running ahead for part of the way, and jumping about. Terigloo himself, with a hauling strap over his shoulder, plodded along, walking by the side of the sledge, working so hard that the perspiration was streaming down his face, cracking his whip and yelling at his dogs; while the third child, the eldest, was running behind, his stumpy legs almost too short for the loose snow. When he became tired his father let him ride on the sledge, but it was heavy, the trail was long, dogs and men were doing their utmost, and it was not often that the youngster was permitted such luxury. They pitched their camp alongside the vessel.

From November 25 to November 28 we had splendid weather, and we saw that, however unpleasant it could be when the wind was howling and the snow was drifting, it was just as beautiful when the sky was clear and not a breath of wind stirring. On the southern horizon we could see the mountains stretching far away to the east and west. On the sky was the glow of the sun, long ago out of sight below the rugged mountain tops, which in their turn reflected the golden reddish tints of the clouds above. The red became more intense higher above the horizon, then gradually changed into violet, until it reached so deep a blue in the zenith that not even an Italian sky could match it.

These days in the Arctic are the finest that a man can see. The air is fresh, clean, and bracing; walking about outside, even if it is cold, is one of the greatest pleasures of life, and we feel this joy of living so much that we frisk about like puppies,

shouting aloud and behaving like fools, just feeling a keen pleasure in being alive and able to enjoy weather like this.

In the evening I went down to the village, and although the temperature was — 35° C., the children were playing outside the igloos.

The white surface of land and ice was glittering in the light



"DUCHESS OF BEDFORD" FROZEN IN THE ICE.
AUTUMN, 1906.

of the full moon, a king amongst the millions of stars which twinkled and sparkled in the dark Arctic sky; every now and then a streak of greenish light would shoot across the sky, assume fantastic shapes, and disappear as it had come, noiselessly and without any warning. The Eskimos would look up to the wavering masses of light—their dead children playing football in the regions of light and warmth! The picture is one of utter peace, and only the cries of happy children break the

stillness of nature and sound far and wide across the frosty plains.

November passed, and yet no signs of Mr. Leffingwell. I began to feel worried, but he must have got some food from the whaler wintering at Herschel Island, and even if he should have met with bad weather he would be able to reach Ned's cabin, where there would be more food. I knew quite well that there was no immediate danger, but during the long nights which I spent alone, brooding and reading, I could not help thinking of what might have happened. Only when day came, and life stirred, I felt ashamed of my worries of the night before, knowing that Mr. Leffingwell was an experienced traveller and perfectly capable of taking care of himself.

December set in with storms from the west, and for three days we had a regular blizzard. On the third we had some extra excitement. The galley took fire during the night, but I was not called until the whole thing was over. The crew were sitting in the forecastle, playing cards, when they noticed that Flora's pups, which were locked up in the galley, howled more than usual. The watchman went on deck to see what was the matter, and when he opened the door the smoke was pouring out. He called his comrades, and a couple of buckets of water from the tide-hole were enough to put out the fire. No serious harm was done, only the pups were almost choked by the smoke and afterwards nearly drowned, but the sailors took them down in the forecastle, and the following morning there was no other evidence of the fire than some charred wood and some spoiled food. Carrol had left the fire in the stove, and the stove-pipe had got so hot that it had kindled the wood around. But for the pups in the galley, very serious damage might easily have happened, as the watchman would most likely not have seen the fire until it had got a good hold.

Before daybreak on December 6 I was visited by Douglamana, who told me that Sachawachick had killed three bears. I went up to the village, and there was great rejoicing; the whole population was crowding the house of the lucky hunter and was talking, laughing, and smoking, while keeping a sharp look-out for the pots on the stove. The dogs had already had their share, the entrails having been served out to them, and three magnificent skins were lying on a rack, dripping blood

and blubber on the snow. At least 200 lbs. of the choicest pieces were brought down to the ship, accompanied by the greater part of the population of the village, who all wanted to have their share of the present which we usually bestowed on the people when so much meat had been brought to us.

It was blowing hard from the west, with only short intervals, until December 11, when the wind died down and the sky became clear. For several days we again had the kind of weather, so rare in the Arctic, which could make us forget all our small troubles.

Ned Erie with his family started for the east accompanied by my best hopes that they would meet Mr. Leffingwell on the trail. I was feeling more and more anxious, as he ought to have been back a couple of weeks ago. All these days Terigloo had been camping alongside the ship, until at last we were obliged to ask him to move on, as his wife was seen more frequently on board and carrying away more odds and ends than I thought advisable. She was not anxious to start for Point Barrow, and the couple had a stormy interview. The result was that she went along without any further trouble, but, judging by the yells I heard during the interview and her looks on the following morning, it was evident that moral persuasion had not been the only means used.

The pup I had bought of Crapok died on the day when we asked Terigloo to move, apparently in consequence of a kick. I went down to see Sachawachick about it and to find out who had administered it. They all claimed that Terigloo's squaw had done it to get even with me for turning her out, and that she was no good, but she had gone and I could not get hold of her, which, of course, the natives knew quite well.

Kanara came to the house and offered to give me back all they had got in exchange for the dog, as they did not want me to think that they had any part in killing it. Even if I had thought so, the sight of a little girl sitting in the snow and caressing the dead body of her four-footed playmate was enough to convince me that they had nothing to do with his death, and of course I did not take back the articles they offered me.

At last, on December 16, we had the pleasure of seeing Mr. Leffingwell and Storkersen come into camp. They looked strong and healthy, although they had had a very hard time

with open water, salty ice, deep snow, and dying dogs. It took them five weeks to reach Herschel Island, and they arrived with very few dogs, the rest having died and been eaten by the survivors. The S.S. *Narwhal*, Captain Leavett, was wintering at Herschel Island, and he had given them sufficient food to return. They had reached the mail, but had not met Mr. Stefansson, who had gone down to Toker Point with some Eskimos. While on Herschel Island Mr. Leffingwell's best dog "Jim" was stolen, and although he tried very hard to find out what had become of him, it was all of no use; the dog was gone, and he had to buy another. It was a splendid animal he got, big, powerful, and of a kindly disposition, but Mr. Leffingwell was sorry to lose the other one, as it was his pet dog and named after one of his best friends.

To my satisfaction, Mr. Leffingwell was pleased with the arrangement I had made with Ned Erie, and said that he would have done the same had he been alone, the more so as we both looked upon Ned as a perfectly honest man and knew that he would get some food in the coming year.

Mr. Leffingwell and I had a long talk about the sledge trip in the spring, and as we both thought that we could do good work if we started from where we were, he agreed to my proposal that we should go out on the pack ice together, accompanied by a third man. We would go north until we either struck the desired deep water (400 metres) or the state of our provisions forced us to return, if we did not find land before that time. We were very hopeful, however, that we might do so, as our information pointed in that direction.

During Mr. Leffingwell's absence I had been spending much of my time in going through lists of the outfits of various explorers, and as soon as he had rested we made plans for our new outfit, and the work was commenced at once. As the party would now consist of three men instead of two, we had to get some more deerskins for clothing, and we made an arrangement with Uxra, giving him a good price for ten skins. But Tullik was not satisfied, and the couple came down on the following day, wanting to go back on their bargain.

Of course we could not put up with any nonsense of that kind, so we told Tullik what we thought of her and Uxra, that

he ought to be ashamed of himself for being ruled like that by his wife, and finally we ordered Tullik and her husband to leave the boat and to bring the skins on board the very same day, or they must look upon themselves as being in disgrace. The skins were brought down within one hour, Uxra looking rather shamefaced, and Tullik so angry that she could hardly speak. But Tullik was a woman with a purpose. She was envious of Sachawachick's position, and wanted to push her own slow, easygoing husband so much ahead that he would outshine the other in wealth as well as in popularity.

As to wealth she will probably succeed, since they are young and Sachawachick is old, but as to popularity they will have a hard fight, as there is not a family in the neighbourhood to which Sachawachick has not done some good turn or other. Douglamana was fully aware that Tullik was fighting for supremacy, and it was a treat to hear those two women speak about each other, each of them trying to lower the other in our eyes. Douglamana was very pleased with this last escapade of Tullik's, and was likewise clever enough to see that it would be some time before she came to occupy the same position in our opinion which she had held before.

Dr. Howe and Thuesen returned on the 19th of December, with a tale of woe to relate. The weather had been against them, and they had had many gales. They had failed to find Cross Island, and after they had travelled about for a week, looking for it, they had given it up and returned to Pole Island, where for eight days they took tide observations. Although we should have liked very much to get tide observations from Cross Island, we had to satisfy ourselves with what we had, and with the thought that they both returned as strong and healthy as when they went out.

Christmas week was ushered in by our usual violent storms, and we could not leave the ship. For three days we were confined to our cabin while the wind and snowdrifts raged outside, making every live thing seek shelter where it could be found. The storms of Flaxman Island are violent, and it is not wise even to walk ashore in order to read the thermometer. Sachawachick told us how the inhabitants of the ruined igloos on the west end of the island had perished in a storm. It was an old chief from Point Barrow who had been forced to leave

the village of his father, as public opinion was against him for some murders he had committed. With a grown-up son and daughter he came to Flaxman Island, built a house, and settled down. During a gale something was wanted from the rack only a few yards from the house, and the son went out. He did not return, and his sister went to look for him. When neither returned, the old man went out, only to suffer the fate of his children. They were unable to get back to their house against the furious blasts of wind. The girl alone kept on wandering, with the wind at her back, and arrived half frozen to death at Sachawachick's igloo. For three days the wind kept on blowing, and when it abated Sachawachick set out to ascertain the full extent of the tragedy. He found both of the men dead, and of the son only the head was left, the starved dogs having eaten the rest. They were buried, but the girl had gone mad, and though she lived, she paid for her life with the loss of both of her feet.

December 24 came, and with it fine weather, calm and clear.

We opened some Christmas boxes which friends in Copenhagen and Victoria had made for us. From the blind girls who had knitted our woollen stockings, etc., there was a small present for each of us. From my sister we found some books and a letter to me which sent my thoughts back to the dear ones at home, longing for the Christmas they were celebrating and thinking of the many Christmas-times we had spent together in the days of childhood. An old ship's officer who had been my superior not many years ago, and who had helped with the packing of our things, had out of his slender means sent us a game of dominoes. Mrs. Nanton, of Victoria, B.C., had sent a big Christmas cake, and so had others of our lady acquaintances there; and Leiser & Co., our grocers, had packed a really magnificent box, containing plum pudding and sweets, cigars and cigarettes, and other good things. It was a fine box, and Joe Carrol was allowed to take as much of our provisions as he needed to make us a really splendid dinner.

But what a lonely thing a Christmas is on board ship and in the Arctic! We have all spent so many a merry Christmas with our families and friends, and the day holds such pleasant memories for all of us, that we are always bound to feel homesick on that day. And although we begin the feast with an

honest desire to be sociable and cheerful, the conversation soon flags. First one, then another, gets occupied with his private thoughts and forgets his comrades, until a painful silence calls us back to reality and we make a fresh attempt at liveliness. But before long we are again eating our meal in silence. So it happened on this Christmas Eve. The dinner was really splendid, we took our time over it, and when we came to the dessert we drank the health of absent friends. But even this ceremony could not raise our cheerful spirits, and we were all secretly longing to retire to the privacy of our bunk and think of other Christmas Eves, long since gone by. At last, by mutual consent, we gave up all attempts to make the evening a success, and turned in, to think of home and the people we most desired to be with, until the songs from the forecastle, which reached us muffled by bulkheads and snow, made us sleep and dream of the happy days of childhood, when Christmas was Christmas.

On December 25 we had a big feast in the cabin for the Eskimos, who came in great number, dressed in such splendour as their wardrobes allowed, washed clean, and combed. Also the children were invited, as it was chiefly to be a festival for the little ones.

A big Christmas fairy, which Miss Hoffmann, the lady who superintended the knitting of our woollen wear in Copenhagen, had sent up to us, was the keynote of the day and excited a great deal of interest. But no one wanted it; all the little girls, who would, we expected, only have been too eager to get hold of it, for some reason or other became frightened and ran to their mothers for protection. One of the boys, however, was bold enough to claim it, having seen that it would be a really good thing to tease the girls with, but as we did not know what reason the children had for shunning it as they did, we thought that it would not be wise to let him have it, and gave it to Nagoorok, who was too small to protest, and Tullik seemed not to mind.

We fed the children on dates and sweets, gave them the remnants of our Christmas cakes, besides giving everybody deer steak, bread and butter, and jam. Jam they like very much, and after we had opened several cans we had to appear not to notice that some one was scraping an empty can for the

third time in a rather demonstrative fashion. After lunch we gave each of them a small present, kerchiefs, knives, files, etc., and the phonograph was the last in the list of entertainments for this very successful Christmas party.

The following day Fiedler and I started for Ned Erie's cabin to get some deer meat, which was really an excuse for an outing. The weather was fine, as there was no wind, but it was comparatively warm, and we had a good deal of soft snow to walk through. However, we reached Ned's cabin early in the morning on December 29, and he was very glad to see us and the present we had brought as a Christmas offering.

On the 30th of December his two boys and Fiedler left for the mountains to get the meat, while I stayed behind in his cabin, as I wanted to go over to Barter Island to see the remains of numerous Eskimo houses.

The last day of the year was splendid, and I went out for a long walk with Ned to look after his fox traps. My thoughts wandered back to many different events of the past year. And thoughts of the year to come followed thoughts of the contemplated sledge trip. Would it be a success, or would it be a failure? Possibly no one would return to relate the fate of the small expedition setting out with such great hopes and expectations.



"WENY" AND "UNIMACK."

CHAPTER IV.

WINTER QUARTERS.

New Year—Life in Ned's Cabin—Unexpected delay—Start for the Ship—Lost in a Gale—Return to Ned's Cabin—Arrive at the Ship—Buying Dogs—Ship leaking—Small Sledge Trips in the vicinity—Gales—Preparations for the Sledge Trip—Sickness amongst the Natives—Getting ready to start on the Sledge Trip across Beaufort Sea.

THE New Year commenced, and to a superstitious man the day would have been a good omen for the year to come. It was very calm; the mountains to the south looked very close in the thin, clear atmosphere. Far away to the west we could see them, at a distance of a hundred miles or more; to the east they were visible almost as far, lifted by the refraction, looking fantastic and weird. The day was perfect, and Ned and I enjoyed our daily round to the traps. We can already see that the days are getting longer, and each day the red glow of the sky to the south, visible at noon through a mountain pass, comes stronger and stronger, while the golden tinge framing the edges of the clouds tells us that it will not be very long before the sun has come back so far that we can see it through the pass. Then we shall have fine, long days again, we shall once more be able to travel, and the monotony of the winter will be a thing of the past.

It is strange that the Eskimos should not have become sun or fire worshippers, as these two things together almost constitute life in the Arctic. The sun, even when absent from the sky, is never absent from their talk, and whenever we ask a man to go somewhere or other he will invariably say, "Yes, when the sun comes back!" The sun alone brings life; it warms the air and melts the snow; flowers spring up, and ducks and geese flock into the country. Then there is life and a time of plenty, where before there was half-starvation. Truly, the sum of an Eskimo's existence is "the sun, the sun." When the sun is here, the country is fine, the stomach is full, there

is dancing, courting, and play; but when the sun is away, gloom settles over land and sea, life is hard, every morsel of food costs hard work, and people freeze and starve while waiting for the sun to return.

Fiedler and Ned's boys did not return, and after the lapse of several days I began to feel homesick for the vessel, though Ned himself was a very nice fellow, and Ekajuak, his wife, did everything in her power to make my stay in her house as pleasant as possible. But sitting about a whole day and doing nothing except talking about future plans will become tiresome in the long run. We often went out for a walk, and on one of these walks we went over to the sand-spit at Barter Island to look at the numerous remains of a once powerful but now extinct Eskimo tribe. Or we walked up the river to have a look at the fox traps, which was, however, not very exciting, as it was too early in the year for foxes to run, and we hardly ever saw even a trace of one. Then we would return to Ned's house to eat bread and beans, smoke a while, lie down to sleep, and play solitary games. Ekajuak was always busy. She sat on the floor at one end of the house, mending or making clothes for her large family, or tidying up the two smallest children. When the evening fell we lit our only kerosene lamp, which made an attempt to light up the large log house, but only succeeded in the immediate neighbourhood of the lamp itself, leaving the corners dark. The children were fighting or playing, laughing or crying, until they were put to bed, and Ned and I resumed the game of "Idiot's delight." This was the ordinary routine of the day, but we spent much time in walking up and down on a large snowdrift outside the house, discussing every possible subject between heaven and earth.



EKAJUAK.

While eating our supper, beans and bread as usual, on January 8, the long absent party drove into camp, and we made ready to start for home on the following day. But to our intense dismay a perfect blizzard from the west sprang up during the night,

and when we wanted to start we could not see fifty yards before us. It kept on blowing for two days, and when it calmed down at last our worst fears were realized; the strong westerly wind had raised the level of the water so much that it had flooded the ice, frozen fast to the bottom of the shallow waters outside the river. We tried to start, but the water was too deep; so we



NED'S BABY CHILDREN.

returned to Ned's cabin, soaking wet with water and perspiration. And it was lucky that we did return, as the gale blew up afresh, and for three days we were again confined to the house.

The Eskimos are very eager to learn reading and writing English, and Gallikar, who had been taught the latter accomplishments, partly by the missionary at Point Barrow, partly by a miner who lived one year at Collingson's Point, was in his turn teaching Ekajuak's son, Ejakok. Every evening, when the day's work was done, the two boys would sit down on the floor, and for several hours they were busily engaged with their books and slates. Gallikar read quite well, and studied mining from some ancient books on the subject, the only literary treasures of the house, besides the school-books which he had got at Point Barrow. Ejakok was getting on very well, and

although he was not nearly as bright as the half-breed Gallikar, he could read an ordinary book and had some ideas about arithmetic.

A strange custom, common to all households where a white man has married an Eskimo woman, was practised in this house. The husband does not eat with his wife and children, but takes his meals in solitary grandeur, at the table of the house, while down on the floor the mother of his own children and the rest of the family are eating as best they may. As far as I remember I have seen only one case where this custom was dispensed with.

Sunday the 13th came with fine, warm weather, hardly below the freezing point, and, in spite of Ned's remonstrances, Fiedler and I started in the early morning, although the looks of the sky were not promising. Over the mountains it had a dark, leaden colour, while higher up the clouds had taken a golden red colour from the sun which now would return in a few days. There was a strong wind in the mountains, and large drifts of snow were whirled into the air, giving the impression of smoking volcanoes.

But thinking ourselves wiser than the men who had been in the country for years, and longing to get home to lend a hand in the preparations for the sledge trip which had now been in progress for more than a month, we started.

The first day we made a fine run, but after we had camped, eaten our supper, and turned in, we heard something like a sigh in the air. The sound came once more, and for a few seconds the tent was flapping with a light breath of wind, and then everything was quiet again. But not for long. A few minutes later we heard the well-known rustling of snow drifting along the surface, and before we had time to comment on that, the wind struck us with irresistible force. Less than five minutes later two of our tent poles broke and the tent fell on the top of us.

We tried to get out to build a wind-break of snowblocks, but it was almost impossible to stand against the furious gusts of wind, and whenever we had got a block of snow cut out and set up the wind took it away at once. It was pitch dark, and we dared not go away from the tent to look for better snow, so we gave it up, crawled back into our disabled tent and sleeping

bags, where we tried to sleep and thus forget the furious flapping of the slack canvas and the roaring of the wind. But we could not sleep, and the snow soon began to penetrate into the tent, through holes which had been made by the broken tent poles. When morning came our stove-pipe had blown away and we could get no fire, while our food box was buried under a heap of snow. Every now and then we had to shift in order to shake the loose snow from our sleeping bags, and each time we moved we were pressed higher up and closer together. When night came the wind was still blowing with unabated force, and so little room was there now in the tent that Fiedler and I had to lie on one side. Towards morning so much snow had drifted into the tent that we had to cut a hole in the leeward side and put our feet through that, and at 7 A.M. we were crowded out entirely.

We had had nothing to eat since the first night, and as there was no sign of the wind going down, we started for Ned's cabin, carrying our sleeping bags and followed by our faithful dogs. The sledge had disappeared in a snowdrift and was nowhere to be found. The wind carried us along, and we tried to follow the shore, which we could only now and then see through the snowdrift.

In crossing Sadlerochil River the wind gave us much trouble, as we could not get a footing on the glare ice and were time after time blown over. One by one our dogs had disappeared to seek shelter in their own way, and we had only two left when we stood on the east bank of the river. In crossing it we had lost our way and were wandering about for an hour and a half before we again found our whereabouts, and I had the misfortune to break through the ice and get wet almost to my waist. The temperature was low enough (— 35° C.) now, and our clothes were frozen stiff, as the snow which had penetrated our sleeping bags while in the tent had melted and soaked our wearing apparel. In addition to that I had fallen into the water, and shortly afterwards I cut my kamicks on a sharp piece of ice.

We staggered along, hungry and weak, and only too soon it became evident that we could not reach Ned's cabin that night, but would have to spend it outside, half frozen, starved, and in a howling blizzard. At 4 P.M. we stretched out our

bags and crawled into them. We froze our hands repeatedly, and not even in our bags could we keep ourselves from freezing.

With only an interval of a few minutes we were calling to each other, as we dared not sleep for fear of never waking again; we kicked our feet to keep them warm, and our stiff fur parkeys froze to the sleeping bag. The length of this night was awful. As we lay on our backs, looked up at the stars, which were visible through the snowdrift, and thought of the hopelessness of our condition, the strain was almost overwhelming. We knew that we had not much strength left, and that it would be a mere chance if we ever found Ned's cabin, and we also knew that if we missed it, if only by two hundred yards, we could not see it, and would be dead within a few hours. And thus we lay waiting for the day to come, looking toward the south-east to catch the first signs of the breaking morning, while over us the blizzard was howling, and the snow was packing hard about two almost prostrate forms huddled close together and shivering with cold in the bags.

The thoughts which passed through our minds were many and varied. Memories of childhood, mingled with remembrances of our grown-up life, were passing through our minds with the vividness and rapidity of a cinematograph; everything we had done, good and bad, passed in review before us while we lay there looking to the south-east and waiting for the day to come. The two dogs which we had left lay curled up close to us, and we had a string fastened to one of them—he at least could be eaten in our last struggle for life.

Day came at last, the stars faded, the sky became lighter and lighter, and at 8 A.M. we started, frozen, and hardly able to walk.

For a second the furious snowdrift seemed to slacken, and the vision of a *caché* a little to our right made us change our course. And five minutes later we were in Ned's house, with Ekajuak hustling about, ridding us of our frozen furs, rubbing our faces and hands, our feet and our knees, in order to restore circulation, and after that giving us something to eat. The good woman almost wept to see the plight we were in.

One dog, old Dad, had already come into camp, and the rest appeared several days later, while one, Soreback, came in

seven days after we had left the tent, looking like a skeleton with skin stretched over it.

The gale had spent itself by the time we had passed two days more with our kind friends, and Ned's two sons started with us for the ship as soon as the weather permitted it, but it



ESKIMO WITH TEAM RETURNING TO THE SHIP.

took me three weeks to recover from the frostbites I got on that awful trip.

Fiedler stood the trip well, and never by word or action showed the slightest distrust of my judgment, nor uttered a complaint during the fearful night of suspense. He is made of good metal, and he is liked by all of us.

At 4 A.M. on January 22 we were back on the ship, where our comrades were very glad to see us and told us that they had had some serious misgivings as to our safety.

The preparations for the sledge trip had gone on all right and we would easily be ready to start by March 1.

Mr. Leffingwell and myself had many things to talk over regarding the outfit for the sledge trip and particularly concerning the provisions we were to take. We agreed to take out two rations, one with Horlick's malted milk as a base, and one with pemmican. We would take an equal amount of both rations and try one against the other during the eighty days of actual fieldwork which we expected to have. A full

description of the outfit will, however, be found in the following chapter.

Another serious question to be settled was that of dogs, as several more of our pack had died, and some of those we had



"KAMALOOK."

bought were useless. We had to get more and were willing to pay any price for them.

We began at once to look about us for dogs in the possession of the Eskimos which we knew would stand us in good stead for the ones lost, but we had to pay exorbitant prices for them. For instance, one which we bought from Kanara was paid for with two sacks of flour, 25 lbs. beans, 6 lbs. coffee, 20 lbs. dried potatoes, 12 lbs. cocoa, one shot-gun, 250 rounds of ammunition, and one broken-down tent; and another bought from Uxra with two sacks of flour, one sack of cornmeal, 5 lbs. coffee, 20 lbs. dried potatoes, 25 lbs. sugar, 4 lbs. prunes, 4 lbs. malted milk, 200 rounds of cartridges, and one hatchet file.

The prices, as said above, were exorbitant, but the dogs were good, and, what was more, we needed them.

Furthermore we hired one dog, Kamalook, but we had a hard fight for it. It was not so much on account of the dog itself as on account of pious considerations. The dog's present owner was Ujarak, but it had belonged to a deceased son, and the old people were afraid that their only remembrance of their son might thus be lost. However, when we promised to be

good to the dog and not to kill it, except in case of absolute necessity, and especially after we had shown them what we were willing to give them in exchange for it, they were not able to resist the temptation.

Old Sachawachick on this occasion, as in many former instances, proved himself a gentleman. Although he knew the price we paid for the other dogs, he offered us his best dog without payment. It is needless to say that we accepted with thanks and made him some large presents. He certainly deserved it; his kindness and faithfulness to us had been remarkable.

But of greater importance than anything else was perhaps the question as to when we were to start on the sledge trip.

Ned Erie and the Eskimos had told us that the weather in February was very unsettled and boisterous, and we thought it best to fix the day of departure for March 1. With the eighty days' provisions we were taking we could stay out for two and a half months, in other words till the middle of May, and this would be early enough for marching without undue exertion.

We asked Dr. Howe whether he cared to go out with us, and as he was only too glad to come, another important question could be looked upon as settled.

On January 27 we had a very great fright, which caused a considerable alteration in the future plans of the expedition. At 1.30 A.M. I was called by Thuesen, who told me that the floor of the forecastle was under water. The men were turned out at once and started pumping, but it was two hours before the water began to decrease; when it did begin to sink the vessel was pumped dry very easily.

About ten hours later the leaking commenced afresh and again lasted for two hours. The leak thus must be rather high above the level of the water, as the ship only leaked for an hour before and after the flood tide, which meant that we should probably be able to find it. We were wintering rather too close to the beach, and the ice between the ship and the shore did not rise with the tide, and we had some large cracks in the ice alongside the vessel. The leak was probably caused by some of the oakum in the seams freezing to the ice, and when, later on, with a change in the temperature, the ice was cracked open and broke away from the side of the ship, the oakum was pulled



TREACHEROUS SNOW.

out, leaving a hole for the water to come in. However the leak was caused, we had at the time only to think about getting out the water and then bringing the remaining provisions ashore. The provisions were piled up on the ice, and we sent word to the natives of the village to come down and help us to sledge the food in. They turned up to a man, and a lively scene ensued. Some of the men were continually loading sledges, while the women drove the dogs along a quickly-formed but nevertheless well-beaten path, shouting and yelling at them. At the other end of the trail other men were piling up the food, and when night fell we had brought all our provisions and about seven tons of coal on shore.



FEEDING DOGS ALONGSIDE THE "DUCHESS OF BEDFORD."

The following day we cleaned the hole and broke out the skin in an attempt to locate the leak. At the bottom we found a layer of ice, about one foot thick, and the water which we had seen had been on the top of it, but we could not find the leak anywhere. If it was the caulking which had been pulled out, there was no doubt that more would be pulled out later on, and that we should have great trouble in repairing the ship. She leaked badly for two days, and then the leaking stopped. The ship had listed to starboard so much that we all felt quite uncomfortable on board, and we put out some stays from the masthead to straighten her, and, failing in this, to prevent her from falling further.

When we had done all we could, and the ship apparently was tight again, probably through water freezing in the leak, Mr. Leffingwell and Dr. Howe went back to Ned's cabin with

his boys in order to bring back a dog which Ned had given us. They took some provisions which were still due to Ned, and their sledges were heavy. All our new dogs were in harness, and the sledges went flying down to the Point where the old owners of the dogs lived, but from there and outwards it was almost impossible to drive the beasts. During the night two of them escaped and returned to Flaxman Island and to the homes of their early days.



CROPCANA.

The preparations for the sledge trip were going on and things were gradually getting ready. We built a large house, 10 by 14 feet, in a snowdrift aft of the ship, and when we had got a stove fitted into it we had a splendid work-room. All the lashings were overhauled, and Mr. Storkersen had charge of that business, while others weighed out provisions in the cabin. Thuesen was making tents, and the women of the Eskimo village were busy making parkeys and pants, mittens, boots, and socks, while others were tanning the skins. Either Mr. Leffingwell or myself went down every day to see how the work progressed and whether it was well done. Douglamana acted as a kind of forewoman and Sachawachick gave us good advice. Tullik had realized the folly of fighting against us and was gentle and docile. She was, as I have said before, a splendid sempstress, the best we had on the island, and it was consequently easy to forgive her slip with the deerskins before Christmas, the more so as we really liked her. But Douglamana was our quickest sempstress, and she could get through a surprising amount of work. Sukareinna was making mittens and sleeping bags, and only Cropcana could not be trusted to do any work whatever.

This Kanara family is the most unsympathetic of all our neighbours; they came here in the beginning of November and have not moved since. Kanara never goes out hunting, as he is too lazy, and they get food in Sachawachick's house, where their family of five are constant but not always welcome guests.

The Eskimo's idea of hospitality, however, obliged Sachawachick to feed these people as long as he had anything to live on himself, and the old man had to go out in all kinds of weather to get meat for the many people depending upon him, while the family itself thought that we also ought to keep open house for them on board—everybody did so in this country, so why should not we be willing to do the same? Almost every day of the week Cropcana came down to us, took a seat where we could not help seeing her, and coughed and looked ill and begged for her children. Sometimes she also brought down some small article absolutely useless to us and wanted to sell it for crackers or something else for her children, and if she did not get what she asked for she pretended to be ill and wanted to have some medicine, knowing that we never refused that. Cropcana had got the nickname of "Crackhead," as she told us in the beginning of the winter that her skull was broken. She had a headache, a devil was sitting in there, and Dr. Howe gave her some medicine which would kill the pain. He made her eat some blue capsuloids which would make her urine blue, and said that when this happened the devil would be killed and she herself cured. There was great excitement in the village to see what would happen, and when the looked for event took place Cropcana declared that she could plainly feel that her head was healed and the devil gone, while the whole village thought that Dr. Howe must be nothing less than a sorcerer. A rumour told that the famous Cropcana headache almost brought the family to the brink of starvation, as she had made Kanara believe that if he fired a gun the devil in her head would hear it and trouble her more than ever. The result was that Kanara hardly did any work for a whole winter, and another family had to support him, his wife, and their offspring.

Drastic remedies were necessary in that country, and Dr. Howe was an expert in the art of inventing cures which by some outward sign would show the people that an expected result had been obtained.

The first days of February were very bad, and for four days it was blowing from the west. The result was that the young ice, which had been formed after the violent gale in January had sent the ice far out to sea, was again crushed and the floe right off Flaxman Island looked very ugly. The wind,

besides breaking up the ice and causing us very great inconvenience for some days, kept Mr. Leffingwell in Ned's cabin while we had work enough for all hands on board the schooner and on shore.

It was not till February 7 that the vessel commenced to leak again, and so badly that the pumps were kept going all day. A new crack had been found just alongside the vessel, which may have started the leak afresh. I began to fear that the sternpost was damaged, as it was wedged into the ice and the ship was listing more and more, but, owing to a heavy snowdrift, we could not get at it to examine whether anything was wrong or not.

The wind kept up a veritable merry-go-round outside, and for several days it blew most furiously. I was sorry, as it delayed Mr. Leffingwell still more, and there were many points regarding the outfit which I was longing to talk over with him.

On Sunday, February 10, we had a very cold day (−40° C.), and a westerly wind of about fifteen miles an hour was blowing the snow along the surface. Some of the Eskimos, who came down in order to spend the Sunday as usual on board the vessel, told me that Mr. Leffingwell and Dr. Howe had come to the village and were now being thawed out in Sachawachick's igloo. I started down, and before I arrived I too was in need of a regular thawing out myself, though the wind had been fair. Nothing exciting had happened on Mr. Leffingwell's trip, except that they had been laid up in Ned's cabin for several days, and one day on the trail, waiting for the strong westerly gale to cease.

They both spoke very enthusiastically about the way in which their dogs had pulled on the way down to Ned's cabin; there had been 150 lbs. for each dog.

When we came back to the ship I had a multitude of new plans to communicate to Mr. Leffingwell, and I was pleased to hear that he approved of them all. I was particularly glad when he agreed to leave the kayaks behind and to substitute a raft instead. My reasons were that kayaks are rather troublesome to carry along on a sledge, that they are apt to get broken, weigh a great deal, and make the sledge top heavy. In those days we spoke about nothing but our outfit, and

everybody was busily engaged in preparations, the Eskimos no less than the white men, all except Cropcana, who alone looked down upon the busy multitude and offered good advice.

We had some very cold days towards the end of February, and the minimum was reached on the 13th, when it was – 50°C. A very light wind was blowing and the weather was splendid, but, judging by the sky, it was not to last long, and we knew that the weather would probably break before long. On the same day we had great trouble with the leak, and in the course of one hour we measured two feet of water in the hole. It was the extreme cold which caused it, partly by making new cracks open alongside the ship through contraction of the ice, and partly by the uneven contraction of timber and bolts.

The worst of it was that we had no time to spend in finding the leak and barely time to pump the ship dry. This, however, had to be done, and we made the Eskimos do it when they came down to get something to eat, but they soon understood what was wanted of them, and did not come quite so frequently as they had done before.

On February 14, just when we had finished our midday meal, Uxra came down to the cabin, perspiring and so out of breath that he could hardly utter a word. But as soon as he was able to speak his message sent us flying, for he told us that Douglamana was very ill and "mocki kanekto" (almost dying). Dr. Howe and I started at a run, and found our kind friend squatting on the ground, giving forth some heartrending groans and surrounded by a sympathetic crowd of women, all talking, smoking, and telling what they themselves had done in a similar case. Douglamana was not particularly ill, her pulse and temperature were almost normal, but nevertheless she demanded attention from everybody round her, and if any one failed to pay sufficient respect to her illness she began to moan so that she could have been heard half a mile off. Poor Sachawachick was almost frightened out of his wits, but he told us that he was not really afraid as long as the Doctor attended to Douglamana. In a couple of days she was quite well again and hard at work upon our outfit.

On Sundays only did we rest, and our friends came down

to us to talk, to smoke, and to eat. We—or rather Mr. Leffingwell—now understood their language very well, and Sachawachick told us many things, amongst others about Captain Maguire, who had wintered at Point Barrow in 1851; he told us the captain's name, and mentioned the native who was accidentally killed by the gunner of H.M.S. *Plover*. Events of this kind are the milestones in an Eskimo's reckoning of time, and when, for instance, Sachawachick was asked how old he was, he would say that he was not yet born when the *Plover* wintered in Elson Bay.

When the Eskimos came down to the ship Mr. Leffingwell always took the opportunity of increasing his Eskimo vocabulary, and he was getting along very well. Although the Eskimo language is very hard to learn properly, we very quickly picked up a speaking acquaintance with it, and we all managed to make ourselves fairly well understood, but whenever complications of any kind whatever arose we had to resort to Mr. Leffingwell and his more systematic investigations of the Eskimo tongue to find out what was meant.

However, these people were far easier to understand than a tribe of natives who had not been in contact with white people would have been. They had learnt, when speaking to white men, always to use the simplest and the least difficult words in their otherwise rather complicated language. This, of course, was very nice for us who did not study their language, but it caused Mr. Leffingwell considerable annoyance that the Eskimos could not be made to understand that they should talk properly to him and a kind of pidgin Eskimo to the rest of us. Our friend Sachawachick was a great help to Mr. Leffingwell, and each time he came down to the ship he was detained for an hour or two in order to satisfy Mr. Leffingwell's philological curiosity.

Thuesen was of great assistance to us in our preparations. He could do anything, sew a tent or clothing, lash the sledges, and do the numerous odds and ends for which we could find no one else. Consequently he was greatly in demand just then.

Mr. Storkersen, with the assistance of Hicky and Fiedler, had the sledges ready on the 19th. The work was done very neatly and carefully, and we had nothing now to do but to load and start.

A westerly gale blowing from February 18 till February 21

again broke up the ice off Flaxman Island, and we made up our minds that we should be forced to cross a very bad stretch of country before we could strike the pack, after which we hoped to have some easy going.

Mr. Leffingwell and myself went out for a long walk over the pack ice, but it was a sorrowful sight which presented itself to our view. Where before were large floes of level ice, we now saw high pressure-ridges and many lanes of open water or very thin ice which from the very beginning boded evil for our sledging.

We had a couple of unpleasant surprises towards the end of the month. One of our best dogs, old "Dad," was badly bitten by another dog, "Jack," and as some of the matter from "Jack's" sick head got into the wound and poisoned it, we had to lance the old dog in three or four places. We took him down into the cabin, and old "Dad" luckily improved faster than we had ever dared to hope.

The other surprise was still more unpleasant. On February 26 Thuesen was taken ill with appendicitis. Dr. Howe was very anxious about him, as he might have to operate if Thuesen became seriously worse, and this again might prevent his going out with Mr. Leffingwell and myself, as had been expected and hoped. However, Thuesen improved fairly rapidly, and some days later it was evident that he had recovered from his attack, but the danger of a recurrence was still there. We had a talk with him, and Dr. Howe offered to stay behind in case Thuesen would agree to let himself be operated upon, if it became necessary; but Thuesen absolutely refused to agree, even when he was told that a bad attack would be fatal if he were not operated on, and that he was liable to get a bad attack at any time. He signed a paper to this effect, and as Dr. Howe could do no good by staying behind, he gave Storkersen directions how to act in case of a new attack during our absence.

Our sledges were loaded and ready to start on the 27th of February, but the weather was so bad that there was no possible chance of going out. It was well that we had made up our minds not to start in February, as it had practically been blowing all the time, and if the wind was the same further out as on shore we should only have been able to travel a very few days during that month.



MR. LEFFINGWELL, MR. MIKKELSEN, AND DR. HOWE IN THE LATER PART OF FEBRUARY.

On March 1 we were ready and waiting for the weather to calm, which happened on the following day, and it was decided that, weather permitting, the start should take place on the 3rd.

The ship had been doing very well of late, and it was only now and again that she commenced to leak.

Mr. Storkersen, who was going out with us for the first few days of our trip, and who, with Fiedler, was to form an auxiliary party, had orders to devote all his time after his return to finding and repairing the leak. We had discussed the best way of accomplishing this task, and as he was a very able sailor, we had no doubt that the leak would be repaired if it could only be found.

We had written letters and orders for the future, and had provided for everything, in case the trials on the pack ice should prove stronger than we, and we should not return from the expedition on which we started with as high hopes of success and with as adequate an outfit as any party of men who had ever gone before us.



OUR CACHÉ ASHORE AT THE END OF FEBRUARY.

CHAPTER V.

EQUIPMENT OF A SLEDGE EXPEDITION.

Saving Weights—Permanent Weights—Sledges—Means of crossing Water—The Sledge Dogs—Their care and driving—Tent—Moisture in the Sleeping Bag—Means of preventing it—Clothing—Furs contra Wool—Food—Comparison between the Food of different Explorers—Malted Milk compared to Pemmican—Outfit taken on the Sledge Expedition.

THE success of a sledge expedition, the distance covered, and the comfort and health of those employed in it are almost entirely dependent upon its equipment.

The preparations for a sledge trip, however, take more work and cost more thought than most non-explorers imagine. The first object is to bring down the weight as much as possible, without carrying retrenchment so far that the efficiency of the outfit suffers, and the second and no less important object is to pay the greatest possible heed to the comfort of the men on the trail.

The weights which it is particularly important to cut down are the permanent weights, that is, sledges and kayaks, the articles used for camping, such as tents and spare clothing, sleeping gear, and cooking utensils, the instruments, arms and ammunition, and the many odds and ends which have to be taken along—in fact, everything which cannot be eaten or burned.

When the sledge travelling of the fifties was revived by Nansen's trip across the Polar pack, a new type of sledge as well as a new mode of outfitting was introduced, and each explorer after him has added some improvement to the Nansen sledge or outfit. But each expedition has also cut down the weight of the different articles, or left things behind which some few years ago were deemed absolutely essential to the safety and comfort of the party.

Our impression, however, is that the saving has—to some

extent—of late been effected in the wrong places, so that the party has actually suffered in consequence. The weight-saving tendency has especially influenced the construction of sledges and has certainly been carried too far. The minimum limit for the weight of a sledge has been reached and passed, and we must now commence to make them heavier again, at least for travelling over the pack ice in the Polar sea. The immediate consequence of a frail sledge is that it breaks down or becomes so rickety that the party using it will have to work carefully amongst heavy ice, lest their sledges should give out, and if that happens far from land the result might easily be that starvation and possibly death would overtake the party.



THE "DUCHESS OF BEDFORD" AS WE LEFT HER.

Another thing which has been a favourite subject of attempts to save weight is the tent. Here again it is not justifiable to go too far, as the commander of an expedition has no right to risk the lives of his companions in order to save a few pounds. A tent must be made of such a heavy material and the poles be so strong that it can easily stand an ordinary gale, and the physical and moral comfort which a comparatively heavy tent gives is large. Imagine lying out on the pack ice with only a thin and frail wall of silk between you and the tempest which is raging outside. It is flapping, and all the time you are in

fear that it may give way; and it is evident that a trip over sea ice without a tent is, to say the least of it, utterly uncomfortable. The days spent on the trail are so hard that one must consider the comfort of the men and therefore carry a strong tent, made of such solid material that there is no danger of its blowing down. A really good tent is one of the greatest comforts which can be given to an Arctic traveller, as it saves him the usual worries as to the capacity of the tent to stand the pressure of the wind; moreover, a heavier tent gives more heat within and keeps the drifting snow out better than one which is made of thinner and frailer material. It is of great importance to keep out drifting snow, as it will find its way into the sleeping bags and in course of time make them wet. Of course snow will be carried into the bags from the clothes where it has lodged during the day's travelling, but the drifting snow combined with the rime which is formed from the steam and perspiration inside the tent is not inconsiderable.

The moisture of the sleeping bag and the wearing apparel is one of the greatest discomforts of Arctic travelling, and as a few pounds extra weight of fuel tends to diminish this evil, it may well be carried, and the party will be none the worse for hauling it, but very much better for the comfort it gives.

Nansen began to use a cooker which utilized practically all the heat that the Primus lamp generated, and his example was followed by all later explorers, and though in theory his principle was quite correct, in practice it is wrong. In our opinion it is far better to leave the Primus open when it burns and let the pot get what heat comes naturally to it, while the rest will warm the tent and dry the mittens, stockings, and other small things, which otherwise must be dried in the sleeping bag. A cooker weighs something, and admitting that otherwise a small box must be carried to keep the stove in, there will be a difference in weight of several pounds, and one pound of kerosene burns many an hour.

Besides the kerosene gained by the difference in weight of the cooker and box, a further saving can be accomplished by having only two hot meals a day, one in the morning and one at night. We only stopped to cook lunch one day, and it was so miserably cold that we all three agreed to leave out that part of the programme and to eat a few crackers and a little

chocolate in the middle of the day while on the march. To raise our tent, or at any rate to unlash the sledges and get hold of the sleeping bags, crawl into them, and wait there for lunch to be cooked is not very pleasant, and takes time, while we get much more snow into the bags which sooner or later melts and makes the sleeping bags very uncomfortable. Our experience was that it was much better to travel throughout the day and camp correspondingly earlier at night. It was Mr. Leffingwell, not myself, who advocated this arrangement, but before many days I was convinced that he was right, and we never stopped to eat lunch for more than a few minutes; travelling over rough ice gives more than enough opportunities for halting and rest.

The kerosene saved by omitting the hot lunch and only drinking cold water with our meals, which as a rule we found quite sufficient, amply compensated for the extra expenditure of fuel caused by not using a cooker, and, as said before, the comfort which we got out of the heat was in our opinion worth more than either lunch or tea after the meals. As a result of not being too economical with the fuel we always had dry mittens and stockings, etc., without having to take them wet into our sleeping bags for drying; and I may here state that we never suffered any great inconvenience from moisture in the bags.

My observations about the advisability of comparative comfort on a sledge trip are all derived from Mr. Leffingwell's and my own experience, but it was mostly due to him that the comfort of the party was taken so much into consideration from the start. In the beginning I was not so much in favour of it, but I soon became convinced, and remembering the Baldwin Expedition, the discomforts we suffered from frozen sleeping bags, the hours spent in warming them, frozen or damp clothing, and the frostbites which were the natural consequence of such a state of affairs, I must admit that, even if it seems a less hardy way of looking at things, I am of the opinion that the comfort of men on the trail as compared with a comparatively small increase of weight is an important matter which must be taken into serious consideration.

With a daily ration, properly balanced, some weight can, however, be saved on the food, and a sledge party must be economical in this respect as long as it has strong sledges, a good tent, and more fuel.

As it has cost me some time and work to compare the permanent weights taken by different explorers, I have inserted the list here, and hope that it may save other men in the same position at any rate some work. The comparison speaks for itself and no comment is necessary.

Articles carried by . .	Nansen. Party 2.		Abruzzi. Party 4.		Scott. Party 3.		Amdrup. Party 3.		Fiala. Party 2.		Ourselves. Party 3.	
	No	Weight.	No	Weight.	No	Weight.	No	Weight.	No	Weight.	No	Weight.
		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.
Sledges with fittings .	3	155·0	4	189·8	5	209·0	3	180·4	3	271·0	3	160·5
Spare under-runners and spare sledge gears . . .	..	..	..	12·2	..	..	..	12·8	..	..	..	1·7
Spare dog harness .	..	12·0[1]	..	..	..	..	..	..	..	8·3[1]	..	1·0
Tent complete . .	1	7·5	1	35·4	1	29·0	1	28·9	..	17·5	..	24·6
Sleeping bags, etc. .	1	19·3	1	86·0	3	45·0	1	44·0	..	42·5	3	32·0
Spare clothing for party, emergency and spare kit .	..	25·5	..	72·0	..	45·0	..	71·0	..	28·5	..	39·8
Primus lamp and reserve parts .	..	..	..	..	..	..	..	..	..	..	..	3·1
Cookers and eating utensils . .	..	11·0	..	15·6	..	34·0	..	17·4	..	13·0	..	12·5
Instruments and cameras . .	..	31·7	..	35·8	..	40·0	..	32·8	..	45·0	..	50·8
Ice axes and Alpine rope . . .	..	..	..	13·3	..	7·0	..	7·0	..	11·5	..	5·8
Repair bag and tools	..	7·8	included in extras			15·0	..	7·8	..	..	..	5·5
Arms and ammunition . . .	..	47·0	..	18·9	..	..	..	61·2	..	54·0	..	18·5
Skis and ski-boots or snow-shoes . .	3	39·0	..	..	3	30·0	4	59·0	..	3·0	1	10·0
Spades . . .	1	2·3	..	..	1	3·0	1	2·3	..	2·3	1	4·3
Kayaks and gears .	2	93·8	2	110·2	..	..	3	179·3	..	..	..	..
Boots or raft . .	..	..	..	..	..	..	..	..	..	101·0	..	24·4
Extras . . .	..	1·5	..	35·0	..	..	..	1·5	..	..	..	..
Medical outfit . .	..	4·5	..	11·0	..	6·0	..	2·8	..	3·0	..	2·0
Trading gears . .	..	..	..	..	..	..	..	..	..	..	..	3·8
Total permanent weights carried by party . . .		457·9		635·2		463·0		708·2		600·6		400·3
Permanent weight of party per one man		229·0		158·8		154·3		236·0		300·3		133·4
Weights carried by party, minus the weight of sledges and kayaks .		209·1		435·2		254·0		348·5		228·6		215·4
Weights for one man, minus the weight of sledges and kayaks		104·5		108·8		84·7		116·2		114·3		71·8

[1] Dog pickets included.

I will only call attention to the figures which show how much of the permanent weight falls to each man's share. The permanent weight does not increase in proportion to the number of men on an expedition, and for a party of three men the total weight carried will only be slightly increased, while the extra weight for each man will be considerably less. A party consisting of two persons is decidedly too small, one consisting of three considerably better, but our own experience taught us that a party consisting of four men would really be the ideal thing over rough pack ice. As far as the distribution of work goes, it will be the duty of one man to go ahead and break a trail, chop down small pieces of ice, cut a road through pressure-ridges, and pick out the way. This is in itself more than sufficient work for one man, and it is too hard on him to have a sledge to drive at the same time. In order to make any distance over rough ice it is necessary to have three sledges on which to distribute the weights, and there must be one man for each sledge, or the delays caused by sledges capsized or getting stuck, etc., will be too great. The dogs also pull considerably better with a man close behind them, who with words and whip can encourage them to do their utmost.

The weight of one sledge ought not to exceed 600 lbs. or it will be too heavily loaded for one man to manage it over ordinary ground without applying for help, except in extreme cases. But no man can manage much more than 600 lbs. Even that may be too much, and the man as well as the sledge will suffer if it gets at all heavier.

Sledges and Sledge-driving.—Our sledges were the common "ski-sledge," which has been described so often that description is unnecessary here. I will therefore content myself with stating what objections we had to the sledge and what changes our experience taught us to contemplate for future sledge expeditions.

Any one in charge of the outfitting of an expedition cannot be too careful in selecting the wood for the runners, as the slightest cross grain in the wood will make the sledge draw heavily, and the runner will split in a surprisingly short time. We used the common thin runners, with an under-runner attached, but the principle is not good, as the under-runner is too thin—only

three-eighths of an inch—and in the course of a very few days is torn to pieces if the sledges have to pass over rough ice. Even if the under-runners hold, the snow will get in between them and the main runners and make the surface uneven, thus causing the sledge to pull hard. Of course the under-runner protects the main runner for a few days, which is of some importance, but not enough to counterbalance its inconvenience or extra weight. However, as soon as the under-runner is stripped off, the main runner gets chipped surprisingly soon by contact with sharp, fresh ice, and this chipping is mainly due to the runners.

Instead of the thin, loose under-runner and the equally thin main runner, we think that a heavier runner, about one inch thick, would be more advisable, and for several reasons. First, the runner would be less apt to split; secondly, it would be considerably stronger and would give, as it were, more backbone to a sledge. It is not my opinion that a sledge should be rigid; far from it; but a sledge may happen to be hung up at both ends on two pieces of ice, and will then be badly strained when the load is not supported by anything but the thin runners.

The shoeing of the runner is a highly disputed question, the more so as each explorer has had different conditions to confront; but our experience showed that the runner is best shod with steel plate, no thinner than can be fastened with bolts through the main runner. Such steel shoeing would prevent the runners from splitting, less care would be necessary in going over rough ice, and so time would be gained. Last, but not least, a wooden runner drags very heavily over salty ice, while frozen lanes with rough ice on either side would often afford some good travelling, so that also in this respect it would be a great advantage to have a shod sledge. The German silver shoeing is of no use on the pack ice, as a sharp piece of ice is enough to tear it open, and once ripped it gives no end of trouble. A thin under-runner could be taken, fixed in such a manner as to be easily attached to a sledge, for use over level and snow-covered icefloes, but for general use a thick and shod sledge-runner is to be preferred to the double runner system.

The crossbars of our sledges were eight inches above the

ground, but even that is hardly enough. They are apt to drag through the snow whenever it gets deep and soft. A remedy to prevent this can easily be found, *e.g.*, by lashing a couple of slabs of thin wood all the way from bow to stern and underneath the crossbars, which will at the same time help to strengthen the sledges.

The weakest part of the sledge is the bent wood bow, and the breaking of that causes the sledge to plunge into any snowdrift, when it will either have to be pulled back or dug out, both of which mean a considerable amount of work, besides causing many long, uncalled for, and unpleasant delays. The object of the bent bow is to help the sledge to slide over any unevenness, and it is all the more important as the sledge, particularly when going down a pressure-ridge, is apt to get stuck in the snow, if the bend in front of the sledge is too small. I think that if the runners were more curved the almost unavoidable breakages might be to some extent avoided, and, as on the Yukon sledges, the bow can hardly be bent too much.

To extend the stanchions above the body of the sledge and make a sort of rail would not increase the weight very much, and would make the bow as well as the sledge itself stronger and also facilitate the lashing of the load.

Some experience is needed to load a sledge in the right way, and it must be loaded according to the nature of the trail over which it is to travel. For transport across pack ice the centre of gravity should be in the middle of the sledge, as it is a considerable help in crossing pressure-ridges, but for travelling over level ground it should be more towards the stern, particularly if the snow is deep.

It is absolutely necessary to place the load as near the stern as possible if the trail should be over hard, wind-beaten snow or over glare ice where the sledge cannot otherwise steer.

We carried "skies" with us, lashed under the crossbars, but we never used them, and we did not believe much in them. They may be very serviceable to people who have used them from their childhood, but even then it is incredible how they can be of any use in heavy rubble ice and deep snow, and I think upon the whole that short snow-shoes would be much preferable.

In order to travel on pack ice the outfit must include

contrivances for crossing water. A kayak by which we could ford rather large expanses of water would, of course, be of great value, but the use which could be made of it would hardly compensate for the increase in weight, especially when it is remembered that much work is necessary before a kayak can be ready for sea after being on the sledges for a long time. The often repeated capsizing of the sledge with the kayaks on top will tend to break every piece of wood in the kayak itself, and sharp pieces of ice will tear the canvas cover. In our case we knew that the ice was never very far removed from the shore, but that we could easily land, and, consequently, we at any rate did not think it necessary to burden ourselves with rather useless kayaks. By means of two nine-foot sledges, two sticks $4\frac{1}{2}$ feet long and $1\frac{1}{2}$ inch in diameter, and a piece of canvas 11 feet long and 6 feet wide, we could make a raft, the object of which was to enable us to cross wide lanes or other large expanses of water. This raft proved very useful, as will be seen later on in the chapter dealing with our sledge trip; but while on the pack ice we thought out a still better plan by which a boat of great stability and good carrying power could be constructed out of a sledge. The sledge used should be a rail-sledge with a high bow. A piece of canvas could be made to fit snugly round the sledge, and two long pokes to be filled with air were to be attached to the canvas in such a manner as to be near the railing of the sledge when the boat was to be used. When it became necessary to use the boat the canvas could be stretched over the sledge, which would thus be used as a frame, the pokes would be blown full of air, and with a little load in the bottom, to make the boat stable, it might be made to cross almost any expanse of water likely to occur between the pack ice. It would, of course, increase the weight, but not nearly so much as a kayak, and it would be ready for sea in a very short time.

On the splendid sledge trips made in the fifties by English Navy officers and men, men pulled the sledges for the most part, but in later years dogs have almost exclusively done this work, and ponies have also been used. There is no comparison between ponies and dogs, as long as they are going over level ice, the former having far more power to pull,

besides being easier to feed and to handle, but when the ice becomes rough, dogs are the only things possible. However, to get the real value out of a dog the team must be looked upon as doomed when it starts on a long sledge trip. A dog must be used as long as there is any need for him, and then killed to add to the supply of food by the meat his own weight represents.

It is a repulsive thing to reward our faithful animals with death after they have toiled for us day after day; when their very life is worked out of them, their feet bloody and sore, when they cannot pull any longer, then to shoot them, or kill them in some other way, cutting them up into small pieces and throwing the meat before the remaining dogs. But, however repulsive, it is necessary. The dogs must be sacrificed to achieve the purpose of a certain sledge trip, and it is better to feed them well while they live, and then shoot them when their services are no longer needed, than to take out a pack of dogs expecting to bring them back and half starve them while the sledge trip lasts.

Our dogs were fed on one pound of pemmican a day, but it is not absolutely necessary to feed them so well, fourteen ounces being quite enough for an average dog. We endeavoured to feed a dog in proportion to his size, and a large hardworking dog might get twenty ounces, while a smaller and less hard-working comrade might only get twelve. Our dogs were all very fat when they were killed, and those we brought home with us had increased in weight.

A good dog, properly fed and harnessed, ought to be able to pull 100 lbs. or more, and likewise ought to be able to keep this up day after day. The way in which a dog is harnessed greatly affects his pulling powers, and the harness must be made so as to fit snugly, as it will otherwise soon chafe holes.

For sledging over level ground the Yukon method of harnessing the dog is preferable,[1] but for sledging over rough ice the dogs ought to pull each in his own trace, so that each can pick his own foothold. On the pack ice we used the latter method, and the dogs were hitched to the sledge with a six-foot rope,

[1] The dogs are harnessed, like horses, with a swivel-tree and fastened by trace and neck strap to a central rope, and in pairs, one ahead of the other. This is a splendid method, and its only disadvantage is that the foremost dogs are beyond the reach of the whip.

while the leader had one a couple of feet longer. When the team got to know each other, they would pull well together, but if a strange dog was let in, there was much disturbance until the rest got accustomed to him. The harness for a dog is very important in order to obtain good results, and we made our harness for each animal, fitted it on on board, and Hicky, who had charge of that part of the outfit, acquitted himself most satisfactorily. The harness consists of a collar stuffed with hemp, with a piece of manilla rope in the middle to help to resist the strain. This collar is light and flexible and fits well round the dog's neck. To the lower side of it there is fastened a broad piece of webbing, which is passed between the dog's forelegs and up either side of his body, where it is sewn on to another piece of webbing which is fastened to the collar and extends along the animal's back. To the latter the trace is fastened, and if the work is carefully done the dog ought to get the pull on his shoulders. But if it is not well done, it will either choke the dog or pull his head downwards, and it is evident that either way the animal is not able to pull well. This harness, however, has a disadvantage, as the dogs get accustomed to walk and pull at an angle, thereby losing some amount of strength.

When using such harness as I have described, the driver must be careful that the thin skin between the dog's legs is not worn through, and in case it should show signs of soreness, the harness must be wrapped with a soft piece of fur.

We unharnessed the dogs every night, as the harness is apt to chafe if it is kept in the same position day after day, but it is also necessary to remove it for another reason: the harness might get caught on a sharp piece of ice while the dog is strolling about over the floes at night. Then, in order to get at liberty again, the dog will chew his harness, and it must be repaired, which is not a pleasant task.

When we started on our sledge trip we had about 125 lbs. for each dog, which did not seem too much for them, but, of course, the driver was always in the hauling strap and ready to jerk the sledge across a snowdrift or any other obstruction, thus helping the dogs considerably.

It is not wise to have too many dogs before a sledge, only just the number necessary for pulling it. We used five dogs for

each sledge and they pulled 650 lbs. This was rather too much for each dog, but we preferred to use as few dogs as possible, instead of putting an inferior animal into the team, knowing that one of those animals would do no good, but only cause everlasting trouble.

Driving dogs is an art, and many people will never succeed in making them do their utmost. Sledge dogs must be driven with the whip, and they will soon discover if their driver is slow in making use of it. But, on the other hand, a driver must be careful not to break a dog's spirit by constant nagging with the whip or hard words. If a dog has deserved punishment, let him have it, good and hard, for the dog knows the reason very well and will pull better after it; but if he is in constant fear of being whipped, not hard, only just touched, he becomes nervous, keeps looking round him, pulls in an uneven way, and, by jumping backwards and forwards in his endeavours to avoid the lash, is apt to get the traces tangled. Some dogs cannot be whipped at all, as they will be so frightened that for a long time they will pull wildly and toil so hard that they will hurt themselves; or they may go to the other extreme, not pulling at all, for fear of the driver. Such dogs must be put ahead out of the reach of the whip, as the mere cracking of it and the mention of their names will usually be quite sufficient to make them pull.

Other dogs can be whipped all day long without making any impression on them. Those are really the best sledge dogs, as they are not so excitable as the others and pull more evenly, although it may sometimes be difficult to make them pull harder than usual, if the occasion should happen to require it.

A good team ought not to be whipped at all, but the whip must be constantly in the driver's hand, and by cracking it frequently he must remind the dog of its existence.

Kindness in word or deed will sometimes be of great use in dealing with dogs, and some of the native dogs will pull with all their might for those who have been kind to them from the days when they were mere pups, and never do any work whatever for other men. If a man has had a team for some time, the dogs will get to know him, and if he understands the ways of dogs and takes proper care of them, they will be very faithful to him, follow him wherever he goes, and pull with a good will.

Dogs on the trail must be taken care of; their feet must be constantly examined, and if the pads show sign of wearing through, they must be wrapped up in a kind of kamick, to be put on when the dog is working, as the dog will very soon become useless if sores are left untended.

When driving dogs in loose snow, the team must be stopped every now and then to allow the dogs to bite off the snow and ice between their toes. Some dogs stop of their own accord, lie down and commence cleaning their feet whenever they begin to hurt, but most of them will begin to limp and look reproachfully at the driver. Then he must stop at once, as the snow which collects between their toes will melt and freeze to the hairs. In a very short time it will have become a large ball of ice, which gives the dog great pain, if he has to walk on it, and will end by wearing a hole. A good remedy, which does not hurt the dog, is to trim the hair off with a pair of scissors and then singe the footpad over a burning candle.



OUR TENT ON THE ICE TRIP.

The dogs must be fed regularly, and it is best to feed them at night, as they are apt to become lazy if they get much to eat during the day. However, it is usually considered a good plan to give the dog a little bite to eat in the morning, about one hour after starting. If a dog is fed on pemmican, 1 lb. is ample, but if he gets fish or meat, he must have about $2\frac{1}{2}$ lbs. a day. When a dog is not working, or on board a ship, where dog-feed can be cooked, it is very advisable to cook the food. We used to give our dogs cornmeal cooked with small pieces of blubber and meat. The raw material goes much further

when used in that way, and it is more wholesome for the dogs, but dogs going out on a trip ought to get their field food at least a week before starting, so as to accustom their stomachs to the new rations.

Some training is highly necessary before starting with dogs on a long sledge trip, first, in order to harden their feet, secondly, to accustom the dogs in one team to the ways of each other, and, thirdly, to ascertain the changes necessitated by the characters of the individual dogs—*e.g.*, two fighting dogs cannot be in one team, as in that case a catastrophe sooner or later is bound to occur. But the most important thing is to find out which of the dogs are of any use and which are not. When a dog has been tried thoroughly, and cannot be induced to pull either by the whip or good words, he may as well be given away or shot, as the chances are that he will only eat a working dog's share of food without being of any use.

Tent and Camping Outfit.—As stated before, we had endeavoured to make our tent as comfortable as possible, and although it was small, we succeeded beyond our highest hopes.

Instead of the formerly described native tent, we constructed one which we thought would be more simple—a tent 6 by 6½ and 4 feet high. Six bent sticks held the canvas in place, the sticks were held together at the top with a small piece of rope, and to make the joint stiff we had a small stick which was lashed on over the joint and could be fixed from the inside. The face of the tent was straight, and the door, which was of the kind Captain Scott used, was sewn on to it. It consisted of a hole about 2½ feet in diameter, with a piece of drilling of 1½ feet sewn all the way round. Small rings were sewn along the edge of this flap, and a piece of thin line rove through. Whenever we wanted to close the door we hauled in the string, and gathering up the loose cloth in one hand we wrapped the string round it with the other, till it was perfectly wind and snow proof. The sticks were placed in such a manner that the back was half-round, making a small extension to the floor space, an extension which was used to stow away the food box and cooking utensils. Constructed in this way, the tent presented a round surface behind as well as on the sides, and it was always pitched so that the back was turned to windward. The front and back were both made of double material,

and the canvas cover for the raft was thrown over the sides of the tent, so that they were double as well.

Besides making the tent considerably warmer, this double cover prevented the forming of hoarfrost inside it, caused by the breathing of men and the steam generated by the cooking. It saved us a good deal of moisture as well in the sleeping



SHOWING THE WIND-BREAK IN FRONT OF OUR TENT.

bags as in our furs, as this fine hoarfrost falls with the slightest motion of the tent cover and forces its way down the necks of the occupants of the tent or down the wide open mouths of the sleeping bags.

Our tent *was* warm, nay, everything taken into consideration, very warm. When meals were being cooked and the Primus stove going full blast, the temperature is known to have gone up to 8° C., while outside it was — 25° C. It is evident that things dry fast when hung in the right places, and we always managed to keep our things dry, clothing as well as sedge grass.

Another contrivance, adding very much to the warmth and cosiness of the tent, was the construction of a wind-break. It was built of large blocks of snow, one or two feet from the windward side of the tent, and usually made a little wider than the front of the tent. It broke the wind in a most marked manner, making the drifting snow pack round the tent like a thick and warm blanket. We derived great comfort from it,

and it can never be recommended strongly enough, as besides making the tent warm it saves the material of which the tent is built from the constant wear and tear of flapping in the wind.

The weight of our tent with stays, sticks, etc., was a little less than 21 lbs. It is a comparatively large weight, but it pays.

The furniture of the tent consisted of a piece of oilcloth, which we spread on the top of the ice to prevent the sleeping bags from direct contact with the snow, but it cracked, and, although it helped to save the bags a little, it was not quite satisfactory. Our experience is that it would be much better to carry a tanned deerskin and spread it with the hairy side downwards on the snow.

We were each of us provided with a sleeping bag, as we thought it wise to remove as many causes for complaint and ill-feeling against each other as possible. A dry sleeping bag is the greatest comfort imaginable, but it can only be secured if we are sufficiently careful to brush the snow off our clothes before we crawl in. It is to each man's own interest to get off as much snow as possible, but it is not every one who is sufficiently awake to the fact that only so can the sleeping bag be kept dry and comfortable. Men often crawl in with more snow on their clothes than their sleeping comrades think wise, and everybody being as a rule touchy on the trail, words will pass, while the offender, of course, cannot see that he has neglected to brush the snow off *his* clothing, but thinks that the protesting party has sadly neglected his duty in this respect —the result of which is apt to be a quarrel, not easily forgotten on the trail.

Apart from this, single sleeping bags are slightly colder and weigh a little more. But in a party where single sleeping bags are used each man is responsible for his own, and it is no one else's business. It is also a kind of private store-room for spare clothing, for diaries, and any other small article which the individual carries on the trail.

Our bags were covered with thin drilling, which is very advisable, as it makes the bag considerably warmer, and to a certain extent prevents snow and moisture from getting rubbed into the skin.

As mentioned above, a lot of moisture is brought into the bag from the clothes, for which reason overalls ought always to be worn, and taken off before entering the sleeping apartment. But it is not only the snow which makes the bag wet; the perspiration of the body and respiration add considerably to the amount of moisture, especially if the bag is closed. For that reason we had our sleeping bags open at the top and slept with the head outside, so that the breath could escape into the tent. We never suffered from frozen faces while sleeping, and I believe that a man will always wake before he is actually frostbitten. However, a good way to make sure of not freezing is to throw the sleeve of the fur parkey over the face. Then the moisture collecting in it will freeze during the day, after which it can be brushed off or will evaporate.

One kind of moisture, however, we could not protect ourselves against, the moisture brought into the bag by sleeping on the ground with nothing but a single layer of deerskin between the warm body and the snow. The heat of the body melts the snow in contact with the bag, and in the course of one night large wet spots will be formed on the bag wherever the body rests hard on the snow. When this has been repeated night after night the sleeping bag will soon become soaked. Another reindeer skin, on which to place the sleeping bag, would prevent this to a very great extent, and the weight of the skin would be less than the added weight of moisture in the furs, which in a very few days must be dragged about for the rest of the trip. And the comfort of sleeping dry would in itself be enough to compensate for the weight of the skin, as men of course work much better during the day when they have slept well in a warm and comfortable place during the night.

We, unfortunately, had no skins with us, but used our fur parkeys or dogskins whenever a dog had been killed.

As we had no cooker, our cooking outfit only consisted of a box with a Primus stove at one end, and the bowls, spoons, and other small things at the other.

Clothing.—Fur contra wool has been highly disputed by the different travellers, and most explorers want to use wool. It is quite natural that they should think so, if they carry the reindeer coats which they can buy in civilization, made by

white men, and of heavy winter skin. We had some ourselves, so we speak from experience.

According to our way of thinking, furs, properly made, are far superior to wool, as they are warmer and lighter, while the spare clothing which we have to carry weighs considerably less than when wool is used by a sledge party. But, of course, if furs are worn they must be soft and light, such as our clothing, which was made by the natives, entirely in native fashion and from the skins of fawns shot during August and the beginning of September. A complete fur suit consists of two parkeys, that is, coats to be pulled over the head, with a hood fringed with wolverine skin attached to it. The inner parkey is usually sufficient for travelling, but whenever the party stops both ought to be put on. The fur is turned inwards on the inside parkey and out on the outside one, and if it is blowing a silk overall ought to be put on, to prevent the snow from penetrating into the fur. Besides these two fur parkeys we wore a very thin undershirt with the sleeves cut off. This undershirt saved the fur considerably, as it absorbed some of the moisture of the body. A topsia (woollen belt) is advisable, as it is very wholesome to regulate the heat of the upper body; if it is too cold the topsia is put on, and the body will soon get warm; if it is too warm and the topsia is removed, it will not be long before the cooling air has made its influence felt.

Two fur parkeys ought not to weigh above $5\frac{1}{2}$ lbs.

A pair of fur breeches, preferably with the hair turned in, are ample clothing for the legs, and no drawers are needed. We wore knee breeches in the beginning, but they were not so comfortable as those reaching down to the ankles, as it was almost impossible to make the breeches and the long stockings join in such a manner as to keep out the snow. The places where they joined just below the knee had, moreover, an unpleasant way of opening and exposing the knee to the cold and the snow. The long pantaloons such as the natives wear are much better, as the space between them and the short stockings is covered by the boot, so that even if the joint should give way no great harm would be done. The fur stockings are worn with the fur turned inwards and usually next to the skin. Sometimes, however, we used a pair of woollen stockings inside the fur ones. Whether wool or fur stockings are the more

serviceable on the trail can be disputed. I personally wore fur stockings; Mr. Leffingwell always wore wool. As a rule, I think that a man whose feet do not perspire very much will derive infinitely more comfort from a pair of fur stockings, whereas a man whose feet perspire freely must be careful not to wear furs, which, if wet, are apt to be colder than woollen ones.

Our foot-gear consisted of native kamick, a boot with either a reindeer or a seal skin top and a sole made of Oogerook skin. The sole is chewed carefully, so as to turn up the edges, and the top is sewn on to it.

As we were not quite sure of the durability of this kind of footwear, we took out several pairs (four extra) for each member of the party, but if the sole is good there is no need to take so many. For extremely cold weather boots with sole and top made of reindeer skin, and with the furs turned in, will be very serviceable, but otherwise sealskin tops will be warm enough. Just below the knee the boots are tied securely by means of a poke string. A thick pad of sedge grass placed inside the kamick is absolutely necessary to prevent the foot from coming into too close contact with the snow. The sedge grass absorbs a great amount of moisture which else would be collected in the stockings, but it must be taken out of the kamick every night, after which the moisture, when frozen, can be beaten out of it. Overalls, as said, should be worn and be large enough to be pulled on and off easily.

To protect the hands we had fur mittens with the fur turned in, but another and possibly better plan would be to wear a pair of thin mittens of wool, and on the top of them a pair of fur mittens with the fur side out. The mittens should never be worn loose, as it may be highly dangerous to lose one and to be without them even for a short time, but they must be attached to each other by a string slung over the shoulder of the wearer. Some mittens are lengthened so as to protect the lower part of the arms, which makes a good joint, and is very comfortable when the wind is blowing.

A man equipped like this can go out in any kind of weather, and may even get caught in a blizzard without freezing to death. Of course, fur clothes give a little more work than woollen ones, as the skin must be scraped every now and then to prevent it from becoming stiff, and there may possibly be a

little more repairing work to do, but nevertheless we think it wiser to take that small disadvantage in order to secure the far greater advantages on the side of the fur clothing.

The rest of our outfit explains itself, and only very little commentary is needed. We had an "emergency kit," so that in case any of us should happen to fall into the water he could at once get dry clothes. Our spare clothes bags were better furnished than needed; for instance, we carried too many boots, owing to the fact that when we started we had no very definite idea of the wearing qualities of this article. A good pair of soles ought to last about four weeks and probably longer, and a small hole can easily be repaired.

In our camping outfit we had a wisp brush, which article cannot be too highly recommended, as it enables us to remove more loose snow from the clothing than is possible by other means. It does not weigh much and saves a great amount of moisture in the bags.

Instruments, etc.—Among other instruments we carried a sounding machine. Its construction was a modification of the Lucas sounding machine, but as the automatic brake was not reliable, we braked with a mitten and only used the machine as a reel on which we could haul in our line. The line, an eighteen-stranded copper wire about 1½ m.m. thick, with a tension of 40 lbs., passed over an indicator on the end of an arm attached to the machine, so that at any time we could know how much wire we had out. Our wire was 620 metres long. The sounding machine was lashed on to the hinderpart of my sledge and was always ready for use. Most frequently we sounded through natural cracks, but sometimes we also had to cut holes through ice which was two or three feet thick.

We carried two common leads, one of 6 lbs. and one of 12 lbs. The smaller one was enough to take soundings of about 200-300 metres, but for deeper water it was rather too light, particularly if there was any drift. Some tallow in a hollow at the lower end of the lead brought up a sample of the bottom. The weight of the sounding machine was not much, only 13 lbs., but its construction was rather too light for 620 metres wire, and for future sounding on the ice a heavier machine of somewhat different construction must be recommended.

Our *medical outfit* was but small, but such as it was, it was not often put into requisition. Gauze was not included in the list, but as a bundle of biscuits for one week was wrapped up in that material we could get enough for any immediate use.

We carried two Savage rifles, ·303, and had two kinds of cartridges for them—that is, the ordinary kind, and cartridges used with an extender. As these last cartridges require a different sight from the ordinary large ones, they are not of much use, as the shooting is uncertain and a hit is to be ascribed more or less to pure luck.

A few articles which could be used in trading with the natives we might find on the land we hoped to discover were also contained in our outfit, but, unfortunately, they had to be taken home—intact.

Each man was allowed 2 lbs. weight for his personal necessities, but as diary, pencils, snow-glasses, toilet paper, and sewing material all came under this heading, there was not much room left for such small articles as a man thinks necessary for his comfort. Tobacco took up the greater part of it, and Mr. Leffingwell and myself each carried a small book for the hours spent in the sleeping bag when stormbound, which are long, with nothing to occupy the mind.

In many respects our outfit was very good, but it also had a great many defects, and I have endeavoured to put forth these shortcomings in the hope that I may help future travellers to avoid some of the troubles which confronted us on our long sledge trip over the pack ice.

Food.—A very important question on a sledge trip is the question of the food, about which every man has his own ideas, as about everything connected with sledging. Some people think that a great variety is necessary, others prefer the diet to be as simple as possible. Some declare that they do not want to travel on less than three hot meals a day, and tea with the morning and evening stew, while others, who go without hot lunch in the middle of the day or tea at night or in the morning, think that their plan likewise is the best.

However, there is probably not much doubt that, if simple, the ration is more easily packed, more easily served, and more quickly cooked than if it contains too many different articles, and a sledge party can as well live on a simple ration which

contains all the necessary elements for sustaining life as on one which gives a different bill of fare for every day of the week. It has been said that people get tired of eating the same food day after day, which, of course, may be true, but it is of no great importance as long as the nourishment is there. A man will eat when he is hungry, and as that is a common complaint on a sledge trip, no measures need be taken to induce him to do so.

Both Mr. Leffingwell and myself on former expeditions had had ample opportunity to know the qualities of pemmican, and we were not very enthusiastic about it, as we both had found it rather indigestible. However, not so much that as the rather large amount of water which the pemmican contains, and must contain, in spite of the great care taken in manufacturing, induced us to try something else, and we made two rations, one with Horlick's malted milk as a base, and the other with pemmican as a base.

ONE MAN'S DAILY RATION DURING SLEDGE TRIPS ON DIFFERENT EXPEDITIONS EXPRESSED IN OUNCES AND TENTHS OF OUNCES.

Food.	Nares.	Greely.	Abruzzi	Scott.	Barne.	Amdrup.	Leffingwell.	Mikkelsen.
Pemmican	16·00	11·00	10·60	7·60	7·60	8·84	..	11·35
Canned Meat	..	7·00	8·80	..	..	3·54	..	..
Salt Meat	4·00	4·00	..	..	..	..	..	..
Meat Extracts	..	0·50	0·30	..	..	..	..	..
Red Ration	..	..	..	1·10	1·10	..	..	..
Soups	..	..	..	..	..	0·35	..	..
Sardines	..	..	..	..	..	0·30	..	..
Butter	..	2·00	3·25	..	..	3·19	10·67	6·40
Cheese	..	..	..	2·00	1·50	..	..	..
Malted Milk	..	..	..	..	..	..	10·67	..
Malted Milk Tablets	..	..	..	..	..	..	2·67	..
Plasmon	..	..	..	2·00	1·50	..	..	..
Condensed Milk	..	1·00	1·13	..	..	..	..	..
Compressed Vegetables	2·00	3·00	0·90	..	..	1·24	..	0·39
Onions	0·12	..	0·15	0·40	0·40	0·89	..	..
Pea flour	..	..	..	1·50	0·70	..	..	..
Italian Paste	..	..	1·75	..	..	..	..	..
Oatmeal	..	..	..	1·50	1·50	..	..	..
Biscuits	14·00	10·00	14·00	12·00	14·50	12·20	10·95	12·43
Sugar	2·00	2·00	1·40	3·80	3·80	1·25	..	..
Chocolate	1·00	0·50	..	1·10	1·10	1·77	..	4·00
Cocoa	..	..	..	0·70	0·70	0·62	..	..

ONE MAN'S DAILY RATION DURING SLEDGE TRIPS—*continued.*

Food.	Nares.	Greely.	Abruzzi	Scott.	Barne.	Amdrup.	Leffingwell.	Mikkelsen.
Coffee	..	..	0·60	..	..	..	..	..
Tea	0·50	0·50	0·20	0·60	0·60	0·18	0·33	0·21
Salt	0·25	0·25	0·45	0·30	0·30	0·35		0·27
Pepper	..	..	..	0·02	0·02	0·05	..	..
Lime Juice	..	..	..	..	..	0·12	..	..
Petroleum	..	..	6·00	5·30	5·30	4·77	4·06	4·06
Alcohol	2·00	1·50	..	..	..	..	..	..
Stearine	3·00	..	..	..	..	..	..	..
	44·87	43·25	49·53	39·92	40·62	39·66	39·35	39·11

Food.	Nares.	Greely.	Abruzzi	Scott.	Barne.	Amdrup.	Leffingwell.	Mikkelsen.
Meat Products	20·00	22·50	19·70	8·70	8·70	13·03	..	11·35
Milk Products	..	3·00	4·38	4·00	3·00	3·19	24·01	6·40
Vegetables	2·12	3·00	1·05	1·90	1·10	2·13	..	0·39
Flour Products	14·00	10·00	15·75	13·50	16·00	12·20	10·95	12·43
Sugar	2·00	2·00	1·40	3·80	3·80	1·25	..	..
Chocolate and Cocoa	1·00	0·50	..	1·80	1·80	2·39	..	4·00
Hot Drinks	0·50	0·50	0·80	0·60	0·60	0·18	0·20	0·21
Seasoning	0·25	0·25	0·45	0·32	0·32	0·52	0·13	0·27
Fuel	5·00	1·50	6·00	5·30	5·30	4·77	4·06	4·06
	44·87	43·25	49·53	39·92	40·62	39·66	39·35	39·11

The list contains the food of the various larger expeditions which have thought this question of sufficient interest to make a special study of it. When comparing our rations with those of the others it will be seen that they were exceedingly simple, and we never suffered from lack of variety nor from the want of any particular thing.

On one point we differed considerably from the other expeditions, by not carrying sugar, but we never suffered from the want of it. The Horlick's malted milk gave us all the sugar we needed, and not even when eating our pemmican ration did we miss it. However, sugar is pure carbohydrate and there is no harm done in carrying it, but it is a rather difficult thing to

use, as it cannot very well be eaten raw, and we did not use tea, except on days when we were laid up. Tea is a splendid stimulant, and as such is very good when one is not working, but our opinion is that it is not worth while waiting for tea after the sustaining meal has been eaten at night; it is much better to go to sleep at once and rest after a strenuous day's work. Our tea ration was not large, but we had more than half of it left when we returned.

Our consumption of fuel was small, although we allowed the lamp to burn after meals or on days when we were obliged to lie still.

On the other hand we only once cooked lunch on the trail, and hardly ever tea after our meals. That arrangement worked very satisfactorily, and we never once suffered from the want of either.

Our kerosene was carried in three small tanks made of heavy sheet iron and capable of holding one gallon. A screw-top kept the tank perfectly tight, and we never lost any kerosene, but our tanks were unnecessarily heavy, weighing 4½ lbs. apiece.

RATIONS PUT UP FOR THE SLEDGE TRIP BY

Leffingwell.	Daily ration for One man.	Daily ration for Three men.	Six weeks' food.
Milk powder	10·67 oz.	32·00 oz.	84 lbs. 0 oz.
Milk tablets	2·67 ,,	8·00 ,,	21 ,, 0 ,,
Butter	10 67 ,,	32·00 ,,	84 ,, 0 ,,
Biscuits	10·95 ,,	32·85 ,,	96 ,, 0 ,,
Salt, Tea	0·33 ,,	1·00 ,,	2 ,, 10 ,,
	35·29 oz.	105·85 oz.	277 lbs. 10 oz.

Mikkelsen.	Daily ration for One man.	Daily ration for Three men.	Six weeks' food.
Pemmican	11·35 oz.	34·05 oz.	89 lbs. 5 oz.
Butter	6·40 ,,	19·20 ,,	50 ,, 5 ,,
Biscuits	12·43 ,,	37·30 ,,	97 ,, 14 ,,
Chocolate	4·00 ,,	12·00 ,,	31 ,, 8 ,,
Vegetables	0·39 ,,	1·15 ,,	3 ,, 0 ,,
Tea	0·21 ,,	0·65 ,,	1 ,, 14 ,,
Salt	0·27 ,,	0·80 ,,	2 ,, 4 ,,
	35·05 oz.	105·15 oz.	276 lbs. 2 oz.

The weight of these two daily rations was the same, but we wanted to try their relative staying qualities while doing actual fieldwork. For four weeks we ate alternately the malted milk and pemmican rations, each ration a week at the time, but the staying qualities seemed to be a little in favour of the pemmican. However, we never suffered from actual hunger when using the malted milk, only it seemed to be absorbed in the system much more quickly than the pemmican, thus leaving an unpleasant feeling of emptiness. When we had eaten these two rations for four weeks without being able to decide in favour of either of them, we tried to use them together—that is, we ate pemmican in the morning, in order to have the pleasure of feeling full as long as possible, and malted milk at night. This was an exceedingly good arrangement, and we can warmly recommend it as a nutritious, simple, and reliable ration for men on a sledge trip.

The caloric value of our rations compared with those of the Duke of Abruzzi and Captain Scott was high, especially when taking into consideration the fact that our ration was 10·2 oz. smaller than the former and practically the same as Captain Scott's. They compare in the following manner:—

Our rations	Malted milk . .	5,113 calories
	Pemmican . .	5,185 ,,
Duke of Abruzzi . . .		5,497 ,,
Captain Scott		4,068 ,,

which is strongly in favour of ours. The high value is caused by our having a larger amount of fat than either the Duke of Abruzzi or Captain Scott allowed. At the beginning of a sledge trip, when it is excessively cold, there is no doubt that it is beneficial, although some of it may be changed in favour of products containing more proteid towards the time when the warmer days commence. It would probably be advisable to make this change of diet, but it would complicate the ration more than is desirable.

Although an advocate of the simplest ration possible, I must admit that a project of Mr. Leffingwell's seems very tempting, and deserves careful consideration on future expeditions. He proposed to take some rice, beans, bacon, and dried fruit along, and use that on days when travelling was impossible. It would

make a complete change of diet, which probably would be beneficial, and even if it took much longer time to boil rice or beans than pemmican or malted milk, the heat generated by the Primus lamp, while cooking, would heat the tent as well. There is no doubt that a change of this description would be



"PUYARK" AND AN ESKIMO.

pleasant as well as healthy, and would help to pass the gloomy days spent in the bags in a pleasant manner.

We are always bound to get some bad weather, and can safely count on at least one day a week; so these extra provisions could be arranged before starting, so as to have enough for one day in every week the expedition was supposed to last.

Simple rations like ours could be packed much more economically than complicated ones, and a comparatively great weight could be saved through the smaller amount of packing materials. Our provisions were packed in packages containing the different articles of food required for one week, and the parcels were so large that they could easily be packed on the sledge. Our biscuits were in one pound packages, and fourteen of these—

one week's ration—were packed in one large bundle, making a cube of little less than one foot. They were all stowed along the middle of the sledge, from fore to aft, while blocks of pemmican, butter, and chocolate were placed on either side of this box. A thin piece of sheet iron was bent and one side lashed to the sledge so that it formed the half-side of a box, which made the food almost inaccessible to the dogs. A rope lashing held the whole thing in place, and only once a dog happened to get an extra meal from the sledge, but the way in which he was then cut round the mouth taught him to leave it alone for the future.

To carry out our plan of exploration over the pack ice of Beaufort Sea we had calculated a stay of eighty days on the ice, and we carried for that trip 510 lbs. of man's food and 570 lbs. of dog-feed.

The total weight, sledges included, was 1,632 lbs., but that was too much for the three sledges, and it was brought down to 1,226 lbs. when we started the second time, taking food for only sixty-five days for three men. As for the dogs which we took out with us, we only intended to bring back four of the twelve; the rest were to be killed whenever the weight of the sledges had diminished so much as to make one dog superfluous. Each dog was counted as twenty rations to his comrades.

This arrangement proved very satisfactory, and helped by the men on the sledges, the dogs were able to take them along.

Dr. Howe was to have been the third of the party, but after our return from our first unsuccessful attempt to reach the pack ice he withdrew, partly on account of Thuesen's illness, partly because he was so shortsighted that he could not see far enough ahead to avoid sharp ice, at any rate not without glasses, which cannot be used on the ice, as the breath condenses on them and makes them foggy. We were sorry that he could not go, but the only case where we might have needed him in his professional capacity was when Mr. Leffingwell had a bad attack of snow-blindness.

Mr. Storkersen was taken in Dr. Howe's place, and he proved himself as good a man on the ice as he has always been on board.

At the second start our sledges were loaded as follows:—
Sledge No. 1, Mikkelsen and two dogs.

Sledge	42·5 lbs.
Spare clothing	27·5 ,,
Scientific outfit	17·5 ,,
Sounding machine and lead	29·0 ,,
Raft cover	24·3 ,,
Two pickaxes	12·0 ,,
Hatchet	1·5 ,,
Shovel	4·3 ,,
Crossbar for repairing sledges	0·7 ,,
Ice spear	2·0 ,,
Gun	7·0 ,,
Codline and spare lashings	2·2 ,,
Kerosene	63·0 ,,
One sleeping bag	11·0 ,,
Tent	24·4 ,,
	258·9 lbs.

Sledge No. 2, Storkersen and five dogs.

Sledge	44·0 lbs.
Dog pemmican	368·5 ,,
Two sleeping bags	22·0 ,,
Cooking box	17·2 ,,
	451·7 lbs.

Sledge No. 3, Leffingwell and five dogs.

Sledge and fittings	71·5 lbs.
Men's food	422·0 ,,
Spare clothing	15·0 ,,
Scientific instruments	7·5 ,,
	516·0 lbs.

The dogs which we took out with us were—

Unimack	99·0 lbs.
Puyark	93·5 ,,
Kamalook	94·0 ,,
Jack	82·5 ,,
Dad	81·0 ,,
Uxra	78·0 ,,
Sachawachick	65·0 ,,
Mack	65·0 ,,
Werner	62·5 ,,
Weny	61·0 ,,
Soreback	57·5 ,,
Journiska	57·0 ,,
	896·0 lbs.
Average weight	74·7 lbs.

Mr. Storkersen and Fiedler went out with us on the first attempt as an auxiliary party, and were taken along with the intention of helping us out on the pack ice. They had a sledge and team of their own, and had provisions and outfit for eight days. They helped us considerably, but on the second start the party went alone, as we had no idea how far we might go before we headed out over the ice.



A REST.



THE SLEDGES LOADED AND READY TO START.

CHAPTER VI.

THE VOYAGE OVER THE PACK ICE.

The Start—Open Lanes—Rubble Ice—Forced to return—Second Start—Continued Bad Weather—Fail off Cross Island—Succeed off Midway Island—Thin Ice—Lanes—Get on Old Ice—Cross forming Pressure-ridges—Hot Lunch—Dog dies—Hard going—Deep Water—Current—Other Dog dies—Stopped by Open Water—Return towards Land—Foggy Weather—Life on the Icefields.

Sunday, March 3.—At 3 A.M. the watchman came to my cabin and said that the weather was fine, cold, clear, and calm, and after I had called Mr. Leffingwell and found him ready, the cook was called. After a very substantial breakfast we hitched our dogs at 6 A.M. and looked over our outfit for the last time before the long march over the ice. Sachawachick and Douglamana came down long before it was light, and Cropcana came too, not so much in order to see us off as to say that Makallektok could not go out on the ice as had been arranged; she had had a dream or something during the night. Of course we told her in our best Eskimo language what we thought of her and invited her to stay away from the ship until further notice.

At 7.30 the procession was ready, and with old Sachawachick ahead we started, while the crew fired a salute which frightened our dogs; however, it was well meant. The dogs

were in good condition and took our sledges across the island at a run, but as soon as we struck the sea ice the speed slackened considerably.

Half a mile from the shore we began to use our pickaxes in order to break a road through the uneven ice; we were often obliged to stop to cut down high and steep snowdrifts, as we



WE FOUND OLD ICE.

were very careful about the sledges. Time after time the whole procession halted while Sachawachick and myself went ahead to look for a comparatively good trail, or while from the top of an iceblock we scanned the horizon for level ice or for a promising road northward. Progress was slow, and young salty ice forced us to toil hard at the hauling straps in order to help the dogs to move the heavy loads. Only a few miles from land we found small and scattered pieces of old ice, and even this small experience showed us that if we ever struck larger expanses of that kind of ice we could make splendid headway. At 12.30 we reached a lane about seventy-five yards wide, and as we failed to find a crossing or a passage along its edge, we camped, and Sachawachick and Hicky, who had been our companions till then, bade us good-bye. Our old Eskimo friend did not like parting and thought that he

would never see us again, but after he had shaken hands all round he came back to Mr. Leffingwell and myself and, by way of cheering us up, said "Nanako keiliaktotin, ilibit mocke pickoch!" (by-and-by you will come back, you will not die). Then he returned, and the last we saw of him was a dark silhouette on the top of a piece of ice, standing out black and distinct against the blue sky, waving at us.



ON SALTY ICE.

The outlook ahead is good; the ice looks level, and we shall certainly be able to cross the lane to-morrow. Our hopes are high, and all the evening we discussed the distance we might be able to go, the land we were to find, or the deep water. We felt sure that travelling over the old ice would be easy, and we had seen much of that ahead of us. Our only anxiety was that some of the dogs might feel homesick or not like the travelling over the Polar pack, and use the night to break their chains or slip their collars and make for the good quarters and ample feed on board the ship. Our tent was highly satisfactory, the covering we had over it proved a splendid invention, and after half an hour's cooking the temperature at the top of the tent was 8° C.

Made about six miles. Temperature – 25° C.; calm and clear.

Monday, March 4.—As soon as we woke up and the first preparations for breakfast had been made, we went out to have a look at the lane which had checked our progress yesterday. There had been some motion in it, but if we were very careful we might nevertheless cross it. After breakfast, however, when

the sledges were packed and we were ready to start, a lane twenty yards wide had sprung open where Mr. Leffingwell and myself had walked only half an hour previously. We watched the ice until a motion in it at 10 A.M. caused the crack to close up so much that by floating down loose pieces of ice we could make a bridge which, with care, would carry the sledges. The fine ice we thought we had seen yesterday was nowhere to be found, and we toiled along through deep snow and by a very winding course in order to get clear of the larger hummocks and pressure-ridges. Time after time we had to stop, and two or three men had to put their whole weight to one sledge in order to lift and carry it over a particularly rough stretch. Then we came on young ice, and although the sledges dragged very heavily we made some headway. About 2 P.M. we reached a very large expanse of ice, so thin that it could hardly carry a man, and, as we did not want to risk our outfit on the highly problematic chance of crossing, we camped, and it would be hard to find three men more miserable than we; the progress made by four hours of hard work amounted only to about one mile!

Turned in immediately to forget our cares in sleep. Temperature — 20° C.; calm and cloudy.

Tuesday, March 5.—As soon as breakfast was eaten we started to cross the thin ice. It was risky work, as the ice was still very thin and inclined to move. We took one sledge over at a time, with one man ahead to cheer up the dogs, one man to toil at the sledge, and one man with a whip, in order to make its persuading influence felt whenever the energy of the dogs flagged or they balked at a forming pressure-ridge. We got the sledges over without accidents and were glad once more to be able to start over the firm ice. For about one-and-a-half miles we had tolerably good going, and were already beginning to think that the worst was over, when, on coming out from a hummocky floe, we saw a wide lane ahead of us, so recently formed that there was not yet any young ice at all. A couple of hours were spent in trying to find a passage round the water, some going east and others west, but every one returning with the same result—no way of getting round it. Again we were forced to pitch our tent in the middle of the day with less than two miles to our credit.

Temperature — 18° C.; calm and cloudy. Depth 17 fathoms, soft brown mud.

Wednesday, March 6.—The lane which stopped us yesterday had now frozen sufficiently hard to enable us to cross it by picking out the more solid places as well as we could. On the other side we found old ice, very hummocky, but we could wind



A REST ON THE ICE.

our way across and made good progress. Round the edge of it was a lofty pressure-ridge, and we had to do a lot of levelling work in order to make a place sufficiently smooth to take our sledges over. Then we crossed a newly-frozen lane and were once more on fair floes. But only a few hundred yards ahead of us we could see a perpendicular wall of ice, exceedingly rugged on the top. The average height was about four to five feet above the other ice, but further back we could see ice piled up to a height of about twenty feet.

With feelings of anxiety we called a halt near it, and Mr. Leffingwell and myself hurried up to the highest point to see what was beyond. Our expectations had not been high, but what we saw was worse than anything we had ever dreamt of. We stood on a ridge about twenty to twenty-five feet high, and as far as we could see northward the ice was broken up into small pieces, tilted on edge, and thrown together in confusion.

Not one level place or lane was to be seen; the ice resembled the surface of a newly harrowed field, covered with lumps of ice three to four feet high. For a while we looked angrily at it, scanning the horizon to see whether there was a possibility of level ice within reach, but as far as we could see to the north, the east, and the west, the horizon was ragged without the



THE ICE WAS BROKEN UP INTO SMALL PIECES.

slightest suspicion of anything level. It looked as if floes about one to two feet thick had been formed between two large bodies of ice and been crushed into fragments by heavy pressure. Afterwards the pieces had frozen together, the floes had opened again as new sheets of ice had been formed, then crushed again, and as this process had been constantly repeated during the whole winter, the belt of rugged ice fragments had grown wider. The ice was cracked later on in an easterly and westerly direction and had opened up into long lanes about three to six feet wide. The sides of the break were perfectly smooth and perpendicular, about four to six feet high and of a whitish colour. Snow had lodged between the ice pieces, filling up the deepest holes, but, owing to the closeness of the ice pieces, the wind could not get a chance to pack it hard, so that at times we sunk waist deep into the treacherous snow which covered deep pits, holes, and cracks. We started to break a road through it, two of us with pickaxes and two

with shovels. The tops when hewn off sank down into holes, and thus we made a fairly good road. Then came the turn of the sledges; three and sometimes more of us applied ourselves to a sledge and took them in as carefully as possible, but even with the utmost care the sledges broke down, bows got smashed,



A HIGH PRESSURE-RIDGE.

runners split, and pieces of wood along the trail told the sad tale of sledges unable to stand the strain. We hewed a road about two hundred and fifty yards long and advanced the sledges about a hundred yards. It took us four hours, and the result was that our sledges had either broken down or become so loose-jointed that they needed relashing. Mr. Leffingwell and myself walked further out over the rubble and came to a pressure-ridge

about twenty-five feet high, but neither on the ice which we had crossed nor anywhere else within sight was there a piece of ice level and large enough for us to pitch our tent on.

There was nothing to be done but to return and start afresh, with new sledges and lighter loads, so we took our outfit out again and returned to camp on the nearest solid floe. A crack had been formed since we passed, and we had to float down some loose pieces of ice to make a bridge which could take the sledges over the twelve feet wide lane. Then we camped, tired and very sad because our first attempt had proved a failure, and we had to go back to the ship. We had made about two miles in nine hours! Temperature — 20° C.; calm and clear.

Thursday, March 7.—About two miles towards the north-west we could see a high piece of ice and we walked across to it, to have one look more at the surrounding ice. It was an immense block about thirty-five to forty feet high, a solid blue piece of ice; and from the top of it we had the same outlook which we had seen yesterday, and consequently made up our minds to return with our badly-damaged sledges. At 8 A.M. the camp was struck and we started for the ship.

As we could now follow our old trail, the going was easier, and the open water which had stopped us when going north had in the meantime frozen over, so that we could pass it without any hindrance.

It was terribly hard work. The split runners dug deep into the snow, acting upon the sledges as anchors, while they ripped more and more, and we had to lay every ounce of our strength into the hauling straps to make the sledges move at all. About a mile from the shore we were entirely worn out, and harnessing all the dogs to one sledge, we left the others behind and made for the ship; it was a tired and disgusted outfit that reached the *Duchess of Bedford* that night. Besides all our other misfortunes, "Baby" had been taken ill; we were afraid that he had got the same disease from which so many of our dogs already had died, and as he was a very good dog we were seriously worried.

Friday, March 8.—Home again and busy getting new sledges broken out, old ones repaired, and weights reduced. We have seen that it is impossible for us to make real progress with

eighty days' food, and are consequently cutting it down to sixty-five days'. Our sledges, as mentioned above, are badly damaged. The runners are split, and two of them to such an extent as to make the sledges useless, which sets us wishing more than ever for shod runners. The bows, the most difficult part of the sledge, are broken on three of our four, the lashings are slack on almost all of them, and generally speaking the whole thing is a wreck. We even think that one more day's travelling with the heavy loads would have reduced the sledges to a pile of kindling wood, which would have been left on the pack ice, to drift about as a silent reproach to us for venturing out with such heavy loads. But frail as our sledges are, we have no others, nor time to make them, so we must just do the best we can.

Saturday, March 9—*Sunday, March* 17.—During the first days after our return we were hard at work getting things into shape again, and by Wednesday, March 13, we were ready to start. The weather has been very bad ever since our return, a gale has been blowing from the south-west, and it is very warm, so warm, in fact, that the ice and snow inside the awnings over the deck are melting, while water has come dripping down into the cabin from the condensation in the companion way; it has been as if spring had really come. For two days the temperature has been above — 2° C., and once it reached as high as — 0·8° C. It certainly is lucky that we are on board a ship instead of being out on the ice. In weather like this travelling would have been out of the question, our gear would have been wet, and we should have spent food and fuel without getting any work in return.

On Wednesday the 13th the weather was fine, but in the south-west horizon we could see a storm brewing. We started, but had only reached a distance of about four miles from the ship when the gale overtook us, and in a moment everything was wiped out. A few yards ahead the ice loomed high and dark through the drifting snow, the sand-spits we were following disappeared from view, the dogs refused to pull with the sharp snow particles hurting their eyes, and in less than a quarter of an hour after the gale broke we were hurriedly unhitching the dogs and starting for home. For three days we now stayed on board, confined to our cabins. Above us the wind was making

weird noises in the rigging; it sung, whistled, and groaned; the awnings over the ship were flapping, the snow drifted in everywhere, and it was not safe to go outside the ship. And down in the cabin we lay listening to the noise above, wondering how



OUR TENT AFTER THE GALE.

long it would last, and whether our next attempt would prove more successful than the previous ones.

Those were dreary days we spent on board waiting for the weather to improve. The sledges were in shape and were cached about four miles away, so we had absolutely nothing with which to pass the time, except reading and talking, sleeping and eating. And the talk was not very cheerful either; our only subject of conversation was our prospects, and we were perfectly aware of the fact that they diminished with every day we idled away, waiting for the weather to improve. But the bad weather could not last for ever, and on Sunday the 17th it was fine, with a light easterly breeze.

We started at 7 A.M. and soon reached our sledges. After some work in digging them out we were off at last and following the sand-spits. At 6 P.M. we arrived at Pole Island, where we camped, having made about twenty-five miles. The wind

increased again towards night, and that, as well as the falling barometer, does not promise well for to-morrow.

Monday, March 18.—The weather was very thick and snowing, but it was almost calm, and at 7.30 A.M. we were on our way towards Cross Island. At 12.40 the wind came up from S.W., and within half an hour it was evident that there was going to be a bad storm. We could not make any progress against the weather and camped at 1 P.M. with only five and a half miles gained. Temperature — 14° C.

Tuesday, March 19.—When we awoke in the morning we could hear that the wind was still raging over the snow deserts. In our tent things were snug, but the wind struck it every now and then so hard that we were almost afraid it would carry away. A few moments spent outside the tent were enough to convince us that the best we could do was to lie low, as the velocity of the wind was at times about forty miles per hour. It was a dreary day we spent in our tent, but it passed, and the last we heard was the noise of the wind, the beating of the snow, and the muffled growl of one of our poor dogs, who tried to find a place somewhere out of the reach of the drifting snow. Temperature — 25° C.

Wednesday, March 20.—The wind still too strong for travelling. This certainly is bad, as it will end by delaying our departure so much that we shall hardly be able to get back to land again if we stay out on the ice for the full time which our provisions allow. The sun is getting high, and will soon make the snow soft and the days so warm that young ice cannot be formed in the newly opened lanes. Well, we must hope for the best, but I have seen a more cheerful company than ours at the present moment. It is not very cheerful either to lie in a sleeping bag for a couple of days, the snow underneath us melting and the water making the bag wet and uncomfortable. The position is also somewhat cramped, as all the floor space we have is 6 feet by 6½ feet. Two of us lie one way and the man in the middle the other, so as to take up as little room as possible. We cannot sit up very well, as we have no support for our backs, and, besides, if we sit up our heads come into contact with the sides of the tent, which usually sends a shower of fine ice particles down our backs. Some of the time we talk, making plans for new trips or trying to find some

other cheerful subject, but it is not always easy, and conversation flags. We have each a small book—*Hamlet* and *King Lear*—and the reading and discussing mysterious passages help to pass many an hour which otherwise would be spent talking over our gloomy prospects, the result of which would invariably be to make us, if possible, still more despondent than we already are. Towards the middle of the day we frequently look at the watch to see whether the time for lunch is approaching, so that we can start cooking, and usually during such days we begin to cook earlier than we should. It is a fine sensation to have the lamp burning; it warms the tent so that we can sit up without mittens; it melts the small ice particles on the walls of our tent and makes it a really pleasant abode. It is wonderful what change a fire will make and how quickly we feel better after it has been lighted. When the lunch is ready we fall to, and it disappears only too fast. Then a little sleep, followed by telling each other our dreams, which takes quite a long time, and then more reading or brooding. The increasing unrest among the dogs, the frequent fights, etc., show that their feeding time is drawing near, and the man nearest the door has to attend to this unpleasant work. First he has to get on his kamicks, the only thing which we usually take off while in our bags, then the overall has to be put on, tied well round ankles and wrists to prevent the snow from penetrating, and when all this is done he has to go out in the cold, in the wind and drifting snow. The dogs are waiting for him and set up a howl of delight when he comes, jump round him, trying to lick him, and showing their delight in every possible way. Then comes an awful noise as the food is divided, and the last dogs are afraid that nothing will be left for them. An ominous quiet follows the barks and howls; we in the tent know that the dogs are now eating and have no time for growling. But peace does not continue long. A yelp of pain breaks the silence; a rush of feet, barking, howling, and yelping from the dogs, and bad language from the man, inform us inside the tent that one dog, having finished his own ration, wants to steal a smaller dog's share, which again results in a great fight, and the whip is applied vigorously until order is at last restored. Then the man's return to the tent is announced by his tramping and brushing the snow off his clothes, and a

minute later he rolls in, cold and in bad spirits, gets off his overalls and boots, and crawls as far into his bag as possible. Tea is made about 6 P.M., and after that conversation is kept up for a little while, at first rather briskly on the everlasting theme—how the weather is going to be on the morrow. But by-and-by it flags; one man gets out his diary, writes a few words, and again we crawl deeper into our bags, making ourselves snug, while a heavy breathing, now from one bag, now from another, tells that the occupant is in the land of dreams. Outside everything is quiet, only now and then a dog stirs to secure a better position. A short fight may be the result, but a yell from the inhabitants of the tent soon stops that, and slowly the whole party, men and dogs, gets quieter and quieter, until at last every one is asleep, possibly dreaming of fair weather, warm sun, grassy and shady slopes, a favourite dream in the Arctic, while round us the wind is absolute master, whirling up the snow, covering the dogs, and packing a blanket of snow round our frail abode.

Our tent is admirable; outside the temperature is — 22° C., inside it is only—8° C. The boat-cover certainly gives us a good deal of comfort.

Thursday, March 21.—It took us two hours to start this morning. The wind had died down during the night, but tent and sledges were buried under a heap of snow. The weather was hazy but calm, and we made some progress, but had to fight against rather heavy ice, as we had got outside the sand-spits. While trudging along, Mr. Leffingwell saw the mark on Cross Island, and as we wanted to bear out over the ice from there as well as to leave some food at that place, we made for it and camped at 3 P.M. We deposited provisions for five days there for our return march. The ice looks better than off Flaxman Island, but of course we cannot see much from here.

The temperature is falling; we had — 31° to-day. Calm and hazy.

Friday, March 22.—We turned out at 5 A.M. and packed up the sledges after breakfast. The weather looked very threatening, and as we had to go out over the pack ice, where we must be able to see our way, we waited an hour to ascertain what it was going to be. During that hour the wind increased steadily,



TENT AND SLEDGES BURIED UNDER A HEAP OF SNOW.

the snow commenced to drift, and it was soon only too evident that we should be obliged to spend another day in camp. During the afternoon the wind reached a velocity of about thirty miles an hour, and as the temperature at 9 A.M. was —40·2° C., it was not very pleasant outside. We passed the day in the tent as cheerfully as we could, which, however, is not saying very much.



OVER OLDER ICE.

Saturday, March 23.—The weather improved during the night, and we broke camp at 6.30 A.M. in most beautiful weather. It was clear but cold, — 38° C., with a light wind blowing. For the first three miles from land we had fine going over an unbroken landfloe with some heavy old ice frozen in, but ahead of us ridge after ridge showed that we were approaching the real difficulties. It was even worse than we had expected, and from an old floe about twenty-five feet high there was nothing to be seen except very heavy rubble ice, all the way to the horizon. Here and there high pressure-ridges rose above the rubble, mute evidence of the awful force which had crushed and piled the ice so high. A lead running out toward west-north-west was followed to the end for about two miles, and from there the same unpleasant sight of heavy and impassable ice met our eyes as we gazed northward, in vain scanning the horizon for a level stretch. We had broken one sledge bow and split one under-runner, and as we could see no prospect whatever of further progress, we followed our old tracks and returned to Cross Island, more dejected in mind than ever. We camped at our old site at 3 P.M. "Baldwin," one of the dogs belonging to Mr. Leffingwell's team, a worthless animal which had only been taken along as self-transportable food, had made himself invisible during the night. He possibly had a notion that he would be the first to be killed if we ever managed to come out on the ice, and we

almost looked on his disappearance as a good omen, but it afterwards gave rise to the theory that we were lost on the ice.

Sunday, March 24.—Began our preparations for breakfast at 5.25 A.M. and were ready for a start as early as 6.40. The weather was very fine; far away to the south we could see the mountains, much distorted by refraction; the sun was shining from a clear sky and making the snow glitter all around us. It was bad for the eyes, and we had to be careful and wear goggles. We made fairly good progress westward, bound for Thetis Island, but after a couple of hours' work the sky got cloudy, a strong easterly wind sprang up, and in a remarkably short time the snow was drifting heavily. Before long we were obliged to camp; the weather was getting bad, and only half a day's work was done. Temperature — 35° to — 40° C. The barometer is falling and it looks as if we are in for another storm.



PILED UP IN IMMENSE PRESSURE-RIDGES.

Monday, March 25. — The wind blew hard all night, and we could not leave the camp until 8 A.M., when the wind had decreased in velocity to about fifteen miles an hour. Progress was very difficult, as the thick cloudy weather made it impossible for us to see where we were stepping, and everything looked level. Sometimes we thought there was a small hole ahead of us and braced ourselves against a fall downward, but instead we would stumble against a snowdrift, fall, and drive our arms into the snow and get our sleeves and mittens filled with it. At other times we found a hole instead of a drift, but the result would be the same, mittens full of snow, which would melt and wet the furs.

It cleared up a little towards noon, and we saw that we were outside the sand-spits. We changed our course, and shortly

afterwards we saw the Midway Islands, which we reached about 2 P.M., when we camped. The landfloe was wider here than at Cross Island, but some rubble ice which we passed during the day's march did not look quite so heavy as the ice off Cross Island and Flaxman Island. Our hopes are reviving fast, as the ice seen from the island is one level expanse.

Temperature varying from — 20° C. to — 15° C. Barometer falling rapidly.

Tuesday, March 26.—Although the weather was fine all yesterday until we turned in, a gale from the south-west sprang up during the night, and we had to leave our warm sleeping bags to go outside and build a wind-break. The wind died down a little toward the morning, but starting was out of the question, so one more day had to be spent in the tent. Although the sun is shining the snow is drifting very hard, and it is almost impossible to work outside. Our hopes, which were so high last night, are dead and buried to-day; all this bad weather is very disheartening and does not promise well for a successful trip. At 5 P.M. the wind died down suddenly, and we may after all be able to travel to-morrow.

Wednesday, March 27.—We seem to be haunted by bad weather, for, although it was calm at 5 A.M., it blew up so much during breakfast that we did not think it advisable to start to-day; we had again proposed an attempt to penetrate the barrier of broken ice which lines the coast.

As a wind from the south has always been the forerunner of a blizzard, we built wind-breaks to be ready for it, but, although the wind increased to some fifteen miles an hour, nothing further happened. Later in the day Mr. Leffingwell and myself went out on the sea ice to see what it looked like. About four miles off land we climbed a solitary high piece of ice, and to our great joy we could see a lane of young ice leading northward, lined with heavy rubble ice on either side. Now, at last, it seems as if we have a chance to get through this infernal belt of ice which has delayed us for almost a month. We returned to the tent in the best of spirits, and till late that night we talked about the land which we hoped to find and the mysteries of Beaufort Sea, some of which we hoped to solve.

Temperature — 33° to — 29° C. Wind dying down fast toward nightfall.

Thursday, March 28.—We broke camp at 7 A.M. in fine weather, clear and calm, but very cold, between — 37° C. and — 40° C. Our high expectations of yesterday were realized to the full, and more than realized. We easily passed the large level



CAMPED NEAR A PRESSURE-RIDGE.

landfloe, but then we had some hard work for two hundred yards. It took us thirty-five minutes to cover that distance, but what did we care? Ahead, as far as we could see, the ice was level. Large fields of young ice followed one upon the other, only separated by small pressure-ridges. Full of anxiety we hauled near them, afraid that they might mark the south side of heavy and impassable ice, but whenever we arrived at the top the same sight presented itself, large and level floes ahead. The ice over which we travelled was thin and had probably been formed quite recently. It looked as if the late bad weather, which had so disgusted us, had cracked the ice and set it apart. The subsequent cold weather then froze the lane, and we have not had a change of wind since to crush it again. Although it was very hard going over the thin salty ice, we made great progress. At 2 P.M. we entered a streak of bad going, but after an hour's hard work that also was

behind us, and we were once more on level though rather thin ice. At 4 P.M. we reached an older pressure-ridge, and as from the top of it we could see the young ice extending to the horizon, we camped on the nearest heavy floe, not daring to trust ourselves for the night to the rather thin ice ahead. We had much work to find a suitable camping-place, as the snow was deep on the ridge which we had picked out, but at last we found a spot which looked fairly good. If pressure should begin during the night, all the young ice about us would go first, and we should probably be safe. We had also much work to find snow sufficiently fresh for cooking purposes, but this small inconvenience could not damp our high spirits or overshadow the knowledge that we had made fourteen miles over the ice and were probably through the rough belt. It was difficult for our dogs to find a place to sleep in, and several times during the night we were disturbed by fighting, when a larger dog made up his mind to sleep where a smaller dog had found a resting-place, which, of course, necessarily meant trouble.

The temperature rose during the day to — 25° C.

Friday, March 29.—The ice had been pressing during the night, but nothing had happened in our immediate neighbourhood, although the noise made by the screwing ice had roused us from our sleep several times. We had fair going for the first hour, but then we reached some ugly-looking ridges of heavier ice. We had to use the pickaxe pretty hard to get through it, but with what little good ice there was in between we made a fair hourly average. At 1 P.M. we came to a rather large expanse of young ice, the crossing of which caused us much trouble and considerable work. It was so thin that it bent under our feet, and we were very pleased when we came to the other side of it, where we found comparatively good going over older ice. At 3 P.M. we again came to young ice, and as it looked a little too thin to take the sledges over, I went across to test it with the ice spear. It was thin, but could bear us, so I returned to the sledges which were left behind on firm ice. A large bear had crossed the ice before I did, but it was nowhere to be seen. When nearing the solid floe where our sledges were, I saw that Mr. Leffingwell and Storkersen commenced to wave their hands frantically, and I ran as fast as I

could to see what the trouble was. I came to the place where I had crawled down on the young ice and saw a crack opening up fast, which I had to jump, a leap of five to seven feet. My comrades were ready to catch me, and I got over all right, but not any too soon, for the ice opened rapidly, and before many minutes had passed there was a lane of twenty feet at the narrowest place and fifty at the widest. Crossing it was out of the question, and we had to camp at about 4 P.M. "Sore-back" was shot to-day and cut up into suitable pieces for the other dogs to eat. "Jack" was the only one who was willing to eat his new food; the others refused, but we feel sure that they will eat it to-morrow, as they will have to go hungry until they do. Poor dogs, they looked at us with such expectant eyes, following us about whenever we came near the sledges, and hoping that we would relent and give them something better to eat, but as nothing came they began skirmishing among themselves, and we heard fight after fight during the night. We divided the load on my sledge between the sledges of Mr. Leffingwell and Storkersen, and I kept only the ice gear, the sounding machine, my spare clothing and sleeping bag, a total of about 90 lbs. This I dragged alone, dispensing with my dogs, of which Mr. Leffingwell got one and Storkersen the other.

Made good progress about five miles due north. Temperature − 33°; lat. 70° 54′ N.; depth 18 fathoms.

Saturday, March 30.—I was cook at this time, and this morning, while cooking breakfast, I was so unfortunate as to upset a pot of boiling water over my sleeping bag. We had to melt some more water, and that took so long that we did not get off before 7.40 A.M. We commenced the day by breaking our way through a high pressure-ridge which had been formed where we had water yesterday. After that we travelled over older floe ice and had some fairly good going, although we very often had to use the pickaxes. At 10.30 we came to a lane of thin ice, and were looking for a place to cross over when it suddenly broke up and the floes on either side began to move in opposite directions. For an hour and a half we stood looking at the commotion in the ice, which was pressing as far as we could see to the east and west. It was a magnificent sight to witness the result of the immense forces at work in the ice. First the

floes separated, then they came together with a crash which sounded far away over the ice. The floe we stood on, a good solid one, groaned and shivered, then it split, and along the edge of it the ice commenced to pile up. Huge blocks were, one after another, raised out of the water, tilted on edge, toppled over, and thrown with a great noise upon the floes. The water was dripping from the ice, the pieces clashed and broke, while the grinding noise, now and again broken by the crash of some tons of ice sliding down from a ridge of ten to fifteen feet high, or the sound—like the report of a gun—with which the ice broke, formed the accompaniment to this immense work of destruction. Then the floes would slide a little apart, and the ice went down, splashing water far up on the floe on which we stood. Again and again the floes ground against each other, breaking up our floe and cracking it through and through until our dogs howled in terror as if they wished to drown the noise of the fighting icefloes. At last the movement ceased for a minute, and by coaxing, whipping, and yelling we got the dogs to pull the sledges over. When we were halfway over the ridge the ice commenced to move again, and we barely escaped damage to one of our sledges. Apart from this we met with no accident whatever and started again northward. We were glad to reach a place which looked solid enough for a camp, and at 4.30 we stopped, pitched our tent, and commenced cooking our much-needed supper. We were only having a very small meal at lunch, some crackers and a few ounces of chocolate, and the appetite we were developing for supper was quite out of proportion to the quantity of food at our disposal. All our dogs, save "Werner," who is the gentleman among them, ate the remains of "Soreback" apparently without any scruples at all. It may have been a mistake to give them the dog meat fresh and warm on the previous day, a mistake which we will try to avoid in the future.

We have had a fairly good day, made about six miles, and our latitude should be 71° 00′ N. We passed two fresh bear tracks and a few fox tracks. It has been blowing a little to-day from the south-west, and that with the temperature we have, — 34° to — 27° C., is making travelling rather cold.

Sunday, March 31.—Started at 7.20 A.M., and until noon had good going over young ice. Then we got into some very

heavy old ice, piled up in high pressure-ridges, and our only possibility of making headway was to use our pickaxe all the way, which means very hard work. "Uxra" has suddenly been taken ill, and we are very sorry, for he is a willing dog and a good puller. We have given him a day off, and hope that may help him to recover, but we know by sad experience



"HOT" LUNCH.

that dogs once attacked by that dreaded disease are not apt to survive. We have not had much trouble from open water to-day, there has only been one lane to cross, but the ice has been bad and the travelling hard. However, the ice is older than on the preceding days, and we soon hope to be out of this belt of pressed-up ice, as we are also afraid that our sledges will not be able to stand the strain. Storkersen's sledge is getting out of shape, and we had to strip off the under-runners, as they were badly split. At noon we were disagreeably surprised to find that our observed latitude was four miles less than our dead reckoning, as we had thought that we were, if anything, further along. Camped at 4.45 P.M., having made about seven miles. The weather has been unpleasant all day, cold and windy.

Temperature — 30° C.; wind S.W., about eighteen miles an hour.

Monday, April 1.—Broke camp at 7.20 A.M. and commenced at once with hard chopping work. However, as the day wore on the ice got better, and about 11 A.M. we struck some fairly good going over some older floes with pressure-ridges along the edges. Over the ridges we had to break a road, but that gives

us and the dogs a much-needed rest. The outlook seemed good; we could see long stretches of young ice ahead, and we made for them. The beautiful weather, perfectly clear and, for a change, calm, tempted us to try a new experiment, that is, cooking a hot midday meal. All former explorers have considered such a meal essential, but we found that its advantages could not make up for the discomfort of waiting for it. It is no fun to sit still for about an hour, even when warm after a hard day's work, looking at the Primus and wishing for the pot to boil. On the first sign of steam coming out of the pot we became very much interested, and it acted as a quick-working life restorer, but we were so very cold that not even the hot meal could counterbalance the discomfort. We unanimously agreed that one experiment was enough. The young ice gave us fair going, but it did not stretch nearly as far as we had expected, and before long we were again on old ice, working our way northward, twisting round between the ice pieces, hewing down pressure-ridges, and stopping now and again to have a look at the road ahead from the top of a high pile of ice. This is a very disheartening way of travelling; to-day we have only made about three miles northing in a ten hours day.

Poor "Uxra" is gone. He got weaker and weaker and at last failed to keep up with the sledges, although our speed was far from great. Once he fell, and Mr. Leffingwell bent down to lift him on to his sledge, but the dog snapped at him, and as we did not like to get bitten so far from land we left him to his fate. When we last saw him he was lying in convulsions, probably his last. If we get too many accidents of this kind things will go hard with us.

Temperatue — 22° C.; clear and calm.

Tuesday, April 2.—We saw old ice for the first time to-day, and we soon hope to be on it and to get some better travelling, for the conditions we are working under at present are becoming intolerable. We work and work, drag the sledges through soft, deep snow, cutting down ridges and sharp pieces of ice with every step, and we have practically made a road with pick and shovel from the land to this point. If we can go five minutes without having to stop and chop down ice we immediately begin to think that the going is fine. We came to an old square floe with large hummocks, one in each corner, and all of them

at least twenty feet high, so that there was a fine sheltered valley in the middle. We were tempted to camp, but the ice we had in our immediate neighbourhood was of such quality that it would spoil our tempers for the whole of the following day if we had to work through it in the morning. Consequently we waded through the deep snow, at times sinking to our waists, hauling in the hauling straps, taking the sledges in standing pulls, yelling at and whipping the dogs, until we were through, having gained 300 to 400 yards by our one hour's work.

We passed three fresh bear tracks and numerous fox tracks to-day. There seems to be a lot of food for them, but it is strange the further we get from the shore the more fox tracks we meet. Can it really mean that new land is near?

Made about five miles northing; lat. 70° 9′. Temperature at 7 A.M., — 30° C.; at noon, — 20° C.

Wednesday, April 3.—At 6.30 A.M. we were off, braced by a good night's rest for a hard day's work, but it was worse than we had ever thought possible. For the first half-hour we went over fairly good ice, but ahead of us we could see a wall which was anything but promising. It looked suspiciously like the ice we had met off Flaxman and Cross Islands, and we were not mistaken either.

From a high piece of ice we saw it extending a long distance towards the north. I do not think that our eyes ever beheld a rougher and more desolate space than they now looked on. There was not the slightest indication of level ice between the high rubble. Our only hope was that we thought we could see the end of it. But good or bad, there was nothing to be done but to start. I went first with pick and shovel, chopping down the high sharp pieces and dumping the larger blocks into holes, while the shovel was used to level the tops of the snowdrifts. Every advantage which a snowdrift, even a small one of some few feet, could offer was used. I crawled to the top of every large piece of ice in order to have a look ahead, then went at it again, and behind me Mr. Leffingwell and Storkersen were dragging the sledges along. At first my comrades endeavoured to make the dogs pull, but they shouted themselves hoarse to no purpose, as the dogs sunk into the snow or ran wild to get to a piece of ice. The whip was plied, the dogs made a jump ahead, but the sledge would not budge. Then the men had to

move it themselves, pulling the sledges one by one through snow so deep and soft that the runners would sink down and the crossbars drag through the snow. It is very hard work, and, what is worst of all, brings little result in the way of progress. Another obstacle is the treacherous snow which gives way beneath us, so that we fall heavily down to the solid ice, at the risk of twisting our feet, while soft snow finds its way up our sleeves, down our trousers, and into our mittens. At last, after five hours' continuous work, we got through the belt of rubble ice which lay across our course for a width of about five hundred yards. After a short rest for lunch we struck out again, but now over better ice. The further we went the better it became, and with word and whip we drove our dogs as hard as we could. We came to a lofty old pressure-ridge, and I climbed it to see what was beyond.

A shout of joy told my comrades that the view was good; commencing just beneath my feet was the "old ice," the ice which we had so long been hoping to reach, stretching for miles, unbroken, bounding the very horizon, and extending as far as I could see, far away to the north. Coming down the ridge and getting the procession started was a matter of minutes, and there, just round a huge block of ice, we struck the floes which we had been dreaming of, the floes which were to give us a fair road to the north. It was mere child's play to go over it; my sledge went easily behind me, the dogs came yelping with joy and tails lifted. Mr. Leffingwell and Storkersen went beside their sledges, the whip hanging loose in its strap around their wrists, being now superfluous for the first time. The dogs needed no such encouragement and were seized by the same excitement which drove the men on. The going was beautiful, the ice level, the snow dry and hard, the sledges slipped over it easily, and above us the sun shone from a clear sky. Its rays were reflected from the large snow crystals, glittering like diamonds, outside the huge black shadows of the high rounded hills on the ice. It hardly looked like ice, but more like the pictures of a great desert with its sharp and deep shadows, its shiny yellow colour and brilliant sun. At 5.40 P.M. we camped, having made about seven miles—a good day's work considering the time we had lost in the morning.

Temperature at 6.30, — 30°; at noon, — 22° C. Sounded to

48 fathoms and found no bottom, the depth is increasing rapidly. Lat. 71° 14′ N.

Thursday, April 4.—The morning was fine when we woke up for what we hoped would be easy travelling over extensive old floes. We cooked our breakfast hurriedly, and in a very short time we were ready to march. But the ice was only good for



ENTERING A BELT OF HEAVY RUBBLE ICE.

three hundred yards, and then it became worse than ever. First we had to break a road with our pickaxes through a very bad piece of country, then we wandered towards the east, following a drift, and then to the west, following another. Backwards and forwards we cruised, trying to find a road, using the pickaxes and shovels continuously, hammering at the ice to make a comparatively level road, while every now and then we sat down on our sledges and cursed our bad luck. We have had worse ice than to-day, but we had never started with such high hopes, and our disappointment was correspondingly greater when we saw what was before us.

The ice we travelled over was very strange. It was broken, but not piled up; only at long intervals could we find a piece of ice high enough to crawl up on and see something ahead. We travelled along the skirts of an extensive body of "old ice," only about two miles distant from where we were, but the ice was so bad between us and the old ice that we dared not

attempt the passage. Camped at 4.10 P.M., fully determined to try and reach it to-morrow. All we could make to-day was four miles, but a latitude taken at noon gave us the pleasant result that we were five miles further north than we had expected. We are at a loss how to account for it, unless we should be drifting, and we have not yet noticed that.

Temperature at 6.30 A.M., – 21° C.; at noon, – 18° C. Lat. 71° 21′. Clear and calm.

Friday, April 5.—Broke camp at 7 A.M. and found better going than we expected. However, it only lasted for a short time, and an hour after starting we were mushing along in deep snow and dodging between heavy pieces of ice. The pickaxe was also in constant use. It was a miserable day, blowing and rather hazy, so that we could not see where we were going. But luck was with us; in a clearing we saw the old ice close at hand, and, what was almost as good, we saw a lane covered with thin ice going all the way towards it. At 11 A.M. we had firm ice under us, and the going became fine. However, the wind was increasing, and drifting snow was barring our outlook so much that we decided to camp. In a remarkably short time the tent was pitched, and as it was my week to do the cooking, I retired as soon as it was made fast. To remove my boots, beat the snow from my furs, and crawl into the bag was the work of seconds. Then the Primus was started, a pot full of ice was put on it, and a very slight but nevertheless pleasant heat soon drove away the raw cold air from inside the tent. Outside the wind was tearing at the tent, and Mr. Leffingwell and Storkersen were building a wind-break and feeding the dogs; after that peace descended upon the camp, the dogs curled themselves up, pleased with the short day's work, and we stretched ourselves in our bags, very pleased with the prospect of half a day in the tent, listening to the cheerful hum of our Primus lamp as it was doing its work in transforming ice to hot water, preparatory to making our cherished dish of malted milk.

After lunch we had some sewing work to do, and we plied the needle as well as could be expected in a cold tent and on stiff and half-frozen furs. Of course it was no fancy work we were making, but as it was strong it served the purpose. We could not afford to cook a full meal for supper, and after some

tea and crackers we rolled into our bags to think and to sleep.

We did not make much progress to-day, only three miles, but we found a mistake in our latitude from yesterday, which



WE CAMPED ON THIS VERY HEAVY ICE.

gave us 6′ more northing; but it seems almost too good to be true.

Temperature at 7 A.M. — 25° C. Wind N.E., fifteen to twenty-five miles an hour. Lat. 71° 29′ N.

Saturday, April 6.—Instead of the weather abating as we expected, the wind has increased, and going on is quite out of the question. The enforced rest yesterday was pleasant, but repeating the experiment to-day is too much of a good thing, and we are not quite so pleased. However, it gives the dogs a good rest, so it may do some good in the end, if ever we strike good ice. It gives a pleasant feeling of security to know that we are camped on this very heavy ice, as it is at least three to four times as thick as the surrounding floes, and we are in no danger of it giving way under us, as thinner ice might do. The rule "no work, no food," is followed to a certain extent to-day, as we cut our ration down by one-third and also used still less of our own food by taking dog pemmican instead of man pemmican. We had not used our tea ration, so we had plenty

of it, and as we had a small fire most of the day and a pot of water on the stove, we drank a lot of tea during our day of enforced inactivity. It is rather tiresome to lie like this, but we had our books, and the day passed fairly well with reading, drinking tea, talking, and sleeping. The lower part of our sleeping bags is getting rather damp. It is not pleasant, but as long as they do not get worse we have no reason to complain. But we are very careful and never crawl into the bags with our kamicks or overalls on. Even our furs are carefully shaken out and brushed before we retire to our sleeping bags. Mr. Leffingwell, instead of fur pantaloons, wears two pairs of drawers and overalls over them, but the condensation of perspiration inside the overalls is so great that he is obliged to take them off every night and scrape the frost off with a knife. Mr. Storkersen and myself, who use furs, have not yet been bothered with anything of the kind—at least we have not noticed it. Like ourselves, the dogs are on short rations and have only got half a meal to-day, but they are in good condition, so it will not hurt them in any way.

Temperature at 7 A.M. — 19° C. Wind N.E., twenty-five miles an hour. Heavy snowdrift; sky clear.

Sunday, April 7.—We woke up several times during the night, listening to the wind, which was still howling outside. We thought that we should have to spend another day in the tent, but the wind slackened decidedly at 7.30 A.M., and at 8 we began to cook breakfast. At 9.20 we were off, and commenced the day with good going over the floe which had been our harbour of refuge during the better part of the last two days.

The floe was not very large, but from the edge of it we saw fine going in N.N.E., and of course we made for it. It was still better than we expected, and the sledges went easily over its hard and level surface. Only now and again we stopped to climb a ridge in order to have a look at the trail ahead of us, but it was good, or comparatively good, as far as we could see, and we made capital progress until we camped at 6 P.M. At 3 P.M. we had passed a stretch of thin ice and had taken a sounding by means of our sounding machine, with the surprising result of 620 metres and no bottom. This would seem to show that we had passed the edge of the Continental Shelf and thus achieved part of the purpose we went out for, but we decided



TAKING A SOUNDING THROUGH THE ICE.

to keep on a little further towards the north, as we thought it might only be some local depression of the bottom.

The temperature was – 25° C. at our start, wind twelve to fifteen miles an hour. The weather calmed towards nightfall, and the sky was clear. Made at least seven miles northing. Lat. 71° 34′ N., and depth more than 620 metres.

Monday, April 8.—To make up for time lost at the beginning of the trip we began to prepare breakfast at 4.30 A.M., and at 5.30 we were ready to move on. However, we were delayed, as Mr. Leffingwell's sledge was found to be in such a bad state that we had to relash it temporarily. Shortly after our start we saw a large body of "old ice" and made for it. Before we could reach it we had to cross over about one mile of very thin ice, not more than four to six inches thick, and when we were in the middle of it a motion in the fields on either side caused numerous cracks to appear. At the same time the heavier ice closed in, and the floe we were on split up into all kinds of small pieces. We struck out as hard as we could for the more solid ice, jumping over narrow cracks, pulling hard at the ropes, and encouraging the dogs as much as possible with words and whip. Mr. Leffingwell's sledge moved very heavily, and as he was last in the procession he had by far the hardest work. The ice opened rapidly under us, his dogs were on the verge of balking a couple of times, and but for his strength, which enabled him to keep the sledge going with very great effort, I think that we would have lost the outfit. Needless to say that we were very pleased when once again we had solid ice under our feet, and we went at a fine speed over the largest floes of ice we have seen as yet. We had to stop for about forty minutes, as Mr. Leffingwell's sledge again needed repairing, a crossbar having given way, which was not discovered until some time afterwards. We had lost a little food, and while two men repaired the sledge one went back over the trail and picked it up.

The good going lasted for about two hours, and then the difficulties began afresh. Much chopping and hauling were needed to get the sledges through, but at last we succeeded, after being several times compelled to move a sledge with an "all-men's-pull." It was slow work, and the sledges capsized repeatedly.

A latitude taken at noon gave the cheerful result of 7′ further to the north than we had expected. It must be the current which is pushing us on, as we cannot underestimate our daily distance so much.

Disease has again broken out among our dogs; this time, unfortunately, two of our best animals, "Unimack" and



HEAVY OLD ICE.

"Kamalook," have been attacked. "Unimack" seems worst, and acts in exactly the same manner as "Baby" did, continually fighting and snapping at any dog within reach. He must be suffering greatly, judging by the groans he sends forth every now and then. He has a nasty bite across his snout, and that, of course, may to a certain extent account for his peevishness, but I am afraid that he will die, though he eats everything he can lay hold of. "Kamalook" does not eat at all and is feverish.

Temperature at 6 A.M. — 24° C. Wind N.E., ten to fifteen miles an hour. Travelled about eleven miles. Lat. 71° 50′.

Tuesday, April 9.—A nasty wind blew from the east this morning, and at first we thought that our two sick dogs after all might get a much-needed rest, when the wind suddenly fell, and at 7.30 A.M. we were off again. We had good going for the greater part of the day over rather large floes of old ice.

Between them there was very rough ice, in belts from three hundred to five hundred yards, but, though we had to hew a road through it and double up to get the sledges over, we eventually succeeded. At 2 P.M. we came to a newly-opened lane about twenty yards wide, but with heavy ice on either side. There was no possible chance of crossing it, and we had to camp. From a hill about twenty-five feet high we could see the channel extending east and west, but to the north the ice looked good. We relashed and strengthened Mr. Leffingwell's sledge, and made a good job of it, but it took us till 7.20 P.M. before we were ready. I have had more pleasant jobs to perform than lashing a sledge in — 25° to — 30° C., and we had to make small excursions into the tent, where Mr. Leffingwell had tea ready for us. It is his turn to be cook now, and he is not a bad one either. We took a longitude, and found to our surprise that we were about thirty miles to the west of our starting point, so it is evident that the current must be stronger than we ever expected. Poor "Unimack" is going fast. He has been in great pain all day, but we must get as much work out of him as we can, and although we should have liked to make his last hours as bearable as possible, we had no option but to keep him in harness. And, strange as it may sound, we got a great deal of work out of him. He is tied close to the sledge and works hard to catch up with the dogs ahead of him for the ignoble purpose of biting them. The dogs ahead are well aware of his intentions, and pull much harder than usual in order to keep away from him; so, upon the whole, we get more work out of the team than ever before. But for all that "Unimack" will not last long; he is suffering terribly, and will lie down and groan and whimper so that it cuts us to the heart to listen to him. He got hold of my small stereoscopic camera during the night and almost devoured it as well as everything else which came within his reach. It is a strange disease; it may not be rabies, but it looks uncomfortably like it. "Unimack" snaps at everything; the foam is standing out of his mouth, his eyes are bright and staring, he jumps in his chain, tugs at it, bites at it, and then all of a sudden collapses, lies down, bites his own stomach and groans with pain, lies still for a little while, and then is up again, tugging at his chain and biting everything, chain, snow, or ice, if no other dog happens to be

within his reach. We wish we could afford to shoot him, but we cannot as long as there is the barest chance that he may pull round. Mr. Leffingwell especially is feeling very sorry. "Unimack" is his pet dog. "Kamalook" seems to be picking up, and we hope that he at least will pull through.

Temperature — 22° C. at 7 A.M. Wind N.E., calming down towards night. Clear. Made nine miles progress. Lat. 72° 01′ N., long. 149° 44′ W.

Wednesday, April 10. — Broke camp in most disagreeable weather, so thick that we could hardly see one-eighth of a mile away, and, what was almost worse, we could not see the undulations of the surface of the floe. In thick weather no shadows are thrown at all and the white surface of the icefields looks perfectly level, although we now stumble against a small hill, now tumble into a hole. The only way to find out the real condition of the floe is to walk carefully and feel the way with our feet, trying to bear our various falls with as good a grace as possible.

The lane was frozen over, and though it was a little risky we could walk on it, but, while we were looking round to find the most solid path across, a small motion in the ice broke the lane open again. However, we found a crossing a quarter of a mile farther away and got over without serious accidents. Once I stepped on a weak spot and went through halfway up my legs. I had to change and put on our only spare suit, but it was very disagreeable standing on the snow with bare feet in a temperature of —18° C. After a very short walk over fairly good ice we came to a newly-opened crack. We jumped across, after which the sledges could easily be taken over, and we were again going north. But in a few feet there was another crack, and when it was passed still another. Wherever we turned we found cracks from two to twenty feet or more. The dogs were afraid of the great amount of water, and we could only make them jump by plying the whip vigorously; then half of them would fall into the water, and in the struggle to get out they would get hopelessly tangled, bite their traces, and run away, so that when we caught the culprits again we had to get everything knotted together as best we could. At last we could find no way at all. Wherever we went we found water, the cracks got more and more numerous

and the floes smaller and smaller, while owing to the hazy weather we could see absolutely nothing ahead. After about two hours' work among much water and little ice we had to give in, and we camped at 11.30 A.M., before the floes got so small that



WE CAMPED ON ACCOUNT OF OPEN WATER.

it would hardly be safe to pitch a tent on them. The dark haze to N.E. round through the north and down to W.N.W. told us plainly that *there* was water and plenty of it. Shortly after camping we took a sounding, but with the same result as before, 620 metres and no bottom.

All this water and the way in which the ice is broken up both seem difficult to explain. The floes have just separated north and south and have not changed to the east or west at all, as we can see points on one side of a crack fitting in with a corresponding bay on the other. The floes here have an average thickness of about one and a half foot above water, and the edge of the break is perfectly perpendicular.

Poor "Unimack" has not been in harness to-day and he can hardly stand now. He is walking behind Mr. Leffingwell's sledge, but is so weak that he often falls, and, being unable to raise himself, Mr. Leffingwell returns and helps him to his feet again. Poor brute, he has worked hard for us and we are very fond of him, but there is no hope for him. The sooner he dies

the better; but luckily "Kamalook" is quite well again. Made only about one mile. Temperature at start, −24° C.; at noon, −15° C. Slight breath of air from W.N.W. Cloudy and thick. Lat. 72° 03′ N.

Thursday, April 11.—"Unimack" was heard groaning until we fell asleep, but when we awoke this morning everything was quiet. Poor "Unimack," he had ceased to live and to struggle against the incurable sickness; he must have died last night, as he was frozen quite stiff when we came out of the tent. It took some time to skin him, and while Storkersen was thus occupied Mr. Leffingwell and myself had a serious talk over the outlook.

As the weather was still so thick that we could not make out anything whatever except water-lanes intersecting the floes in all directions, we at last made up our minds to return landwards and once more regain the Continental Shelf. There was now no doubt in our minds that we had passed the edge of the Continental Shelf, and for that reason we had no business here with a sounding wire too short for getting the depth of the water.

The purpose of the expedition was to go out until we either found land or a depth of four hundred metres or more. This we had found so close inland that at the time we could hardly believe it to be beyond the edge of the Continental Shelf, and that was why we had proceeded northward after passing it. But now we were about forty miles to the north of our first deep sounding, and would thus waste our time by going any further, as we had no reason any longer to believe that we were sounding in a local depression. We agreed to go to the south-east until we again came into sounding depth, and then we would as nearly as possible follow the desired depth of water, four hundred metres, in an easterly direction. We hope to get as far as Barter Island, if the ice will only be as good as we have had it for the last few days, and if the sledges will stand it. But the joints are weak, the runners are badly worn, and Storkersen has thus far used two pairs of under-runners, worn them first off his own sledge and then off mine.

As the weather was still thicker than before, it was harder to see the undulations of the ice than it had been yesterday, and we started back, following our old trail. But even that

was hard, as we could not see it five yards ahead of the sledges; so before long we lost it and had to feel our way along, stumbling over drifts or into holes, and trying with all our might not to give vent to our rather bitter feelings. This kind of travelling is, to say the least of it, very tiresome and disagreeable. The wide lane from yesterday had opened considerably and we could not cross it, but followed it eastward in the hope of finding a jammed floe which we could use as a bridge. The edge of the break showed that the ice consisted of several layers, one on the top of the other, and about six inches thick. The different strata were very plain and followed the undulations of the surface of the floe. The upper layer had hardly any snow on it at all and tasted perfectly fresh. We passed several floes of old ice, and the trail was good over them, but we had horrible going in between, and at one time it took us about an hour to make 200 yards. This is very hard work, and I am afraid that the sledges will break down some day before the end of the journey.

We were all exceedingly tired of plunging through the soft snow, which we have had all the afternoon, and were glad when we found a decent camping-place at 4.40 P.M. We cut the carcase of "Unimack" into pieces and gave half of it to the dogs. They all ate it with apparent relish, and were sorry when we hung up the remaining half of their old comrade's body on a couple of sticks, so high that they could not reach it.

Made about seven miles. Temperature —22° C. Calm, but very hazy. Lat. 71° 56′ N. Long. 149° 54′ (by observation).

Friday, April 12.—We did not get off before 8 A.M., as the weather was so thick that we could not see our way through a heavy belt of ice ahead of us, and we were afraid to launch into it, for fear of our sledges. They are now a permanent cause of worry, the more so as it would be a very serious state of affairs if they broke down beyond repair so far from anywhere. However, the pressure-ridge was not so bad as we thought, and we made fairly good progress over old ice in rather large floes, but separated from each other by a very difficult belt. But we made good time until 2 P.M., when we came to a wide lane right across our course, and, after we had spent an hour in trying to find a crossing, we gave it up and



CROSSING A RIDGE.

pitched our tent on ice which was rather too thin to be quite comfortable. However, there is much still thinner ice about us, and, if it should come to a squeeze during the night, this would act as a buffer and get cracked and piled up before our floe would be unsafe.

We made about seven miles S.E. Temperature at start, −18° C.; at noon, −15° C. Weather thick and gloomy. Wind N.E., about five miles an hour, but increasing.

Saturday, April 13.—As soon as breakfast was finished we went down to the lane to see how things were. During the night it had closed up, so that it was now only about thirty yards wide, and we easily found a road firm enough to carry men and sledges. Getting the tent down, the dogs hitched, and starting was a matter of minutes, and with the pickaxes we worked our way through the ridge on the edge of the floe and crossed the lane. After that we struck beautiful ice, large old icefloes with hard snow and fairly level road, the dogs pulled eagerly, and for a while everything went well. It was clear, or fairly so, when we started, but at 9.30 it commenced to get cloudy, and the wind came in heavy squalls. At 10.20 A.M. we were hurriedly pitching camp to get out of the strong snowdrift raised by a twenty-five miles gale.

We have had a novel experience to-day; for the first time since we left land we have been able to leave our pickaxe in peace on my sledge, having only used it for some few minutes at the beginning of the day's work. We can only hope that this kind of going will be more common in the future than it has been in the past.

Once inside the tent, the old problem is revived, is there land or not in Beaufort Sea? We discuss it from all sides and take the different so-called proofs under careful consideration. One by one they are discussed and dismissed; the narrow Continental Shelf stands up against them all as a crushing evidence for "No Land." But time after time we ask how can this, how can that, be explained? There is the heavy old ice, this magnificent icefloe with hills as high as thirty feet from base to summit. These wonders of Beaufort Sea, this characteristic Beaufort Sea ice, these floes, which must be so immensely old in order to have acquired their dimensions, the thickness which some of this old ice has—how can they be explained but by

the presence of land which keeps them year after year in Beaufort Sea?

We view the question from all sides, but are forced to give it up; the ice speaks for the existence of land, but the narrow Continental Shelf for the non-existence.

In spite of facts, however, we hope that land is somewhere in Beaufort Sea and on our path. And in spite of facts against its existence, our hearts flutter whenever we climb a ridge to look out over this immense waste of ice—flutter not because of the ice which we may see, but because, in spite of facts, we yet hope some time to see the tops of land looming up beyond the farthest pressure-ridge on the horizon.

And this hope, perhaps a foolish one, serves at least to keep our spirits high and gives interest to our work. It makes us put up cheerfully with the hard, the very discouraging going, which, so much against our expectations, has been our lot here on the icefields of Beaufort Sea. And again in spite of facts, we cherish the hope for better times, the hope which means everything for men travelling over the pack ice of the Polar ocean, and without which we would soon give up fighting against odds.

And thus we hope, day after day, and every night when nature has been against us, when the pressure-ridges have lain across our trail and delayed our progress, when open water has forced us to make detours or risk a dangerous jump, when salt ice has almost sapped the life out of us with hard work, when we are finally lying in our tent, comparatively warm and well fed, then we say, "Well, to-day has been bad, but let us hope for to-morrow; to-morrow is sure to bring a change." And so we go on, day after day; the ice is still bad, nature is still against us, but we keep on hoping for to-morrow. And while we are talking in a warm and comfortable tent, our poor dogs, our faithful companions, curl themselves up, seeking shelter wherever they can find it against the icy gale sweeping over this desert of ice, shift themselves, dig a small hole, and try to cover their noses by means of their tails. Faithful little dogs! They stand rough treatment, whipping, beating, and kicking, they are underfed, and against their better nature forced to eat a killed or diseased comrade, and still they love us, still they are ready to send forth a howl of joy, whenever we pet them or show them a little appreciation for their hard and tiresome work.

But it is hard for them to work all day long, badly fed and without warmth or rest during the night.

The last remnants of "Unimack's" carcase were eaten to-day, and the dogs objected no longer to eating a comrade. He made twenty-seven rations, and big rations into the bargain.

Made seven miles due S.E. Lat. 71° 46′, long. 149° 14′ W. (D.R.). Temperature — 22° at 1 P.M.



DOGS FALLEN INTO A CRACK.

CHAPTER VII.

THE JOURNEY OVER THE PACK ICE.

Storms on the Ice—Strong drift—Camping—Sledges breaking down—Kill dogs for feed—Crossing pressure-ridges—Discussion on the drift—Finding the edge of the Continental Shelf—Open water—Shooting seals—The raft—Slow progress—Rubble ice—Trying to regain land—Bad weather and strong drift—Crossing lanes on slush ice—Hunting bear—Reach the solid landfloe—The lagoon—Eskimos—Arrive at the ship.

Sunday, April 14.—The wind increased steadily during the night and early morning, but at 6 A.M. there was a change; at 8 A.M. it had calmed down so much that we could travel, and at 9 A.M. we started. Although the weather was not too bad for us to travel in, it was very disagreeable, cold and hazy, while a fifteen-miles wind with snowdrift, half snow, half sleet, was blowing almost in our faces. But the ice was fair, and we made comparatively good progress. We chopped a hole through some fairly thin ice, about $2\frac{1}{2}$ feet thick, in order to get a sounding, but we reached 620 metres without finding bottom. At 2 P.M. we were stopped by a lane about fifty yards wide. The wind had raised some small white-capped waves on it, and it looked quite like summer to see so much open water and a miniature surf on the leeward shore. But however pleasant it was to see the waves, we did not like the wide lane, and for some time travelled southward along it, trying to find a crossing. About two miles further down the big lane was joined by four smaller ones, and as the only lane we could follow would take us westward again, we decided to camp. There is a heavy water-sky to the south, which we do not exactly like, as it bodes evil for the future. We camped about 3 P.M., very despondent, as we did not seem to be able to get a decent day's going. Mr. Leffingwell got a latitude at noon with the surprising result that we should be on 71° 53′, but that cannot possibly be right, as we have been making fairly

good progress and should have been considerably further south. We made about six miles due S.E. and should be on lat. 71° 42′ N. and on long. 149° 3′ W. according to our dead reckoning, but observation puts us on lat. 71° 53′, which is anything but pleasant, if there is no mistake.

Temperature at start — 13° C., at noon — 11° C. Weather overcast and wind N.E., fifteen miles an hour.

Monday, April 15.—We began to prepare breakfast at 5 A.M., for although we could see from the tent that there was open water, we yet hoped to find a crossing. The weather was fine to-day, the sun was shining brightly, and the blue water looked splendid and would have been perfectly enjoyable but for the fact that it stopped our progress. We walked out, Mr. Leffingwell to the north and I to the south and west, to try to find a crossing, but we returned a couple of hours later with the discouraging news that we could not cross the lane and that it would be of no use to keep travelling along it; northward and southward it trended to the west, and was in places a quarter of a mile wide. A bear had been quite close to the tent during the night, within a couple of hundred yards, and we could see where it had sat on its haunches looking at our outfit, the tent, the sledges, the dogs, and, I suppose, wondering whether it was something good to eat. However, he must have thought better of it, as he circled about at a respectful distance and his tracks disappeared in a westerly direction. Seals were playing in the water and we waited for them, but they never came within sure range, and we did not like to waste our ammunition.

Another disagreeable surprise was in store for us. We had taken a longitude and figured it out with assumed latitudes. It gave us 150° 04′ W. Of course we did not doubt that it must be wrong, and took another about two hours later. Imagine our surprise when it turned out to be within 3′ of the first. That it must be a mistake was now out of the question, and we had to admit the sad fact that we, since the 12th, had come about twenty miles W.N.W. (true) instead of thirteen miles S.E.—a difference between observation and dead reckoning of about thirty-three miles in two days! Latitude taken at noon gave 71° 47′, and a more disconsolate crew than we then were would be hard to find.

The dogs are getting hungrier now, and it is quite hard work to feed them. It takes two men, one to chop the pemmican into suitable pieces, another to keep the dogs away with a club. The animals sit in a circle round the two men, watching every movement with the greatest interest, their tongues hanging out of their mouths and their eyes full of desire.



DOGS WAITING TO BE FED.

The pemmican, brittle with the cold, splits when struck with the axe, and small splinters fly far and near, possibly so far that a dog, daring the club, can reach it—and ah! it tastes beautifully, and he licks his mouth delightedly while trying to look as if he did not see the eight or nine pair of eyes turned on him with the greatest disapproval of his lack of manners and envy of his good luck. When the pemmican is split up the feeding commences. Each dog gets his share and retires to a far away corner to eat it in peace, but all the time he is keeping a sharp look-out around him and showing his gleaming white teeth with an ominous snarl whenever another dog comes too close. For a couple of minutes everything is quiet. The dogs are swallowing their food, the faster the better, and when it is consumed they commence to stroll about, looking at their comrades, greeted by a snarl and a snap whenever they come near another dog who has a little pemmican left, and consequently does not like to see a loafer around. Suddenly a big dog discovers a smaller one who has yet a good-sized chunk left,

and at once he starts a fight. The next sight is a mass of legs; we hear the snapping of teeth when the mouths shut tight over some part of the enemy's body, mingled with howls of pain, the cracking of the whip, or the thud of a club applied with good will and strength by the two feeders. Dogs and men move to and fro over the ice in a hopeless tangle, the dogs biting each



DRYING OUR SLEEPING BAGS ON THE TENT.

other and getting whipped, until at last the men succeed in getting hold of the tails of the combatants and the fight is stopped. But far away another dog licks his mouth and thinks with pleasure of the nice piece of pemmican which he managed to seize in the heat of the combat, and which he happily was able to devour before the two fighters saw him and, forgetting their own trouble, turned upon him. Fights like these occur every time the dogs are fed, and there are always some bleeding heads when this part of the day's work is over. When every morsel of food has been disposed of, the dogs begin to look out for a good place to sleep in. As a rule this also causes several fights, as one dog makes up his mind that the only place worth sleeping in is already engaged by a comrade. Then it is only a question of who is the stronger; the weaker will soon be running away over the ice, loudly lamenting the wickedness of the world

and hunting for a smaller dog whom he in his turn can chase away. Lat. 71° 47′ N., long. 150° 01′ W. (obs.).

Tuesday, April 16.—Left our camp at 6.20 A.M. and travelled S.S.W. along the lane, which was not yet solid enough to bear us. A very light westerly wind had closed the ice a little, and we found a place where we could cross to the other side. The young ice on either side of the lane had been pushed up, one piece on the top of the other, and although it bent under us with every step it did not break, and at last we stood on the other side. The going was rather good, over comparatively thin floes with pressure-ridges along the edge, which, however, offered no serious obstacles and were easily crossed. Upon the whole, we at last had one of our good days, at any rate as far as the conditions of the ice were concerned. But the weather was bad, hazy and thick, so that again we could not see where we were going and whether we were climbing up a ridge or falling into a hole. Ice uncovered by snow was a great help, as its blue colour could be seen at some distance, so that we could usually judge what the snow would be like and whether a drift was apt to be there or not. We were heading for a dark spot in the sky, over a water-lane, and camped when we reached it at 4.15 P.M.; the water was open, and we were very tired.

Storkersen's sledge is now giving trouble; we found the runners split for about four feet, one inch from the edge. We should like to be able to leave it behind, but we are afraid that one of the others may break down any minute, and if we leave one of them here now we shall have no material for repairs.

Made about fourteen miles. Lat. at noon 71° 42′ (obs.). Camped on lat. 71° 37′ N., long. 149° 43′ W. (D.R.).

Temperature this morning −10° C. Wind W.S.W., six to eight miles an hour.

Wednesday, April 17.—We started to repair Storkersen's sledge at 6.20, but it was so badly damaged that we could do nothing with it, and the load was shifted to my sledge, while I took the broken one with the lighter load. The lane was frozen over, but not firmly, and we waited until 9 A.M., when an overlapping of the thin ice made crossing possible. The ice was so thin that I could drive the ice spear through it, and the water spouted through the holes about 2½ to 3 inches high, being driven up by the bending of the ice when the sledges went by.

Once more we took a sounding to 620 metres with no bottom, and that only about sixty miles off land. During the forenoon the weather was bad, hazy, and blowing rather hard from W.S.W., but at noon it cleared up, the sun broke through the clouds, and the wind died down. There is a great difference between travelling when the sun is shining and when it is hazy. We



LOOKING FOR PASSABLE ICE.

can make almost twice the distance in the former case; the dogs pull much better, we ourselves also feel better, and we can see what we are about, which is the greatest advantage of all. In hazy weather we have to stumble along and feel our way, sometimes walking on rough ice, while fifty yards away the going may be good, if we could only see it. But in sunshine we can see the ice for miles and miles about us, can see every level place in it and take advantage of it.

After some rugged ice we came to beautiful going on large floes of old ice. We could almost have taken the sledges at a run, and the surface of these floes afforded the best possible progress. After crossing one floe, about three miles wide, we came to a channel of very thin ice. I started out on it, feeling my way with the ice spear, but the ice was terribly thin and, as far as I could judge, not more than two inches thick. I

tried to follow some patches of ice a few hours older, but it bent under me with every step. I dared not return, but dragged my sledge onwards, trusting that the ice could carry me. At length I crossed, and Mr. Leffingwell followed with the two sledges. Rather unpleasant were the thoughts which occupied me while I watched Mr. Leffingwell and Storkersen crossing, holding to their hauling straps, whipping up their dogs and yelling at them to keep them on the move. Along the trail I had made I had punched holes to test the ice, and small fountains spouted out of them when the sledges came by.

The dogs did not like it either and pulled hard to get over. They seemed to know that if they stopped pulling the sledge was bound to go through, and where would we be, far from land, with no provisions? It was a great relief when we again had the sledges on firm ice, and we crossed over to see what things were like on the other side. A still wider lane, about 500 yards, separated us from the other shore, and the ice was as thin as that of the lane we had just crossed. We had had excitement enough for one day, and camped on the small floe we were on at 4.50 P.M. It is rather a dangerous game we are playing, but the longer we stay on the ice the more reckless we get. At first we would not have crossed ice three times as thick, but having done it once without any accidents, next time we try it with ice still a little thinner. Although we are quite aware of the risk we run, we make almost unjustifiable attempts on the spur of the moment. However, I think that we have now reached the limit as regards thin ice; but I expect there will be some other opportunity of taking risks.

"Weny" was the victim to-day, and the poor beast died hard. He was very fat, and, although a rather small dog, gave quite a good portion of feed.

Made nine and a half miles true E.S.E. Lat. 71° 33′ N., long. 149° 18′ (D.R.). Temperature at start − 13°, at camping time − 7° C.

Thursday, April 18.—Broke camp at 7 A.M. and crossed the wide lane which stopped us yesterday without any difficulty at all. There had been no motion in the ice, and it had frozen quite thick. But our troubles began afresh at 10 A.M., when we came into a network of lanes, all newly opened. Some were not very wide, perhaps only a couple of feet, and they were easily

crossed—a jump, a crack of the whip to encourage the dogs, and we were over. But the wider ones, from 5 to 8 feet, were very bad indeed. We ourselves usually managed it pretty well, but the dogs suffered a good deal. We often had to unhitch them, and with one man at the further side of the lane we pushed the sledge across after fastening a rope to both ends of it.



A PRESSURE-RIDGE BEFORE LEVELLING DOWN.

When the two ends of the sledge were resting on the ice and a bridge was thus constructed, the dogs commenced to fight for the first crossing, having learned that it was infinitely more comfortable to walk over on the sledge than to swim. But in their hurry to be first, knowing that the sledge would not remain as a bridge very long, they pushed and knocked each other about so that a small fight usually began. Once over, the dogs played about, probably thinking it great fun to watch us working like slaves while they themselves played hide-and-seek among the icefloes. In the meantime we hauled over the sledges one by one; but it was hard work and very risky, as we often had to bridge lanes which were but $1\frac{1}{2}$ to 2 feet narrower than the sledges were long. The sledge might easily capsize while being pulled over, and in that case we might lose the outfit, as we were unable to get a hold of the load sufficiently strong to right it. It was tedious work, and still more unpleasant on account of the ridges on either side of the lane which had to be hewn down to afford a passage. At other

times the lanes were absolutely too wide to cross, and we had to make long detours to find a place where we could get over. This delays us very much, and even if the lane is wide enough for the dogs to jump, some of the beasts are afraid, and it takes a lot of whipping and other hard usage to make them try. "Mack" and "Werner" are the worst; the former has got a



THE SAME PRESSURE-RIDGE LEVELLED DOWN BEFORE TAKING THE SLEDGES OVER.

very disagreeable trick of slipping his harness and watching the fun from a safe distance. And knowing by previous experience what will happen when he gets caught, our sweetest words and most kindly actions will not induce him to come near, for he knows that, even if the man who makes a fool of himself by the things he says and does when trying to get at him has not got a whip, there is one somewhere in the party, and not very far away either. "Werner" also slips his harness, but as he is a very good dog and pulls like a horse, we usually are not so very hard on him. We tried to cure "Mack" of his fear of the water by throwing him into it, but I am afraid that our experiment has only made matters worse.

The prospects were not very favourable for finding a camping-place solid enough to be comfortable, but towards night we saw the hills of an old floe not very far away and made for it, knowing that we should be safe there; only very heavy pressure could cause us trouble, and we considered ourselves almost as

safe on one of these floes as on the land itself. The floe which we camped on is one of the heaviest that we have seen, the hummock on it being about 30 feet high at the very edge. We were pleased to camp, but our spirits fell considerably when we found out that we had lost our food bag, containing four pounds of butter and some other small things, during the day's



CURING "MACK" OF HIS FEAR OF THE WATER.

march. It must have slid out from underneath the lashings, and there is no telling how far it may be away. Of course we are sorry, and the only remedy is to stretch our ration a little so as to make up for our loss.

In spite of all our trouble with the open water and rough ice we have made about ten miles E.S.E., which is by no means bad. The latitude observed at noon was 71° 31′ N., which shows that there has not been much drift during the last few days, but the wind has been blowing from the west, and it is our experience that even if we do not drift eastward we are at least stationary.

Lat. at camping time 71° 28′ N., long. 148° 45′ W. (D.R.). Temperature at start — 20° C., at noon — 19° C. Wind W.S.W., eight to ten miles an hour, and weather fine.

Friday, April 19.—Left camp in fine weather and had some

beautiful going over old ice. But even over this kind of ice the men have to lend a hand, or the sledge would soon stop. The dogs notice at once if the driver is loafing, and then first one, then another, will commence to slacken the trace. A furious whipping is the result; the guilty as well as the innocent ones get their share, and then the procession starts

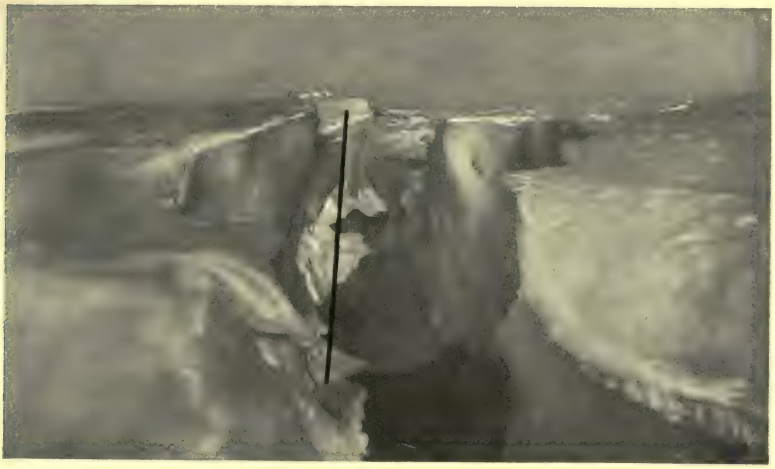


THE HUMMOCKS BEING THIRTY FEET HIGH AT THE VERY EDGE.

afresh. It is hard work driving dogs, for the driver, besides pulling, has to urge the dogs on with shouting and whipping. They know their names now, and it is often quite sufficient to shout the name of the offender, at the same time cracking the whip. The dogs know that if they do not take the hint the next thing which happens will be a cut from the whip across their backs. We have been out now for about forty days, but the surviving dogs are just as fat and just as lively as when we started. However, they stop before the slightest hindrance if the driver is not there to throw his full weight on the hauling strap and thus keep the sledge going. If he does not help or is not strong enough, the dogs, instead of buckling down to work, will slacken their traces and look back with interest to see what has happened. They will soon find out, however, for the man is yelling, plying the whip with good will, and straining at the sledge until it is moving again. Another bad habit of the dogs is to stop when

they come to the top of a pressure-ridge, as if to look round. Then there is renewed and increased work to get the sledge started up the incline; often, indeed, in most cases the driver has to give up the attempt and call for assistance. It is wonderful how Mr. Leffingwell and Storkersen can start a sledge even in heavy ice; they have a way of their own, and they very often succeed where I have to set signals of distress. Mr. Leffingwell is not far wrong when he says "I shall by-and-by be able to start a railroad waggon"; and it certainly would take me a considerable amount of time to become as good a driver as they are, though I have had the small sledge on the whole trip. However, the small sledge is not so very easy to pull. Going uphill I have to toil as hard as I possibly can, and once on the top the sledge comes running full speed after me, and I have to look out or I should be run over. Then I have to start it again, and this performance may be repeated within a couple of minutes. It is worst when going over very small rubble; the constant jerking at the hauling strap is very unpleasant, and being ahead it is of course impossible to guide the sledge between the ice, and it has a most exasperating way of capsizing, whenever I think that it is at last going very well indeed. To-day we had hit the high spots in crossing the seven miles of old ice, and were consequently in the best of spirits; the whole thing is mere play over that kind of ground. But the good going has an unpleasant way of coming to an end only too quickly, and at 11 A.M. we were driving up and down the edge of a very disagreeable stretch of ice to find a suitable crossing. Then we all started to hew down the sharp points of ice, plunging the larger blocks into holes or carrying them away. We had almost finished when we heard a groaning from the ridge, while a large piece of ice just alongside of us began to slide, and in a second the whole ridge was in motion. We had to leave it hurriedly and to get our sledges away from the dangerous neighbourhood of the pieces of ice which came crashing down on our floe. The iceblocks were about six feet thick, and it was an awe-inspiring sight to see how those immense weights were moved about. Here a big block of ice, about ten feet long and six or seven feet wide, was rolled over, pushed along, and piled up on the top of the ridge. For a moment it lay still; then a motion in the ice underneath it set it sliding, first

slowly, then faster; crushing the ice it went over, hitting the floe hard, tottered backwards and forwards, and then tumbled over with an awful crash. Now and then a noise like that of a big gun was heard close at hand—the floe was cracked and commenced to pile itself up in another direction. Slowly and majestically the two rival floes slid along each other's edge,



CRACKED UP IN DEEP AND RATHER WIDE FISSURES.

grinding, crushing, and piling up ice to a height of about 15 feet. It is a grand sight to see the blocks of ice moving up and down, piling themselves up, one upon the top of the other, breaking to pieces, rolling down the side of the ridge, dripping with the water in which some few minutes ago it had been submerged, while the continual grinding noise of the crushing ice is interrupted by the deep boom following the forming of a new crack. The floes moved by each other with a relative motion of one foot in twenty seconds. The pressure ceased about twenty minutes later, as suddenly and with as little warning as it had commenced, and we had to do all the work of breaking a road over again, chopping and shovelling to make a passable crossing. From 10.30 A.M. to 1.30 P.M. we hardly made a mile, but after that we had comparatively good going, and camped at 4 P.M., at a respectful distance from some very evil-looking pressure-ridges. I have got a small attack of snow-blindness, although

I wear goggles continually, and my eyes hurt me a good deal.

Observations to-day were to the surprising effect that we were six miles further west than we had expected. This again means that the ice is drifting westward rather fast, even against a fairly strong westerly wind, and a drift of six miles in two days against the wind bodes no good for our progress when the easterly winds set in again.

We made ten miles in S.E. direction. (Obs.) Lat. 71° 19′, Long. 148° 35′ W. Temperature at start – 18° C., at noon – 16° C. Wind W.S.W., about eight to ten miles an hour.

Saturday, April 20.—A day in the bags, but not a day lost. It blew hard towards morning, and we decided to stay in camp in order to see the drift of the ice. From about 3 A.M. it blew twenty to twenty-five miles an hour, from W.S.W., and observations of the latitude at noon and of the longitude at 5 P.M. gave practically the same results as yesterday's observations; only a few minutes difference in longitude, and that difference probably owing to errors of observation. It is strange, that with an easterly and light westerly wind we should drift westward at a speed of about five to ten miles a day; the floes open up and we have water all round us, while a westerly wind blowing even as much as ten to fifteen miles an hour is not able to stop the drift. Only to-day, when it has been blowing considerably harder, the drift has stopped, but we have not been set back eastward. The snow is drifting too hard to see whether there is any open water-sky, but, judging by the groans from far and near and by the louder booming caused by the formation of new cracks, it is evident that the ice is pressing rather hard.

How can it be explained that the ice does not drift back eastward, as the free space formed by the drift to the west cannot be filled by the supply that the long straits between the Canadian Islands can give, neither can the water freeze over so fast and so strongly as to resist the pressure of the pack from the west? Heavy floes split with the pressure on it, and young ice certainly could not last. Now, a solid longitudinal obstruction, with a strait between its southern cape and the mainland of America, wide enough to allow the easterly wind to drift the ice in and fill the space made vacant by the drift to the west,

could produce these results; but such an obstruction ought to be rather close to us, and how can it be with the great depth of six hundred and ninety metres and no bottom? We have been discussing this problem in the tent to-day, but we cannot make it out. Besides talking about the supposed land we have been making plans for the next year's work, and thinking what we could do now that we know so much which we could not possibly know before, and are able to take advantage of the conditions. To-day we finished the pemmican ration after managing to make the seven days' food last for eight days without feeling very hungry. That is thirty ounces a day, and we have now been living on that amount for sixteen days without feeling any inconvenience.

Wind W.S.W., twenty to twenty-five miles an hour. Temperature — 15° C. Weather clear.

Observed lat. 71° 19′ and long. 148° 23′.

Sunday, April 21.—I am cook, and as I awoke almost an hour too late, we were not off until 7 A.M. The wind had abated during the night, and it was calm when we started. We worked all day over heavy ice and made little progress between high ridges and very much open water. The lanes were wide, and we had often to make long detours in order to find a suitable crossing. The dogs begin to get used to the water and manage to come across fairly well ; only " Mack " is still unwilling and has to be treated pretty roughly before he makes a jump, and when he jumps he is so frightened that he always jumps short. The ice which we have been travelling over is rather thin, only a couple of feet thick, and seems to be of about the same age as the ice we had off the Midway Islands. Only now and then we travel over ice which is a year old, and we have not seen any real " old ice." Storkersen broke through the ice to-day and fell into the water, getting wet to his waist, but luckily the weather was not very cold, so it did not do him any real harm, and we kept on travelling. We took another sounding to-day with the same result as on the previous days, six hundred and twenty metres and no bottom, and we are now within eleven miles of the same latitude as on April 1, when we had twenty-two fathoms. The edge of the shelf is certainly steep, and it is a pity that we ever left it.

" Sachawachick " was sacrificed to-day; he was rather lazy

and had not earned his rations for several days. We are in doubt whether he ever has done any real work at all, though he always managed to keep the trace tight, but the general opinion is that he never did more. Well, he is gone now, and his comrades have each got a nice big chunk of his carcase. They eat it now without any further ado, although they do not like it as well as pemmican, and I have a feeling that they are looking reproachfully at us when they see that we are selecting another victim as a sorry reward for so many days' hard work.

Camped at 4.40 P.M. and made about 6′·5 true S.E. Lat. 71° 16′, long. 148° 25′ W. Temperature — 17° C.; at noon — 13° C. Calm and overcast.

Monday, April 22.—We left our last camping-place at 6.30, and made very little progress; the ice was fearfully rough. About 8.30 A.M., coming to an open lane, we took a sounding. The bottom at last! Sixty-six metres of wire ran out, and we were so surprised that at first we did not realize that it was the bottom. We are glad to return to the Continental Shelf, and we are not going to leave it again. We camped on a small piece of old ice and ran out a line of sounding due north. The result was rather surprising; at a distance of two and a quarter miles the depth increased from sixty-six metres to six hundred and twenty metres and no bottom. We took a series of soundings in the lane, which luckily ran north and south, and found the depth increasing from eighty-eight metres to two hundred and twenty at a distance of a little less than a quarter of a mile; at a distance of one and a quarter miles from two hundred and twenty to four hundred and fifteen metres, and finally at a distance of three-quarters of a mile from four hundred and eighteen metres to six hundred and twenty metres with no bottom. The colour of the bottom changed from greyish blue to brown or yellow at the greatest depth. We took twelve soundings in a straight line from the camp and northward, covering a distance of two and three-quarter miles. Taking so many deep soundings requires a long time, especially with an inadequate machine, and it was late when Storkersen and myself returned. We pulled the sledge with the sounding machine on it, and some of our dogs followed us, doubtless highly pleased and surprised to see us toil at the sledge without their aid.

The weather was fine and clear to-day; only a light W.S.W. wind was blowing. Temperature — 17° C. Lat. 71° 12′ N., long. 148° 15′ W.

Tuesday, April 23.—As we wanted to take some soundings from our camp towards the shore, we stayed in camp, and after breakfast we commenced taking soundings over the steep edge between sixty-two metres and two hundred and twenty metres. Unluckily, we lost our 12 lb. lead, as the wire snapped, but we still had one of 6 lbs. We had expected the drift to change our soundings, but we repeated the sixty-two and the two hundred and twenty metres and found exactly the same depth. We went towards the shore, but were stopped a mile south of the camp by a wide open lane. We followed it for about two miles, but were not able to find a crossing, so we gave it up. The depth was fifty metres. We did not finish till 3 P.M., and as it was rather late we stopped in camp for the rest of the day.

"Kamalook" is ill, and I am afraid that he is suffering from the disease from which our other dogs have died.

It is blowing up from the east, the sky does not look promising, and I fear that a gale is coming on.

Wednesday, April 24.— The weather was fairly good, although it was blowing somewhat from E.S.E. at six to eight miles an hour, and we broke camp at 6 A.M. A sounding through the hole where we had had sixty-two metres for the last two days gave us now one hundred and seventy-one metres, and we were drifting W.N.W. or N.W. at a fairly good speed. For almost half an hour we were delayed close to the camp on account of a pressure in the ice. The floes moved past each other at the rate of about 1 foot in ten seconds. The ice was not more than 3 feet thick, but even with that thickness an awful booming and grinding accompanied the pressure. We profited by a momentary slackening of the pressure to get over, and had fairly good going on the other side, as we are now travelling parallel, or almost parallel, to the snowdrifts, and can use them to their full extent instead of crossing them at an angle. Later on we came into a network of lanes and had to look round carefully to get our sledges over without accidents, often having to use small pieces of ice as bridges, shooting the sledges from one to another and making the dogs jump. At other times we had to

travel along the edge of a wide lane until a crossing was found. A latitude taken at noon gave us the assurance that what we feared was true, namely, that we were drifting north, and that, although we had been following a course considerably to the south of east, we were two miles to the north of yesterday's position. A sounding at noon gave us four hundred metres with no bottom. We drifted rapidly towards the west-north-west.

The going was worse in the afternoon than in the morning, but it was not so much the water as the high pressure-ridges which stopped our progress. We had to cut through pressure-ridges higher than any it had yet been our hard luck to encounter, and in one case we passed a ridge which when hewn down was at least 9 feet, and it was at least 15 feet just beside the passage we had made. The ice we have had for the last week is rather new ice, about two feet thick, and it is all pressed up in high ridges, while the few level floes between them are cracked in all directions.

It must be the westerly gale of a few days ago which has made all this havoc in the ice, as the pressure-ridges are quite recent; the water on the floes, where they were bent down by the immense weight on the top of them, has not yet had time to freeze, and we are often compelled to splash through it with our sledges and dogs. We camped about 4.30 P.M., with only four miles E.S.E. to our credit—that is over the ice; in reality we are probably farther back than we were yesterday, as the ice is drifting fast.

"Kamalook" is getting worse and shows exactly the same symptoms as "Baby" and "Unimack," only not quite so violently. Like the others, he evinces a great desire for fighting, and we have tied him up very securely for the night. Whether the dogs die from the disease itself, or whether the immediate cause is what they swallow while ill, is doubtful, but "Baby" had, according to Dr. Howe, enough wood splinters in his stomach to cause his death, and "Unimack" ate everything within sight and reach, viz., camera, dog harness, wood, pieces of tin, and the collection of odds and ends we found in his stomach after he was dead would have been enough to kill an ostrich. "Kamalook" is tied so as to be out of reach of everything. We will try whether that plan is of any use.



TAKING A SLEDGE OVER A PRESSURE-RIDGE.

Lat. 71° 14′ N. Temperature at start — 15° C., at 3 P.M. — 8° C. Wind E.S.E., four to eight miles an hour.

Thursday, April 25.—Broke camp at 6.20 A.M. and had some very bad going all day. We came into an abyss of broken up ice, with soft, deep snow between the rubble, and men and dogs toiled alike. And while we are toiling over this kind of ice we know that we are drifting back, probably even faster than we can hope to walk over it; the lead line makes the fact only too plain. For about an hour we had some rather good going, then we were stopped by open water, and when we again could go on we saw two seals playing about in it. "Kamalook" was rapidly getting worse, and we thought that some fresh meat might perhaps tempt him to eat and possibly restore him to health. At 1 P.M. we camped, after shooting one seal, and I went out for it on a small piece of ice, using our shovel as a paddle. I did not move very fast, but in twenty minutes the seal was on the ice. The dogs were quite mad with joy, howled about us while we cut it open, and ate the snow which was red with the blood of the seal. We gave each of them a large chunk, and the warm bloody meat disappeared in a twinkling; only "Kamalook," the invalid, and our best dog, would not or could not eat. Then we cooked some soup for him; he just tasted it, and turned round to try to bite some dogs close to him. By accident we dropped a cracker not far from him, and he ate it at once, and looked appealingly at us for more. He got it, though it meant diminishing our own ration, but we would do anything to save him. Whether he really appreciated the crackers, or whether it was only because it gave him something to chew, is of course impossible to say, but whatever his motives were he ate them and thereby got some nourishment.

It is a strange thing that the dogs are not more eager to eat the blubber. We have always thought that there was too little fat in our pemmican, but that apparently is not so. The meat they ate greedily, but the blubber was lying about all day and all night without being touched.

The ice we have come over to-day is heavy and crushed into large ridges. The ice of some of these ridges is at least 7 feet thick and is pressed up in places as high as 20 feet. A floe which we passed over was cracked into deep and rather wide fissures, about 6 feet deep, and some so wide that we

could not jump over them. The floe, which was about two or three hundred yards in diameter, had been subjected to immense pressure and had been bent up into a small dome. The cracks likewise are the result of this pressure. The ice is getting worse and worse; we have not seen any comparatively large old floes for the last two or three days, and the rough ice is spoiling our



RUGGED ICE.

sledges to an alarming degree. We had to work for about two hours on Storkersen's sledge to get it somewhat repaired, but with the material at hand it was not possible to do much.

We made only two miles to-day toward E.S.E. Lat. 71° 15′, long. 148° 04′. Observed no drift in the last twenty-four hours.

Temperature at start — 13° C., at 2 P.M. — 8° C. Weather clear, with a light westerly wind.

Friday, April 26.—Just after we broke camp at 6.20 A.M. the going was very hard; high-pressure ridges and deep, broad cracks in the ice made progress very difficult for the first hour, and there seemed to be no more prospect of covering any real distance than there had been on the previous day. However, at 9.30 we came to a space of young and unbroken ice. It was salty, and our sledges consequently went heavily over it, but nevertheless we thought it fine. As soon as we reach fairly good ice we at once commence to think and talk about the

number of miles we may possibly accomplish, even though by sad experience we know that we have not yet had one whole day's march over ice which could be called good. The thin ice lasted only for a mile; gloom settled once more over the party, and our progress was stopped by an open water-lane. It was a wide one, about one hundred yards from one side to the other, and although we travelled along it for more than a mile we could not find a suitable crossing place. It was all the more tantalizing as we could see a large and level old floe on the other side on which we could have made splendid progress. As it was so early in the day we could not camp, and we rigged up our raft for the first time; to tell the truth, we had no very great faith in it. It took us an hour to rig it up, as we had to grease the canvas, and after that an hour and a half was spent in breaking the thin layer of ice which prevented the free passage of the raft. It was tedious work doing all this. I was on the raft, as it was my invention, and I had promised to take the wetting if wetting were to ensue. Kneeling down at the bow of the raft I broke the ice with the shovel, which was also used as a paddle, and pushed the broken pieces in under the floe on either side so that the loose ice should not cut the canvas. At last the channel was open, and I ferried Storkersen across, taking a line along with me at the same time so as to pull the raft backwards and forwards without having to paddle it. First we took the dog pemmican and loose odds and ends and got them safely over. Then came the turn of the dogs. They did not like it at all, and we had to tie some of them down tightly or they would have jumped overboard. "Dad" and "Chorniska" looked at the raft for a little while before they made up their minds to trust their lives to it, and then they walked gingerly on board, coiled themselves up, and were absolutely unconcerned. But the last load, Mr. Leffingwell's eleven-foot sledge with about 300 lbs. weight on, was rather heavy, and I was not happy until it was safely deposited on the other side. The height of the raft was 8 inches; it was $3\frac{1}{4}$ feet wide and 9 feet long, so the ends of the long sledge stuck out fore and aft. To load it on the raft was not very easy, but by dint of an ingenious fastening of the raft we contrived to push it out and to balance it so as to make the raft rest evenly on the water. Then I crawled out very carefully



KNEELING DOWN AT THE BOW OF THE RAFT I BROKE THE ICE WITH A SHOVEL.

and straddled over the sledge as near as possible to the middle. I told Mr. Leffingwell to push off. When our load was clear of the ice I had to act as movable weight according to Mr. Leffingwell's instructions, but at last the raft was sufficiently well balanced to make the experiment comparatively safe. Then I started, hauling in the line very carefully. The risk was great, as we had only about an inch freeboard aft, and I dared not look round for fear of shifting my position, which would mean that the raft would fill with water, and the heavy sledge, full of provisions, would sink like a stone and leave us absolutely destitute far from home. They were not pleasant thoughts which insisted on being foremost in my mind, but all the while I carefully hauled in on the line balancing off the float according to instructions shouted from shore. I crossed safely, but dared not crawl along the sledge, and Storkersen, who was a strong man, pulled the sledge, with me on top of it, on to the ice. Our raft had proved a success, and we would not be afraid of using it in the future. Then back once more to fetch Mr. Leffingwell, a few small things which had been left, and poor "Kamalook." We dared not take him into the raft for fear of his biting us, so we tied a string round his neck and fastened it to the stern of the raft. I gave a pull at the line, the raft shot out from shore, and "Kamalook" was struggling in the water.

The raft is really a splendid invention, but we cannot use it when there is thin ice or when there is any motion in the water; in the first case the sharp ice would cut the canvas, and in the second the raft would swamp and sink.

To get the sledges loaded again, the dogs hitched, and be off was only a matter of a few minutes.

Then the going was magnificent; fine, level ice, rather hard snow, the sky high and blue, and the weather almost as warm as summer, while the temperature was as high as 0° C. at 1 P.M. But on we went, whooping with joy, the dogs pulling hard, and ourselves making mile after mile over the dazzling white surface. It was splendid; we felt happy and contented, full of the joy of life. But travelling over the pack is treacherous, and without any warning whatever we came to a fairly wide lane. At its narrowest place it was about 7 feet wide, but even that was too wide to jerk the sledges across, and as there was no small ice in the lane with which to make a bridge, we had to chop

down some thin upstanding ice, carry it to the water, and let it mingle with the element it came from. We succeeded at last in constructing a rather shaky bridge, over which we took the



STORKER STORKERSEN.

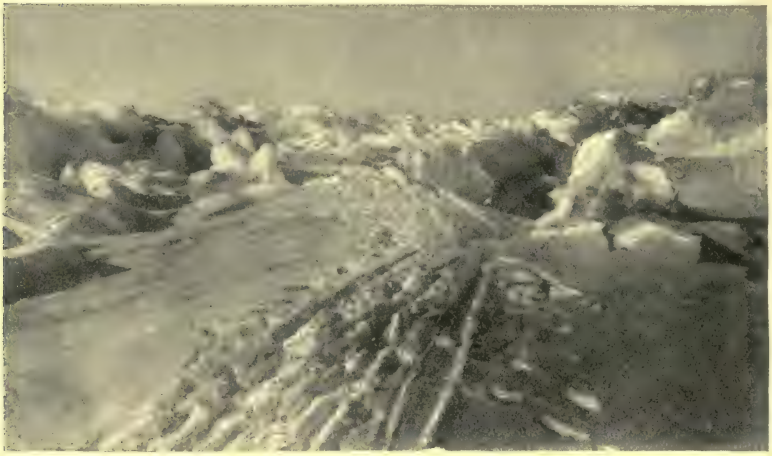
sledges, and camped at 4.50 P.M. on the other side with more good going ahead.

Temperature – 5° C. at start, 0° C. at 1 P.M. Lat. 71° 12′, long. W. 147° 40′ (obs.).

The weather is so warm that we work in our undershirts, but, pleasant as it is, it will soon force us to seek the land, as the snow is getting woefully soft and the lanes will not freeze over any longer. However, as long as we can go east farther than the drift of the ice is setting us west, we will keep on until at least we reach Flaxman Island.

Saturday, April 27.—I overslept myself almost an hour, as I had been awake several times, listening to the strong easterly wind which sprang up during the night. We left camp at 7.30 P.M. The lane which we crossed last night had widened, and was now at least three times wider, and where we took the sledges across yesterday the waves were now beating. We started, but five hundred yards ahead of us a lane about forty yards wide stopped our progress. While looking up and down the lane for

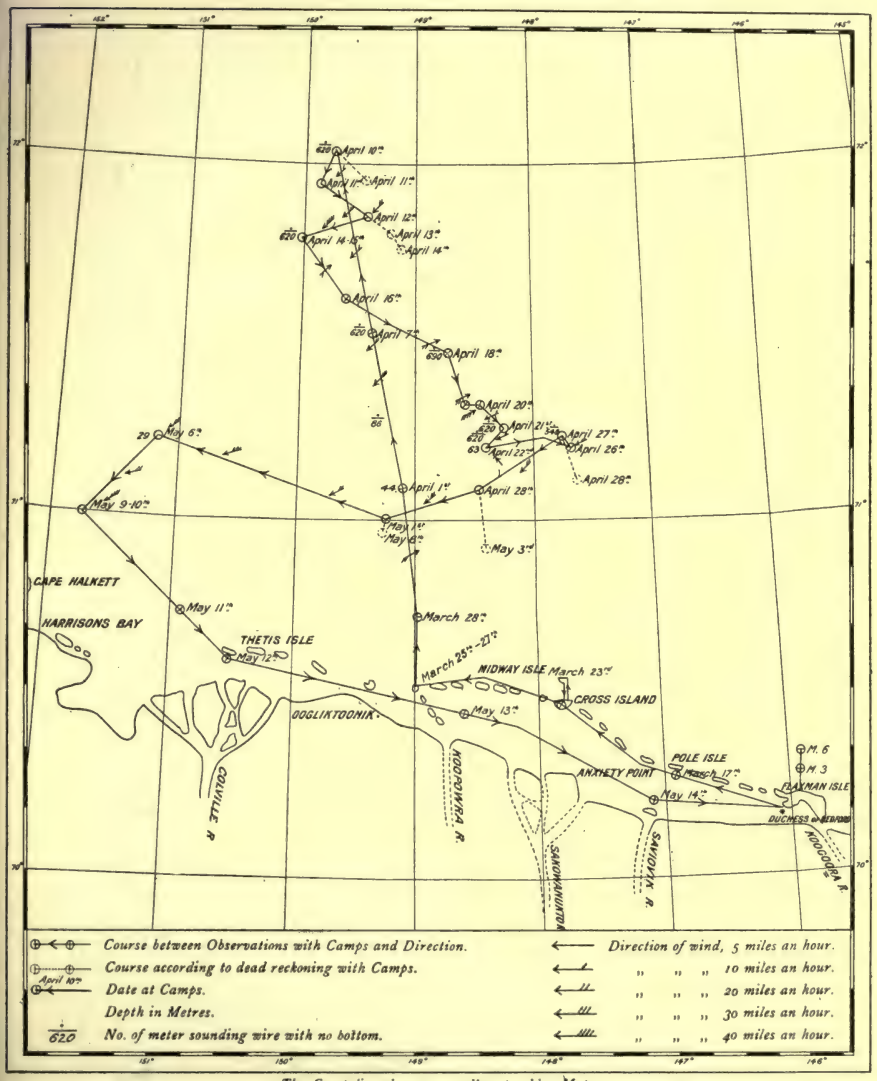
a suitable crossing, we saw a floe come drifting down along it, now rubbing a corner off on the east side of the lane, and shortly afterwards colliding with the western side. This was our chance, and we travelled along the edge to catch it while it was in close contact with our side. At last a corner touched; I ran out on the floe with my sledge, crying to the dogs behind to



SOFT DEEP SNOW BETWEEN THE RUBBLE.

follow. Whips cracked, and Mr. Leffingwell and Storkersen forced their unwilling animals on to the unsteady floe. Then we were adrift and pulled across, waiting for the floe to grind along the eastern edge. A corner touched, once more a furious yelling at the dogs, mingled with their yelps of pain when the lash descended across their backs, an all-men's-pull to start the sledge, and we were across. The whole thing took perhaps three minutes, and the floe was drifting so fast that our place of departure was about forty yards to the windward of where we landed on the other side; things were moving fast to-day.

Then commenced a disheartening toil over rough ice, deep, soft, and sticky snow, until again half a mile further on we were brought up by a lane, in places at least a quarter of a mile wide. Mr. Leffingwell took a run along the edge to the north, to look for a crossing, while we took a sounding, or tried to take one, for we ran out five hundred metres of line without being able to



The Coast line drawn according to older Maps.

find the bottom; the ice drifted so fast to the W.N.W. that the line stood out at an angle of about 30°. Mr. Leffingwell returned with the good news that we could come across further up the lane if we would hurry, and we again whipped the dogs to make them move on, while we ourselves toiled hard at the hauling straps. We crossed by jumping from one piece of ice to another, and started afresh. For the first quarter of a mile we made fairly good progress, but then we came to another crack, about 20 feet wide, and from the top of a high pressure-ridge we could see innumerable lanes and cracks to the east, while the sky also looked dark and heavy in that direction. We could not get round this network of lanes, which joined further down the large one we had just passed, and after we had walked along the lane and found that we could not even cross that, we camped, wretched and disheartened, at 11 A.M.

The temperature is very high, only — 7° 5′ C. There is no hope that the lanes may freeze over, and we cannot hope to make progress unless we get a westerly wind to join the ice together again, as it will take too long to raft our outfit over the innumerable lanes.

There are many things which speak in favour of giving up the struggle to go further east and of returning to Cross Island. First, it is evident that, however much we wish it, we cannot make any progress over this kind of ice; secondly, the season is so far advanced that the snow is very soft and makes travelling unnecessarily hard; thirdly, we shall cover the ground from the eastward to Flaxman Island on our next year's sledge trip. Moreover, we are drifting back faster than we can travel; and, last but not least, our sledges are wrecks, and we have to patch and lash them every day, sometimes even several times a day. Everything considered, we think it is best to return. We have found the edge of the Continental Shelf, and would probably not get any further even if we tried, and so we made up our minds to go to Cross Island the very moment we could get away from the island of ice on which we now are.

"Kamalook's" strength is ebbing fast; he cannot fight any longer, and is lying down all day, whimpering and groaning with pain. We fed him on malted milk tablets to-day, which seem to be good for beasts as well as for human beings.

Made about a mile and a half. Lat. 71° 13′, long. 147° 34′ W.



CROSSING A RIDGE.

Temperature — 7° 5′. Wind E.N.E., fifteen to twenty miles an hour. Weather cloudy.

Sunday, April 28.—It was blowing very hard all day, and we stayed in camp, partly on account of the wind, partly because we wanted to get a latitude and longitude to determine the drift during the last twenty-four hours. We got a latitude of 71° 15′ (two miles to the north of yesterday), but although we were on the look out for the sun for two hours during the afternoon, we could not see it clearly enough through the dense storm clouds. Our spirits to-day are not of the best; we do not like going home so soon, but spring is coming considerably earlier than we expected.

"Kamalook" is still clinging to life, but there is not much left in him; he will possibly die to-day, and perhaps we ought to put an end to his sufferings, only we have the very faint hope that he might after all get well.

Temperature — 8° C. Wind E.N.E., fifteen to twenty miles an hour. Water still all round us. Took sounding, but could not touch bottom at five hundred metres, and were drifting fast to the W.N.W.

Monday, April 29.—Poor "Kamalook" is gone! When we came out this morning he was practically dead, had given up groaning, and was kicking his hind legs in convulsions. A bullet through his head ended his existence. As soon as he was dead Mr. Leffingwell opened his stomach, but found nothing unusual. His bowels were full, but not stuffed, and he had not eaten anything injurious, so his death is not a result of devouring foreign or indigestible matter. His heart was rather enlarged, but that might be the result of the death-struggle, and as far as we could see that was the only unusual thing. We skinned him, and took the carcase along on the sledge when we started.

Rather a disagreeable accident occurred immediately after leaving the camp. In passing a lane we had to make use of some small pieces of ice as intermediate stopping places, and when my foot touched the last one I felt it go through, and to save myself from a wetting I threw out my arms to seize the nearest solid, or seemingly solid, piece of ice. The ice held, but the pickaxe I had in my hand slipped out and disappeared. We have our small one still, but it is not of much use in the heavy ice. The next ridge we came to was high and rough, and while going

down it on the other side, Storkersen lost control of his sledge so that it dashed down, with the result that both runners broke. We had to whittle off the broken runners, turn the sledge round, and pull it stern first. The grain of the runners pointed aft and put a heavy extra drag on the sledge. We stopped at a wide lane, and at 10.30 A.M. took a sounding which showed fifty-six metres to the bottom, and noticed a drift to the west. This is only two and a half miles to the south of our camp, and there we had five hundred metres and no bottom.

Between noon and the time we started we crossed sixteen cracks and lanes wide enough to cause us trouble, and a number of smaller ones, but we managed to cross them all without resorting to our raft. The ice was fearful all day; when there were no open lanes we had pressure-ridges, high and rugged, or deep, soft snow. All day we sank three to four inches into it, but for two hours after lunch the surface was the worst we had yet had, heavy rubble with soft, sticky snow, so deep that we continually went knee deep into it, and often as far as our waists. Needless to say that we only crawled along. At 3.30 P.M. we came to a lane several hundred yards wide, and we could not find a crossing anywhere. The waves were rather too high for our raft, so we camped, hoping that it might close up before to-morrow. We made five miles S.S.E. Lat. at camp 71°05′, long. 148° 22′. The longitude shows a drift of 43′ to the westward in two days. We shall have to hurry southward, as the drift is getting too strong.

Tuesday, April 30.—The lane had closed up during the night, and we began crossing the network of cracks which we found in its place at 6 A.M. It took us almost an hour and a half to get over the numerous smaller cracks, and then once more we struck the rubble ice with deep snow. It was very hard work, and the more difficult because we had no pickaxe. The weather was so warm to-day that our kamicks were soaked through and our stockings permanently wet. It was not only the melting of the snow on the outside of the kamicks which made us wet, but as we practically sank knee deep at every step, snow came into the kamicks from above. The appearance of a small floe of young ice was greeted with enthusiasm, though we knew that it would probably lead to an open lane not far away. We were right in our conclusion, but things were even worse

than we had expected. Building a bridge was out of the question, as the lane was too wide, and after walking up and down for some time, looking in vain for a suitable crossing, we started to rig up the raft. It took us only one hour and five minutes from the time we started till we were ready to march again on the other side, and our whole outfit was taken across in four trips. Upon the whole we are very well satisfied with our raft and the way it works. After we had passed the lane we met more young ice, and although it was badly crushed and the sledges went heavily over it, we thought that travelling without sinking in at every step came as near real happiness as anything could come. But the salty young and level ice did not last for more than a mile, and again we met heavy rubble with deep snow, and now and then, as if by way of direction, we came across lanes partly frozen over. These lanes we crossed by means of small floes which we used as floats, jumping from one to another, and trusting to luck that they would be able to carry us. When, about 4 P.M., we came to a newly-frozen lane, only about one hundred yards wide, but not strong enough to carry the outfit, and with impossible going along the edge of it, we took it as an excuse for stopping, dead tired, wet, and hungry. That we had only at the best made three and a half miles did not tend to cheer us either, and once in the tent, we had not much to say to each other. We passed several fresh bear tracks to-day, but did not see the animals themselves.

We took a latitude at noon, 71° 04′, but the sun was invisible in the afternoon, and we have no idea whether we have drifted or not.

Temperature at 6 A.M. — 7° C., at noon — 3° C. Cloudy and a light easterly wind. Depth at camp 45 fathoms, and no drift.

Wednesday, May 1.—We were off early, about 6 A.M., and found the crack covered with ice so thick that we could cross it if we were careful to keep on the rubble which was frozen together. From the minute we had passed the lane until 10.30 A.M. our road lay across rubble ice with deep snow, and not a single piece of floe ice was on our line of march to give us a little easy going. But for an hour, from 10.30 to 11.30, we had fine going on a newly-frozen lane until it was split into a mass of lanes, which we crossed by dint of much work and by using every little piece of ice as a support. Our poor dogs are having

a hard time now, as they have to plunge into the water if they cannot jump across, since we have not time to help them along as well as our sledges, but luckily the weather is warm, so it does not hurt them. Once in passing a stretch of water we had to cross seven lanes, some of which were so wide as to cause us considerable trouble. We halted at noon to get a rest and take a latitude, and when we started again it was to cross more wide lanes; the country seems to consist of nothing but open water and heavy rubble, both of which are making progress far from pleasant.



LEFFINGWELL TAKES AN OBSERVATION ON THE PACK ICE.

Immediately after lunch we had to pass a wide lane which cost us more than an hour's work. It was all filled up with slush ice, far too heavy to force the raft through, but not so heavy as to allow us to step on it. In the slush some small pieces of real ice were floating to and fro, and we managed to get hold of one of them, get our outfit upon it, push off, and wait until we came close to some other small pieces. And thus, passing from one piece of ice to another, we managed to cross over to firm ice again, and once more commenced the steady grind through heavy rubble. Every now and then our sledges stuck fast, and all hands had to come to the rescue. They would capsize in the soft snow, the dogs would sink into it so that they could not pull, or the sledge would be brought to a stop before a piece of ice. We miss our pickaxe sadly, and the small one we have is not of much account. At 2 P.M. we came to the highest pressure-ridges which we have yet seen. One of them was at least 35 feet high, and we had been able to see it for the last day and a half. We climbed it, but it

was a depressing sight which met our eyes from the top, rubble and water-lanes being the only things visible, save for a small stretch of young ice close at hand. All the afternoon we hauled at the pulling ropes, or navigated lanes, or for a change we lifted the sledges to the top of a ridge and lowered them carefully down, trying to avoid the sharp pieces of ice which bristled on every side. It is heavy work, and when we camped at 5 P.M., after eleven hours' hard labour, we had only made about two and a half or three miles, and this with light sledges! We wonder what it would have been like to pass this ice with loaded sledges, and how far we would have got on our way out if we had had this kind of ice to fight against. The weights of the sledges are now: Mr. Leffingwell's 325 lbs., Storkersen's 310 lbs., and mine 83 lbs. We regret very much that it is still too dark to travel at night, as the snowdrifts are decidedly harder early in the morning than later in the day, but even as it is I hope we shall be able to cover the thirty miles which still divide us from the lagoon.



THE HIGHEST PRESSURE-RIDGE WE HAVE SEEN YET.

Latitude 71° 01'·5 N. Sounding 46 metres. Temperature at start −11° C, at noon −7° C. Wind N.E., in the morning four miles an hour, at night fifteen. Rapid drift to the W.N.W.

Thursday, May 2.—Off at 6 A.M., and at once struck water, but the lanes, save one, were not too wide to jump. At 10.30 we came to some very small floes with high pressure-ridges all round them, and from them we could see what was practically an open sea. The ice ahead was all in small pieces intersected

by wide lanes. We did not dare to risk our sledges on it and went out to explore the neighbourhood. But, bad as it looked from our position, we found it even worse than we expected; the floes were all broken into small pieces and were twisting about, toppling over or standing on end, while the ice looked almost alive, so strong was the movement in it. It was almost impossible to cross the country on foot, and, of course, far more impossible with the sledges, and Mr. Leffingwell and myself returned to our floe, tired and worried as to the immediate future. The sky, heavy with clouds, was like a map, showing the distribution of ice and water far to the south; it was chiefly dark, over water, with some streaks of white in it, over the ice, all of which bodes no good for us.

To the south from E.S.E. to W.S.W. there was a very heavy water-sky, so heavy that it looked more like a sky vaulting a summer pack, passable for ships, than a spring sky, reflecting ice which we *had* to pass with our sledges. From W.S.W. to N.W. the sky was dark, but not so dark as to the south, and was probably reflecting young ice which we could see, while to the east it was all black, with small white patches reflecting the solitary floes which were floating about in almost open water. It was a cheerless outlook, and almost our only consolation was that we had returned when we did.

To-day we can do nothing but lie still, hoping that the weather will get fairly cold to-night and strengthen the rubble floating about in the larger lanes. It is perfectly safe to cross a lane when the recently broken ice has had time to freeze so much that the small floes do not turn on edge when sledges or men pass. But we have to be careful to keep on the pieces themselves, for the ice between, cementing them together, is so thin that we can run the ice spear through it with a single push. We have crossed lanes as wide as 150 yards over ice of that kind, and no accident has happened as yet, but we have to be very careful, as the ice will open up without any warning, and if the floes on either side of the lane should commence to move it would all be over; the ice would break up into pieces, neither large enough nor solid enough to carry men or sledges.

We have only made about a quarter to half a mile southing to-day, and are farther from land than yesterday, as the ice

is drifting to the north-west. The wind is E.N.E., about fifteen miles an hour. Temperature — 8° C.

Friday, May 3.—Left our floe at 6.20 and launched out into the water and crushed ice. There had been but little motion in the ice during the night, and most of the cracks were so solid that we could pass them by picking our way. Luckily the lanes were all filled with slush ice, or we could have done nothing. But we often ran great risks across the rubble, and could only take the sledges over one at a time. It was a wonder that we did not break through, as we were jumping on ice which to all appearances was only five to six inches thick, and without any means of ascertaining whether it could bear us or not. The dogs had to come across unassisted and as best they could, and often fell into the water when stepping on slush. But they are beginning to learn, and the cleverer are very careful to follow the sledge track and to jump where they see us jumping. We are taking considerably greater risks in passing thin ice now than we would have done further out, as a sledge would certainly have been lost if it had capsized or been stopped for some reason or other. We have to keep them going from piece to piece with one man ahead, hauling on a line, and two behind pushing the sledge, twisting and steadying it when passing over the rubble, and carefully jumping over or hanging to the sledge when coming to treacherous ground. It is hard, slow work, but is our only means of progress, and the dogs are running at large the greater part of the day.

Storkersen's sledge broke down entirely in crossing a ridge; the stanchions on one side jumped out of their sockets, and the runners turned on edge. We had to halt an hour for repairs. We sounded and found thirty-two metres, and although we could not get a latitude at noon, the sounding seems to show that we are getting nearer land. Our trail has been across some exceedingly heavy pressure-ridges, and a piece of ice about 12 feet thick had been crushed upon a lot of rubble to a total height of nearly 25 feet.

At 2 P.M. we came to a lane about two hundred yards wide, and although it was mostly filled with rubble ice, we could not cross, as there was practically open water for about 20 feet in the middle. The ice was too loose near the edge for

travelling, so we were forced to camp. Mr. Leffingwell went along the lane to have a look at things, and while out there he thought he heard the spouting of a whale. But although he immediately ran to a ridge, from which he had a good view



A PIECE OF ICE ABOUT TWELVE FEET THICK HAD BEEN CRUSHED UPON A LOT OF RUBBLE.

of the water close by, he saw nothing which could have produced the noise, and no ripples in the water indicated that so big a visitor had been close to us.

We managed to take a longitude in the afternoon, and calculated it with assumed latitudes. We should have felt better almost without it, as we should then have lived in happy ignorance of the actual state of affairs, for we found that, assuming we were on 71° 00′ N., we would be on 149° 16′ W. long., and, if we were on a higher latitude, still farther west. This is bad, very bad; we should have been much further to the east.

We have only made about one mile to-day in eight hours, and should be on 71° 00′ lat., long. 149° 16′ W. (obs.). Temperature at 6 A.M. — 7° C. The sky has been heavily overcast, and a strong north-east wind has been blowing all day.

Saturday, May 4.—The day began with a great disappointment; when we turned out of our tent we saw to our dismay

that the lane which had stopped our progress last night had opened up instead of closing and was about three hundred yards wide.

Mr. Leffingwell and myself went out to look for a crossing and found a place about a mile further down, where the slush ice had been pressed together so hard that it could carry the sledges. It was not solid, however, and would let us through almost anywhere; only here and there could we see ice which seemed solid enough to carry us. Storkersen had the sledges ready when we returned, and we crossed the lane, twenty-five to thirty-five yards wide, without any accident whatever, but, of course, we are also now quite expert in navigating sledges over thin ice. Then in rapid succession came lane after lane, and none of them so solid that we could walk over them. As before, however, two or three patches of ice a few yards in diameter would afford us solid footing, and the sledges would slide over the slush, which was pressed together so as to form a comparatively easy passage. After two hours of this, we were again confronted by a large body of open water and had to rig up our raft. With all our lines tied together, Storkersen and myself started to paddle it across, while Mr. Leffingwell stayed behind to take care of our dogs and outfit. When we came to the end of our line, it did not reach halfway across; we let it go, and paddled on to see whether there were any prospects of continuous going on the other side. When we reached it, I climbed a hummock about 20 feet high, and I could see water in all directions, only separated by small floes, and progress was perfectly impossible. We returned with the depressing news, and Mr. Leffingwell went westward, while I started east to look for a crossing. Mr. Leffingwell found one, a mile to the west, and we commenced again to shoot our sledges over lane after lane, some of them as wide as thirty to forty yards. About noon we came to a wide lane, which sent us in search of another crossing. We found a floe large enough to hold all our outfit and only 10 feet from the floe we were on; a jump, and one man had boarded the floe, then followed the sledges as fast as they could, the dogs were whipped across, and last of all came Mr. Leffingwell and Storkersen. It was well that it did not take more time, for the floe commenced to move, and we were adrift on a floe about 30 by 40 feet, with all our



WE TRAVELLED OVER HEAVY ICE.

possessions. Of course the motion broke up the road we had found across, and we could do nothing but wait. For an hour we were imprisoned on our floe and saw the ice crushed, twisted about, and piled up on either side of the lane and on our little floe. Every minute we expected it to split and let us through. But it held, and when it came into contact with another floe we hurried the sledges across, and by using every opportunity, however risky, we came over, but two and a half hours had been necessary to cover the distance. For about twenty minutes we now made fair progress; then we were stopped again, this time by high rubble and snow. The light was so poor that it was impossible to see the drifts, and for an hour we stumbled along as best we could, until at last we camped on a piece of "old ice" with high hills on all sides. We found a snug little place well sheltered, and were not sorry when the tent was pitched and preparations were made for the night.

Our progress to-day was only one mile, and we had not been able to get a single longitude or latitude. Temperature at start — 3° C., at noon — 1° C. This warm weather is very bad for us, and it will soon be impossible to do anything at all, with the snow getting too soft and sticky for travelling.

Sunday, May 5.—We had heard a great commotion in the ice during the night, and we turned out filled with evil forebodings for the day's work. Through the tent-flap we could see a dark water-sky over the southerly hills on our floe, and when we had finished breakfast at 5.30 A.M. we crawled up them to see how near the water was. Mr. Leffingwell was the first, and his exclamation of surprise brought us up beside him at once. His astonishment was fully justified, for to the south, beginning within fifty yards of our floe, there was a body of water so extensive that we could only see the ice on the other side through the glasses. Yesterday there was only a narrow strip of water where this immense body was stretching to-day! There was still great motion in the ice to the east, and in the middle of the little ocean at our feet some large floes were drifting about. To the west we could see no possible way of getting round the water, so Mr. Leffingwell and myself started out to the east to see how the land lay. There also was no possibility of crossing. Large and open lanes or real bodies of water obstructed us in every direction.

When we returned Storkersen had taken a sounding of twenty-nine metres, but half an hour later we had thirty-one metres and found a rapid drift towards W.N.W.

We were forced to stay in camp all day, and divided our time between watching the water, taking soundings, and looking out for a glimpse of the sun, as it was almost a week since we had been able to take any observations. The depth, according to the soundings, was increasing rather fast. At 6 A.M. we had twenty-nine metres, at 5 P.M. forty-one metres, and the line shows a continual and rapid drift to the west.

While I stood on the highest hill, watching the motion of the ice and looking all round over the pack, I saw a bear sitting on a piece of ice and looking at us. I crawled quickly down to the tent and told Mr. Leffingwell of our visitor. To get the guns and start was the matter of a few minutes only, and we arranged that Mr. Leffingwell should go east of the bear while I went to the west. We lost sight of him for a while, but crawling over a pressure-ridge we saw him standing a hundred yards away, looking in our direction. Mr. Leffingwell moved along while I lay still. Shortly afterwards the bear disappeared and came my way, but I thought that Mr. Leffingwell had a better chance than I had, and did not fire. Neither did he fire, and before I could make up my mind to do so the bear saw us, wheeled round, and, crossing a lane, started off to the south. We both got up, and a hot chase commenced. But the bear had all the advantage. He could plunge into the water and run on the top of the snow, through which we laboured knee deep, and, to make a long story short, we gave up the chase and the bear escaped.

Afterwards we told each other why we did not fire. It was a case of "After you, my dear Sir." Mr. Leffingwell thought that I was nearest, and I thought that he was, which was very lucky for the bear!

We have no exact idea of where we are, but judging by the soundings we ought to be on 70° 50′—55′ N. As to longitude our notions are still more hazy, as we have no idea how far we may have drifted, but we are probably between 150° 30′ and 151° 00′ W.

We saw to-day the first ducks of the season. A solitary

couple came flying over our tent, en route for the breeding grounds to the east, a sure sign of the coming of spring!

The wind had been brisk in the morning, but fell towards night, and it commenced to snow. It feels almost like rain, and the temperature is only — 2° C.

Monday, May 6.—A day of events and hard work, but with some results at last.

As soon as breakfast was over we went out to have a look at the ice. The whole aspect had, of course, changed, and it looked as if we could find a crossing further to the east. At 6.45 A.M. we were off, and again began to cross lanes, jumping from piece to piece, trusting to luck, and dragging the sledges after us. The slush was not solid and the ice was in constant movement. Storkersen and myself went in, and only escaped a ducking by throwing ourselves forward and grabbing some more solid ice. Mr. Leffingwell, however, was not quite so successful later in the day, when we were crossing a lane of about fifty to sixty yards wide. We had just got one sledge on to a small floe which we were going to use as an intermediate station, and Mr. Leffingwell and Storkersen were dragging the next sledge up, ready to launch out over the slush, while I was ready with a rope to haul the sledge over. The trail was treacherous, and though Storkersen came across all right, the ice broke under Mr. Leffingwell and let him in. The sledge capsized at the same time, and Storkersen had his hands full to prevent the sledge from slipping down on the top of Mr. Leffingwell, who was hanging on to it with one hand. Storkersen could not help him, and I jumped on to the solid ice to give a hand. In the meantime Mr. Leffingwell had scrambled out somehow, but soaked to the skin. He sat down on a piece of ice and commenced wringing out his clothes while we other two got the sledges over. It was a cold bath for him, but after he had poured the water out of his boots and wrung out his parkey he declared he was all right and insisted on going on without waiting to change his under-garments.

After this lane had been passed the surface was splendid, the best for many days, and we took the sledges at a run for almost a mile. Then more open water, but that was easily passed; the corners of two floes joined together just as we were opposite them, and by dint of much shouting and whipping

we got the dogs over. Then some more good ice, and things went well for a little while. But the worst was to come; a lane about seventy yards wide, full of slush ice and in violent motion, prevented further progress southwards. A large but somewhat thin floe was whirled about with the rest, and we travelled along the edge of our floe to be ready to send our sledges on to the smaller one as soon as they touched. When it came close enough for us to jump, I started out with my sledge and ran it across to the other side. I then returned to help Storkersen, and when he was safe on the ice I went for Mr. Leffingwell. In a moment we were all three adrift. Our floe was caught in the boiling mass of slush ice and carried into the middle of the lane, twisting about and colliding with floe after floe. Pulling our sledges across to the other side, where we could await developments, was a matter only of seconds, and by making use of three small flakes we soon succeeded in reaching the solid floe on the other side of the lane. While we were crossing from the floe in the middle of the lane to the solid ice, about 75 feet, our tracks were displaced more than 100 feet, and the floe we had crossed on cracked in four pieces!

To-day we could at last take a latitude, but the result was not greeted with enthusiasm. Instead of being on about 70° 55′ N., as we had expected, we were on 71° 13′ N. and were filled with anxiety as to what our longitude might be.

The water-sky was now almost all to the north of us; only one lane, judging by the iceblink, lay between us and the solid shore ice, but when we reached the lane we found it altogether too wide to cross, as it was in places half a mile wide. The water extended as far as we could see to the east and west, and large floes came sailing down it, driven by the wind. In the water a very rich animal life was enlivening the scene; seals were popping up their heads and looking at us with large surprised eyes; now and again an oogerook would come up outside our floe and, standing erect in the water, would look at us, wondering what queer things we were, but disappeared with a blow and a splash when we yelled at him, thinking, I suppose, that even curiosity could be carried too far and might become dangerous. In the air immense flocks of ducks and geese were flying to the breeding places far to the east, and on the other side of the lane a bear was prowling about, crawling

up on high ridges, sitting on his haunches, and looking at us with the greatest interest. At last he made up his mind to approach for the purpose of investigating whether we were worth eating, and he began to swim across, moving very deliberately and playing with the ice on his way. We got hold of our guns, and Mr. Leffingwell placed himself behind one ridge, I behind another, ready to give the bear a fitting welcome. The bear came up just outside me, and I shot it at a distance of seventy-five yards. It died on the spot, but fell into the water, and later on we had to work hard to get hold of the carcase. Storkersen improvised a boat of a single sledge and the tent-cover, ferried out to the bear in it, got a line attached to the bear, and paddled back to the floe. The device worked beautifully, and after a strenuous effort we got the bear on the ice, when it was rolled upon a sledge and triumphantly hauled up to camp, where it was skinned. We cut out some steaks for our own use and let the dogs eat all they wanted of the remainder.

But ourselves and our dogs were not the only living beings who attended the banquet. Hundreds of seagulls had congregated around the slain king of the Arctic and were enjoying a good feed, interrupted by shrieks and fluttering whenever a dog came near them.

We took two longitudes with the extremely ungratifying result that we were 2° 46′ west of our observations on April 29. although we had gone east and south ever since that date, With the drift to the north, of which the latitude gave ample proof, we saw plainly what we had escaped and what we should have had to fight against if we had gone further out, when we should have been correspondingly later in getting back to land.

As we could not use our raft for such wide lanes as this one, we could do nothing but wait until it closed up, or till a floe got caught and formed a bridge, and after a glorious feed of bear we turned in to sleep while Storkersen kept first watch.

Tuesday, May 7.—He called us at 11 P.M. and told us that the lane was closing up. Mr. Leffingwell and myself ran to have a look. There was no doubt about it; our tent was taken down, things thrown on the sledges and lashed in a twinkling of an eye. Then we were off, within ten minutes of the time

when we were called. I got my sledge over without any accident, but Storkersen's dogs shied at the breaking and grinding ice and balked with the sledge in the middle of a forming pressure-ridge. Mr. Leffingwell came to the rescue, and as soon as I had got my sledge placed at a safe distance from the edge I was back, giving a hand with Storkersen's, which was in a really bad position, as it had capsized, and the dogs were frantic with fright. When his sledge was safe Mr. Leffingwell's turn came, and he was just in time, for he had to force his dogs over the water which was now in the place of the forming pressure-ridge. The floe went fast, probably one mile an hour, and in stepping from the moving to the solid floe we felt a distinct shock as when stepping off a moving street car. We pitched our tent on the first level spot we could find, but it took us almost an hour to reach it. We took a sounding to see whether there was any drift, but to our great joy we found that there was none whatever; at last we had reached the solid, unbroken landfloe, and were out of the grip of the dreaded current. Mr. Leffingwell and I shook hands solemnly in acknowledgment of the successful termination of the trip over the ice. Then we turned in, but the night was almost gone.

We could not leave our camp before 9.30 A.M., as we had to readjust our loads. The odds and ends on my sledge were distributed between those of Mr. Leffingwell and Storkersen, and the collection of matchwood I had been pulling with me for the last couple of weeks was left behind.

The surface was very bad, rubble ice, as usual, with deep snow between the pieces, but at any rate we made some progress, and the distance we covered was gained, as we did not drift back any longer. The loss of our pickaxe has certainly done us much harm; with it we could have made a trail of some sort and have gone considerably faster. Now we have to lift the sledges over ice which before we could easily have chopped down. But progress must soon improve now, and we must take our time through this bad ice.

Camped at 4.40 P.M., having made about four and half miles on a south-east course.

Temperature at 9 A.M. – 5° C. Wind E.N.E., blowing about fifteen miles an hour in the morning, but calming down towards night; prospects fair ahead.

Wednesday, May 8.—We were off at 6.30 A.M. and made good progress during the earlier part of the day, but at 10 A.M. we again came into rubble ice. It was very hard work, and, except when we crossed a couple of small floes of old ice, the remainder of the day was spent in trying to make headway between the ridges and rubble, rougher than any we had gone through yet. The snow, of course, was soft, which did not improve our travelling, while the continuous thick weather which we have had for the last week also obstructs progress, as we cannot see clearly enough to pick a secure footing; nor can we see far enough to pick out the best ice in the neighbourhood, but have to trust to our luck to bring us to it. Still, in spite of our many grievances, we made a little more than six miles before 4 P.M., when we camped, very tired and worn out.

Temperature − 5°·5 C. Wind E.N.E., fifteen to twenty-five miles an hour.

Thursday, May 9.—To-day everything has been fine, or almost fine; the surface was so good that we could advance almost a mile an hour, and brilliant sunshine succeeded the thick gloomy weather of the preceding days. The only drawback was a nasty east wind, which, however, increased as the day wore on. At 2 P.M. we struck ice which looked like lagoon ice, and we could have made fine progress over it but for the wind, which was blowing into our faces and raising a snowdrift so strong that we could not see two hundred yards before us. Camped at 3 P.M. Made about nine miles.

Temperature − 9° C. Wind E.N.E., fifteen to twenty-five miles.

Friday, May 10.—There was a strong blizzard blowing to-day, so we could do nothing but lie still. We amused ourselves by frying and eating bear steak, reading *Hamlet* or *King Lear*, talking, and sleeping. Mr. Leffingwell is complaining that his eyes are bad; they are red, and he has probably got an attack of snow-blindness.

Saturday, May 11.—The gale abated during the night, and we were off as early as possible, about 6 A.M. Mr. Leffingwell is having a hard time with his eyes to-day; he had to bandage them before leaving the tent, and they hurt him very much. Luckily the ice was almost perfectly smooth, and he could walk with care by steadying himself against the sledge, as the dogs

were not strong enough to permit him to ride. I went ahead, and whenever we came to a small drift or a hole, or a point of ice above the surface of the snow, I waited until it was about two steps away from him, then sung out, and he lifted his feet when there was a drift or walked carefully when there was a hole. Every now and then the surface got somewhat rougher and he had to use his eyes a little; everything considered, he fared comparatively well, and we had the satisfaction of finding that his eyes improved a little towards night. It was a hard day for him, wandering along blindfolded and with smarting eyes, but, although he hurt his feet every now and again when he fell or stumbled over the ice, he never complained, and not once during the long and dreary day did a cross word escape him. We had made twenty-six miles before we camped at 6 P.M.—an excellent day's work.

Sunday, May 12.—Last night we had seen either land or a very heavy pressure-ridge ahead, and as soon as we had packed up we started for it. It was an immense pressure-ridge, or rather a succession of ridges, but so close together that they practically formed one, and some of the blocks on the top of the ridge were, I think, about 25 feet above the level ice. The width of the ridge was nearly one hundred yards. From its top we could see the lagoon ice, stretching away southward, and, further beyond, a low black line showed where the land was. We had very hard work in getting our sledges across, but at length we succeeded, and we were on the trail towards the ship, towards home, where we could get all kinds of comfort and good things to eat. About 9 A.M. we saw that the dogs behaved rather strangely; they sniffed, looked up to windward, yelped a little, and kept on breaking away from the trail towards the rough ice. We swept the horizon with our glasses, and to our great joy we saw a large topek (native tent). The dogs grew wild when they saw that we altered the course for the tent, and to show us what they could do they rushed into the camp at a run, with all three of us riding.

We had not gone far, not more than ten miles, but this tent was too good to look at, and we decided to camp at once.

But before we pitched our tent we sat down in the native abode, close in front of the fire, and felt for the first time for many and many a day the pleasant glow of a big hot fire. It was

fine, and so was the stew which the people made for us. The family consisted of a man and a woman, rather young, with three children. They looked prosperous, pleasant, and clean, and we enjoyed their hospitality very much.

But the natives would not believe us when we told them where we had come from; they could not think it possible that men had been on the ice for so many days, had travelled over it for miles, and had been outside the first open water. "Oh, no, white man, plenty lie, white man come from Point Barrow"; and whenever we, or rather Mr. Leffingwell, who had not forgotten so many of his Eskimo words as I had, told them that we really had been there, they looked at each other, smiled incredulously, and held their own counsel as to our truthfulness.

We spent a pleasant day with our new friends, and as Mr. Leffingwell's eyes were much better to-day, there was nothing to trouble our minds.

Monday, May 13.—We left our friends at 5.30 A.M., and after we had given them some small presents, chiefly some food we had left, we started for the ship as fast as we possibly could.

The day passed slowly, but we made fine progress, and when we camped at 5 P.M. we had gone thirty-six miles.

Temperature only − 5° C. Wind S.W., eight to ten miles an hour.

Tuesday, May 14.—We intended to reach Cross Island to-day, as we wanted the food which we had cached there when we went out, and it was all the more tempting because there were dried apples and other good things among it. Long ago, when on the ice, we had commenced to anticipate the dinner we were to treat ourselves to when we arrived there, and it had been the pleasant subject of many a talk. However, we travelled all day and passed so far inside the island that we could not see it. Towards night we saw Pole Island and made for it, but a fog came down, shutting out everything from our view. We knew the direction, but although we used the compass we missed the island, and camped on the ice. To-morrow we shall be at home!

Travelled thirty to thirty-one miles. Temperature − 4° C. Wind W.S.W., fifteen miles an hour.

Wednesday, May 15.—Home again! We started early and kept a sharp look-out for the vessel. But it was not till noon

that we saw the masts, and the dogs must have thought us crazy, so absurdly did we behave. Before long we could see the island, and, when we came nearer, a black spot on the ice. It was Fiedler, who had seen us from afar and had run out to greet us. But the news he brought was not exactly cheerful; our little vessel had been abandoned and every one thought it a wreck. High up on shore they had built a house, quite a palace it seemed to our eyes when we reached it. Thuesen had been the architect and had certainly acquitted himself most creditably. Dr. Howe was out for a walk when we arrived, but came in shortly after us. He looked well and was very glad to see us back. Ned and Ekajuak had come down to the house, and before long the natives came trooping up to see the people who had come back from what they thought was certain death.

Even the much-needed wash was dispensed with until we had had something to eat, and then commenced the rather laborious business of the first wash for sixty days, putting on clean clothes, and once more trying to look like civilized men.

It was all very pleasant. The trip had been brought to a successful issue, all the hardships were forgotten, all the days of despair were a thing of the past. One of our purposes had been attained; we had ascertained the extent of the Continental Shelf, and even if we felt a little sorry that we had not found the land we had so implicitly believed in, it was a consolation for us to know that to prove the absence of land was of as much *scientific* value as to find it!



HIGH UP ON SHORE THEY HAD BUILT A HOUSE.

CHAPTER VIII.

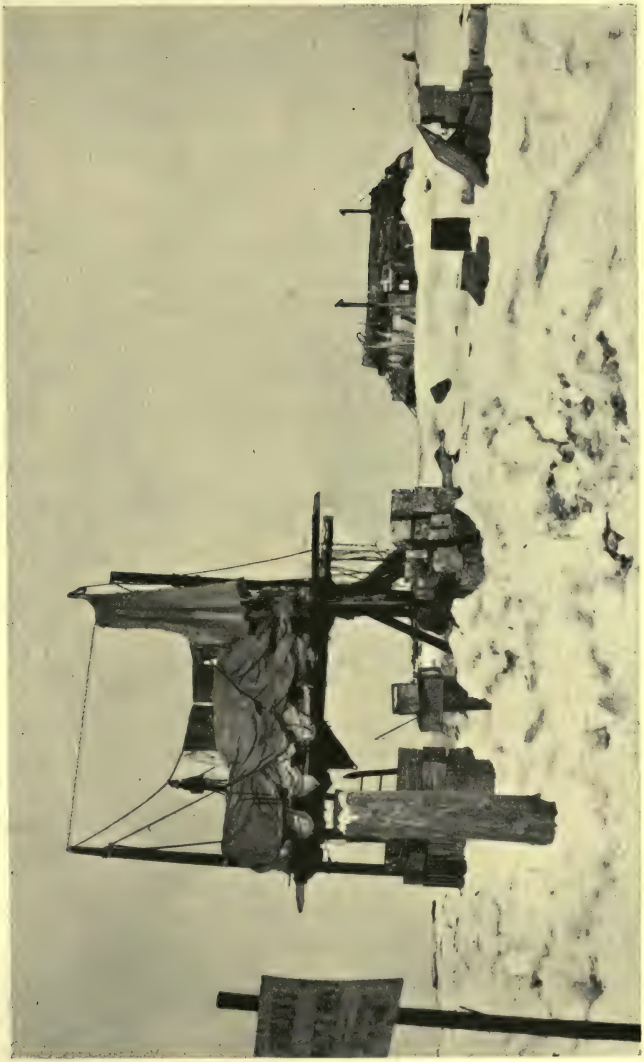
AT FLAXMAN ISLAND IN SUMMER.

The Ship leaking badly—Building a House ashore—Abandoning the Vessel—Mr. Stefansson—Native Dances—Spring—Arrangement of the Camp—Spring hunting—Crew discontented—Preparations to send them Home—Start for Point Barrow—Meet Natives—Storkersen wounds himself—Return to Flaxman Island—Waiting for the Steamers to come—The first Steamer arrives—Leave for Herschel Island.

NEITHER Dr. Howe nor the men left behind had been idle during our absence, and a good deal of work had been done. The Doctor was very well satisfied with the behaviour of the crew, as well during the hard days when the ship was abandoned as later on when they were building a home on shore and attending to the work in camp. Dr. Howe himself had done considerably better than we ever expected. He had found an able helper in Hicky, who again had acted as mate, and the rest of the crew had been willing and cheerful through everything.

When Dr. Howe came back on March 17 after seeing us off an unpleasant surprise was in store for him; he found the men at the pumps and the forecastle flooded. However, in spite of continual pumping, it was impossible to keep the forecastle clear of water, and all hands moved aft to the cabin on March 18. They commenced at once to take everything on shore from the cabin, so nothing was spoiled. Nor did they begin too soon, for on March 19 the water could not be kept below the cabin floor, although Eskimos had been called in to help at the pumps.

Meanwhile a continuous gale had prevailed, and a shelter had to be built for the men at the pumps. It was evident that things could not go on like this, and under Dr. Howe's orders the men commenced to build a house on shore from the fittings of the cabin and forecastle, wire netting, and canvas. Thuesen superintended the building, assisted by Sachawachick and



OUR CAMP ASHORE.

Uxra, and by their united efforts the house was soon made habitable.

While they were building on shore, Hicky and Fiedler, helped by Eskimos, kept on pumping in order to have a place to live in, at least until the house was ready.

On April 8 the house was so nearly finished that the ship could be abandoned and quarters taken up on shore. It was high time, for the water in the ship had risen so much, in spite of all efforts, that planks had to be placed on the cabin floor so as to prevent the men from walking in water.



SACHAWACHICK AND UXRA.

As soon as the services of the natives could be dispensed with, they left the island to go up to Koogoora Kook. A rumour had arrived that cariboo were plentiful on the river, and that the people living there were having a high time, eating meat and fat and doing nothing but feast.

On April 15, while the Doctor was sitting in the house, he heard some one driving up outside who spoke English to the dogs. It was a strange voice, and he hurried out to see who it might be. He saw a dirty man with a great beard, and was quite surprised when this stranger shook hands with him as with an old friend and called him by name. It was Mr. Stefansson, who had come to Herschel Island, and, hearing that we were wintering at Flaxman Island, had collected a team and started for our winter quarters. He had a native with him, a man who answered to the name of "Cape York." He was a worthless fellow, as we found out later on, but he had been a good travelling companion and Mr. Stefansson liked him.

His purpose in coming down to us was to ask about our

future plans and to get some trading stuff with which to pay outstanding debts at Herschel Island. He intended to go back there as soon as possible and then return and stay with us for the rest of the season.

Mr. Stefansson had met Uxra on the trail, and the latter told him that Mr. Leffingwell, Storkersen, and myself had perished on the ice, that we were very nice fellows, but crazy, and that we had paid for our folly with our lives. Mr. Stefansson, of course, was very grieved to hear Uxra's news, the more so because it was told as an actual fact, not as a guess, and the first thing he asked Dr. Howe was whether he really had given up all hope of our return. "Cape York" brought the story to Herschel Island, and, forgetting to say that we were not yet overdue, the sad news spread and at last reached civilization. Visitors were now quite common, and the next to arrive were Ned and Ekajuak, who came down to see how things were progressing and to have a talk with other white men. Mr. Stefansson left again for Herschel Island on April 24, and this time Hicky went with him. Their sledge was rather too heavy, as their dogs were poor, but Ned and Ekajuak, who returned at the same time, took some of their load.

Meat, which had been rather scarce during the month of April, became plentiful now, and Dr. Howe bought all he could for use at the time and during the coming winter. The cariboo hunting on Koogoora had been even more successful than the natives had dared to hope when they started, and hardly a day went by but some native or other came down with a sledge-load of meat, and as the market was soon overstocked the price quickly reached a minimum.

Although the men had been living in the house ever since April 8, it was not till May 1 that the floor was laid and everything made ready as mentioned above. The house was made out of the interior fittings of the ship, the boards of the bulwarks, and wire netting. The whole building was covered with tar paper and sails from the vessel, and being big and spacious, almost too much so, it was a considerably better place than either cabin or forecastle. Dr. Howe had been careful not to cut the sails, neither had he taken away anything from the vessel which could make the ship unseaworthy if we should decide to try and repair her, but they all agreed that their forethought seemed

unnecessary, as they thought that the ship was beyond repair.

Ned came back with his wife and children on May 3, as he wanted to leave her behind in our care while he went away into the mountains to do some prospecting. On May 11 Magalik and his family appeared at our house. He was the above-mentioned native who last September, just before we reached Flaxman Island, had cheated us badly in a trade and had wanted to take advantage of our ignorance of values. Besides, he had purloined some small articles belonging to us, but he had done it so cleverly that we did not discover his thefts till some time after he had gone, and he was always afterwards referred to as the "Artful Dodger." However, he had been afraid to come back to us, but learning that Dr. Howe was alone, he brought down some ptarmigan, some cariboo meat and tongues, intending them as peace offerings. At the same time he explained at great length that he had not meant to steal, that he had thought the things were presents, that he was an honest man, and loved the Kabloona (white men) as his brothers.

On May 12 all the natives had come back from the mainland, and having plenty to eat, they were doing nothing but feast, dance, and sleep. In acknowledgment of the valuable contributions they had brought us in the shape of meat, they were invited by Dr. Howe to come down to the house and have a feed and a big dance.

They came, every one of them, big and small, and danced and ate and were happy. They talked about our ice journey, and all thought us lost, except old Sachawachick, who had great faith in the ability of white men, who, he said, could find their way about, look at the sun, and thereby make out where they were, and he thought that we would come back. He was a nice old chap, and we shall all remember the time when he said good-bye to us, and as if by way of encouragement added, "Nanako keiliaktotin, ilibit mocke pichock."

As stated above, on May 15 we arrived in splendid condition and with the news to our comrades that we had found the edge of the Continental Shelf.

We went down to the village the next day to show ourselves and talk over old times with our native friends, and old

Sachawachick became so excited when he saw us that he uttered some English words which we never before had heard him use. He talked and talked, Eskimo and white man's language mixed together, and shook hands with us again and again. His honest face was beaming with delight while he wished us welcome, fluently in his own language and very brokenly in ours.

Mr. Leffingwell made an arrangement with Ned Erie that he was to go with him to the mountains, and we promised Ned to take care of his wife, give her what food she needed, and not let her want for anything. Before Mr. Leffingwell started on May 17 he looked over the vessel with Storkersen and myself, and we came to the conclusion that we could do nothing with her but break her up and get as much timber out of her as possible. It was a sad sight to see our little ship lying there a wreck, with the water rising and falling in her according to the tide, with the cabin in which we had spent so many pleasant hours half full of water and ice. On the deck were large drifts of snow which had gathered there; the forecastle was dismantled and the rigging slack. It is always a pitiful sight to see an abandoned vessel, and especially in this case, where the vessel was our own, and its wreck interfered to such an extent with our future plans. But there was nothing to be done with her, at least not with the material we had at hand, and we commenced to break her up.

Such was the end of the *Duchess of Bedford* after a somewhat adventurous existence. She was built in Yokohama out of the remains of an old Japanese war vessel, used for a while as a poacher on the Russian seal grounds; then, when she became too well known there, she traded for pearls and copra among the South Sea Islands, and was wrecked on the Japanese coast on her return from the South Seas. Then she was bought by Captain Grant, who used her for sealing in Behring Sea until we took her over, fitted her up as a yacht, and brought her into the Arctic. We had come to like the vessel; we associated so many sorrows and joys with her that it cut us to the heart to see her dismasted and full of water, a wreck which in a couple of years would be broken up, while the wood of which she was built, the wood grown in semi-tropical forests, would lie scattered along the beach of the Arctic Ocean.

Mr. Leffingwell and I agreed to send everybody home except two men, and he left it to me to arrange this in the most advantageous manner.

On May 17 we had the pleasure of seeing Mr. Stefansson again. He had made a rapid trip to Herschel Island and back, as he was only fifteen days on the trail, both going and



ON THE DECK WERE LARGE DRIFTS OF SNOW.

coming. On May 18 we had an exceedingly fine day, and we began to realize that spring, or rather summer, is approaching with leaps and bounds. With every day the snow is disappearing fast; all the high parts of the island are bare, green grass has taken the place of the snow, the snow sparrows are flying about in great numbers, and their chirping is a welcome sound to our ears. Large flocks of geese and ducks are passing over our island on their hurried flight to their breeding places in the east, the ice is melting along the shores, and ducks are swimming about in every pool, while small streams, formed by the melting of the snow, are winding their way over the surface, eating away the snow along their course. Spring is in the air;

the natives are all living in tents, their children are running about half naked, the grown-up people feast and dance every night, and even the dogs feel the presence of spring, are running over the country, hunting mice and lemming, and becoming fat, strong, and lively.

A loud effervescent noise from the mainland is ample proof that the waters of the Koogeora have burst the layer of ice which has hitherto obstructed their course, though the water flowing over the sea ice is sufficient proof of the fact. And on the mountains to the south dark spots, rapidly acquiring a greenish tint, show that there also the snow is disappearing fast, that the bondage of winter is broken, that willow-brush and grass will again be able to live, giving food to the thousands of ptarmigan who live a high and easy life during the summer as a recompense for the want they have suffered during the winter.



DOGS TRYING TO FIND A DRY PLACE TO SLEEP IN.

Dr. Howe went up to the native camp on the west side of the river, as the cariboo had come back again and almost all the natives had left us. He returned after a few days' absence, reporting that the country was "lousy with cariboo," that the natives had abundance of meat, but that they would soon have to bring it down to the island, as the snow had almost everywhere disappeared from the ground, so that sledging was almost impossible, while over the sound, between the island and the mainland, sledging could only be done with great care, as large holes were eaten in the ice.

All hands are busy in our camp breaking up the vessel, sodding

up the house, building *cachés*, and extending our ice-house, which we have dug out in the glacial ice of the island. Mr. Stefansson has got a man to help him to dig out ethnographical specimens, of which he is getting quite a large amount, but when night comes, and work is put aside, the reports of guns sound from every part of the island, the ducks fly up from the



BREAKING UP THE "DUCHESS OF BEDFORD."

water where they are feeding, scared and bewildered, while all the men are trying to outshine each other in the trophies they are bringing home from their evening's sport, a welcome addition to our meat supply.

On May 28 we were unable to cross to the mainland on the ice, as it had broken up in the middle of the sound. From the mast which we have raised behind our house we can see open water everywhere, and in the sound as well as seaward there are large patches of open water, where the seals are continually appearing and disappearing.

On May 30 we had to go over to the mainland for the Doctor and some natives, and on this occasion we used our boat for the first time that summer. Dr. Howe brought back five saddles of meat, told me that there was much more left, and that the natives would be down at the coast in a few days.

We had a very dreary time after we were confined to our island, and until we could go out in the boats a period of solitude followed, which was only now and then enlivened by a native

dance or other kind of amusement. About the 10th of June all the natives had come down to the island, and the first thing they did was to give a grand Hula-Hula (native dance) to show the joy they felt now their stomachs were full and the hunt successfully ended. The sun is above the horizon now, both night and day, and the natives have practically turned the warm



THE MUSICIANS.

day into night; they sleep till about 2 P.M., after which time they do a little work. We walked down to the village in the evening, where all the people were congregated round a large umiak which sheltered the musicians. There were four or five men with drums, all working with glowing zeal and energy, and all accompanying the music of the drums with their monotonous songs, until the spirit moved one of the party, and he or she would give us one or other of their queer dances. Their movements are all eagerly watched by the natives, who applaud and laugh if some new and original trick is introduced into an old dance, and the audience likewise look utterly tired and bored whenever a poor dancer succeeds a more ingenious one. A really good dancer is indeed a sight well worth seeing. They dance, as it were, with the whole body, wriggling their arms and legs in a most convulsive manner, and every now and then the dancer sends forth a fearful howl. The men dance

much more wildly than the women, who stand in one place and beat time to the music with their feet, moving their arms about, and swaying their bodies to and fro.

Sometimes they dance together, two men or a man and a woman, now and then even four or five at a time. Then the men do all the work, and never stop until they are perfectly



DANCING NATIVES.

exhausted, all the time uttering most fearful howls, while the music, slow and monotonous, drones over the company. Their dances all have some meaning, and they represent the hunting of different animals, a courtship, a disaster, etc., each dance being always accompanied by a peculiar tune.

Now and then a woman who had something to give me danced about for a while in front of me, waving her gift in her hand, until at last she stopped short, threw her gift at me, and made room for the next.

Some crackers and other things which we had brought as our contribution to the festival were eaten during a pause, but apart from that, the natives kept up the dancing all night and slept during the day. The next evening they came down to our house, where the dancing and feasting commenced afresh. A white man's dance, which a couple of the men danced with



A HUNTING PARTY IN THE SPRING.

each other, was received with great curiosity, and the natives wanted to know what it was supposed to represent. We gave them also some songs, let the phonograph play for them, and gave them a big feast, but had at last to ask them to go, as they apparently intended to make a night out of it.

As time went on, the natives left us again and scattered



THREE MEN AND TWO WOMEN DANCING.

along the coast in order to collect eggs and shoot ducks and geese. Now and then some of them would come down to us with birds, in exchange for which they wanted little articles of luxury, such as sugar, tea, etc.

We had a party out hunting, Dr. Howe and Storkersen, and they brought us about 250 eider ducks, but no eggs, as they did not find so many as we expected.

For a long time after our return from the sledge trip we had no sickness among the dogs, but "Mack" fell ill on June 17 and died on the 19th. It was the same illness from which the other dogs had suffered, and I was afraid it was going to kill several more dogs. We do not understand what it is, but one thing is clear, that it is an infectious disease, and that when a dog has been bitten by a sick comrade he will get it quickly.

I was spending a very dreary time, as I had some writing



BANKING UP THE HOUSE WITH EARTH.

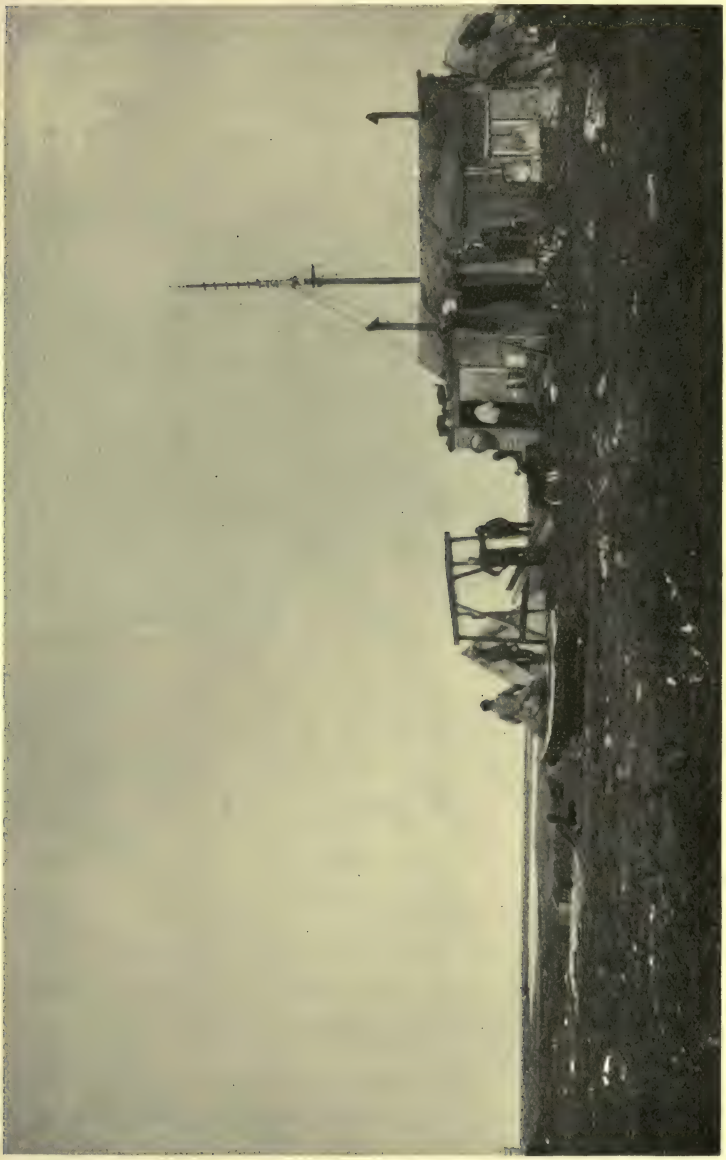
work to do and had thus no time to go out on trips. We had also much to do in order to make the house as comfortable as possible for the coming winter, and we wanted to get as much work done as we could while we yet had the crew.

However, it was far from being plain sailing. During the latter part of June and the beginning of July the men grew homesick and wanted to leave. Storkersen was the only one I thought I could rely upon, but now and then I heard rumours to the effect that he also wanted to go home. When I asked him, he denied the truth of these rumours and even signed a contract to stay for another year. We wanted Fiedler to stay also, as he was a good fellow and a splendid man on the trail, but although he at first agreed to stay, he refused to fulfil his promise later on.

The question what we were to do with the men occupied us more and more as the days went by. At first we had thought of taking them down to Barter Island and sending them home on a whaler, but of course there was the chance that the whalers might not come so far east that year, any more than they had last year, and, furthermore, it might blow so hard that we could not launch the boats if a vessel should pass us westward bound. I talked it over with Dr. Howe and Mr. Stefansson, and we agreed to take them out to Point Barrow instead of going to Barter Island, as we should certainly find a ship there.

When we had made up our minds to this plan, Fiedler and I went out to Sachawachick, who had camped on a sand-spit about nine miles to the west of our camp, in order to try to induce him to go with us as a guide and also to lend us his large umiak. Sachawachick was willing to go, if Douglamana would let him, and she eventually consented, though it took me several hours to persuade her. When everything was settled in a satisfactory manner, Fiedler and I started back for the house, towing the boat along the sand-spits.

Our boats would be rather heavily loaded, for, besides the men and provisions for fifteen days, we had to take some of the men's personal belongings, and every one wanted to take as much as possible. In a few days, however, we had everything packed in a satisfactory manner, and left our house in one umiak and one boat. Joe Carrol wanted to go on board a



FROM FLAXMAN ISLAND.

whaler at Barter Island, and he stayed behind in order to go down there with Ekajuak in Ned's umiak.

We stopped at Sachawachick's place on the sand-spit to transfer our things to his boat, and on Sunday, July 14, in splendid weather and with a fair wind, we started for Point Barrow.



DR. HOWE AND STEFANSSON.

In the boats were Dr. Howe, Fiedler, Hicky, and Thuesen, who had all had enough of the Arctic and wanted to go home, Sachawachick, Storkersen, Mr. Stefansson, and myself. Mr. Stefansson expected some important letters at Point Barrow which might oblige him to go home, but if they were not there he was going to stay another year. Storkersen and myself were to go east with one of the whalers which we knew we would meet at Point Barrow, in order to take some soundings off the Mackenzie River, and, if the ice would permit, we also intended to take a line of soundings from the west coast of Banks Land.

The first day we made about thirty miles, and we had intended to keep on all night, but the fog was so thick that we could not see our way, and camped about 9.30 P.M. The next morning the wind, which had been easterly for the last three weeks, had changed to the north, and the fog was still hanging over the water; it was only a thin layer, but more than enough to make us feel uncomfortable. We lost our bearings among some mudflats off the Sakovanuktok River and had to camp, as the wind hauled still more to the west and the sea was high. Mr. Stefansson, Sachawachick, and myself walked some distance along the coast and found a large Eskimo family living in tents on one of the numerous islets in the mouth of the river. An old fellow, Peteralegook, lived there with all his family—two wives, his three sons, and two of their wives. These natives had lived in the mountains all the winter, and had not heard

of our arrival, but they had found the box of food which we had cached on Cross Island, and so, they said, thinking that it had been forgotten by some one, they had taken it, opened it, and eaten almost all the contents. Of course I told them that it was not right to steal, etc., and old Sachawachick told them the same, with the result that they brought forth what they



PETERALEGOOK AND HIS BOYS.

had not yet eaten, and as a peace offering gave me two fox skins. It was rather a queer family. Old Peteralegook himself had two wives, an old one and a young one, and they seemed to work together in great harmony. He was a kind of chief on the Sakovanuktok, and had a lot of fur in his possession, among others two splendid silver-tipped fox skins, about eighty white foxes, and several polar bear skins. He was going to buy some flour from the steamers, but nothing else, as he belonged to the old school and did not want our food. His sons were strapping young fellows, and as they did all the work, old Peteralegook led a very easy life. The whole family paid us a visit afterwards, and were deeply interested in our outfit, but as the morals of the old fellow were rather slack, we had to keep a sharp look-out on him; otherwise he or his family would have appropriated whatever they thought was of more use to them than to us.

The wind had hauled round to the south-west on the

morning of July 16, so we had to row. We started at 7.30 A.M., but it took us till 2 P.M. to make a little less than two miles, and so we camped, as the rowing was only wearing the men out. We hauled up on a little island in the mouth of the river, pitched our tent, and cooked our lunch. When we tried to sleep, the mosquitoes were so bad that it was impossible to shut our eyes, even with a smudge burning in the tent. We tried to roll ourselves up in the blankets, but without success; we tried veils round our heads, but the mosquitoes found their way inside them, or kept biting our hands and feet; we tried to go outside the tent, but that was still worse, and at last we had to abandon all hope of sleep, sat up, and made ourselves comparatively comfortable by smoking continually. At 11 P.M. the weather became calm, and we started once more to go round the mudflats. However, the wind sprang up again, and this time so hard that before long we could scarcely make any progress at all, and it was near dawn before we camped on the mainland on the west bank of Sakovanuktok River. When we awoke, the strong breeze of the previous night had become a gale from south-west, and we could do nothing but track the boats along the shore. The wind was luckily so much off shore that the water was rather quiet, but when we came to the Koopowra we had to camp, as crossing over the rather wide mouth of that river was quite out of the question.



PETERALEGOOK'S SONS.



. . . MET PETERALEGOOK WITH HIS FAMILY.

The wind died down again towards night, and shortly after midnight we started and were carried along by a very light south-east wind. From 6 A.M. we had the south-west wind again, and had to track the boats round some rather large bays before we camped at 11 A.M. It was beautiful weather, warm and bright, so we lay down in the long grass and tried to sleep, but while we slept the westerly wind died down, an easterly wind rose, and when we woke it was blowing quite strongly. Getting the boats out and starting was only a matter of a few minutes, and soon we were rapidly passing bays and points, on which old graves, ruined houses, or remnants of a rack were proof enough that a numerous tribe of people had lived here in years long since gone by. At 11 P.M. the wind had died down, and we camped on a mudflat in the mouth of the Colville River, as the current was too strong for us to row against.

The westerly winds, on which we had not counted, had blown so much in the last few days that we had been delayed, and I was afraid that we might run short of food before we reached Point Barrow. Mr. Stefansson, however, had become so interested in some Eskimo remains which we had found that he forgot about the letters he was expecting at Point Barrow and told me that he would stay another year. In order to save provisions we agreed to leave him, Storkersen, and Sachawachick behind, while I was to go on with the umiak and the rest of the party, who were all going west to join the whalers. Then when I returned eastwards on board one of the vessels we would pick up the three men who had been left behind. Mr. Stefansson and his party required only very little food, as they could shoot as many ducks as they wanted, and thus we would be able to reach Point Barrow without running short.

But the next morning this arrangement, and with it my plans for the coming year, were most grievously and violently frustrated. Sachawachick had taken one boat and gone ahead to find a channel through the delta of the Colville River; meanwhile Storkersen had gone out with a gun to shoot ducks. He did not succeed, and put the gun back in the case, loaded and cocked. We embarked when Sachawachick had found the channel and started for it. When we had come so far that we could not miss our road, we were to say

good-bye to each other; Mr. Stefansson, Storkersen, and Sachawachick were to go back east to Ooliktoonik, and my boat, with Dr. Howe, Hicky, Fiedler, Thuesen, and myself, was to continue on the way towards Point Barrow. We had landed, and I stood on the beach, listening to Sachawachick's explanations of the channel which we were to follow, when I



AN OLD GRAVE.

heard a shot, and, turning round, saw that Storkersen was scrambling out of the boat, crying that he had shot himself in the foot.

I wonder whether I shall ever forget the feeling of utter despair which took hold of me when I heard the shot and saw what had happened. In a flash I realized that it meant the frustration of my plans, the cessation of the work which had begun so well, and a long and dreary winter, instead of one full of activity and hopes for the coming season. And that Storkersen of all men was wounded made me feel almost physically sick. Here was our pleasant and cheerful companion of the sledge trip, our willing mate upon the voyage and good comrade during the winter, suffering awful pains with a toe shattered and far away from any surgical help.

Dr. Howe immediately commenced cleansing the wound, and

as soon as that was done we placed Storkersen in the ship's boat, and Dr. Howe, Thuesen, and myself got ready to start for home. Sachawachick did not care to go out to Point Barrow alone with the rest of the party, and there was no one else whom I dared trust with the command of the umiak except Mr. Stefansson, and he did not want to take the responsibility, as he knew practically nothing about sailing. It was then decided that they should stay at Ooliktoonik, where Mr. Stefansson had some ethnographical work to do, and then catch the first steamer passing for Flaxman Island.

At 3.20 P.M. we bent to the oars, headed east, and started homewards over our recent track. It was in a sorrowful mood that we four started on our return passage. None of the others spoke, and I myself did not feel inclined to say much while we were sending the boat across the water as fast as we could. A light westerly wind during the night enabled us to keep on with only one man at the steering oar and the others asleep. The weather remained fine, and the next morning we met Peteralegook, who with all his family had moved westward, also bound for Ooliktoonik, where they were going to wait for the steamers. They were rather surprised to see us return and expressed their sorrow when they heard the cause. Taklooksrak with his family had joined them. They gave us some deer meat to take with us and cooked a large potful for us to eat while we were there. But we had no time to lose, and were on our way again as soon as we had got some breakfast. We worked at the oars all that day, rowing up against a nasty east wind, but we pulled with all our might, and in silence the boat was forced against the wind. We camped at 7.15 P.M. on a small island in the middle of Sakovanuktok River. Storkersen's foot caused him considerable pain, and he could not sleep at all during the night. We were off early, and as the wind had died down we made good progress. Before long we came into home waters, and at 11 P.M. on July 20 we pulled our boat up on the beach of Flaxman Island, having covered almost one hundred and ten miles with only one night's rest.

Douglamana, who lived in our house as caretaker while we were away, was greatly surprised to see us back, and at once began to tell us that Carrol had given lots of food to the natives. When I investigated her statement on the following day we



THE BEACH ON FLAXMAN ISLAND.

found that she had spoken the truth and not exaggerated it either. I went down to the village, looked through the houses, and took what food I found belonging to us. Tullik had got most as usual, and, as usual, she was loudest in her remonstrances, told me that she did not steal, that she had thought it was a present from me, etc., but nevertheless she kept some



ESKIMO TENT AND CACHÉ ON FLAXMAN ISLAND.

small articles which had been stowed away underneath some furs, and was very angry when I took them away as well. I felt authorized to act as I did, for the natives were perfectly well aware that Carrol could not give the food away, and that consequently they were doing wrong in accepting it.

Storkersen's foot was rapidly getting better, and the danger of inflammation was past. Dr. Howe thought that it would not be necessary to amputate the toe, the bone of which was smashed entirely, but he thought that it would grow together in the course of time, and he cheered me much by saying that if nothing unforeseen happened, Storkersen would be able to do his work in a few weeks, and that it would not be necessary for him to go home. My sounding trip to the east had to be given up, but if he could only stay and get well enough to go out on the ice next spring the chief object would be attained.

Some Eskimos from Point Barrow arrived on a trading expedition on July 23 and brought a nice collection of different articles. They were fine-looking people, clean and neat, and as they were not going any further than our place, they stayed on the island and frequently came to the house. The natives belonging to our part of the country had almost all come to Flaxman Island, and much trading took place down in the village.



ESKIMOS' ARRIVAL FROM POINT BARROW.

The steamers might be expected any time about the 1st of August, and some native or other would sit on the top of our house, or on the mast behind it, watching for hours at the time, both night and day. We took no long walks during those days of waiting, and we had taken care that certain signals, which could be seen all over the island, were to be hoisted whenever the smoke of a steamer on the western horizon told us that we were once more in touch with civilization. But the weather was bad, a gale was blowing from the east almost every day, and heavy fogs, which hardly ever lifted, made us feel very uncomfortable. At last, on July 29, the weather was fine again, warm and perfectly clear, and about noon, when Dr. Howe and I were out for a walk, we heard the signal shot, and turning round we saw our flag flying from the top of the mast. That meant "steamer coming," and we went back to our house as fast as we could. From the top of it we could see the ship plainly, picking its way between the grounded ice and the floes and only a few miles away. The news that the steamers were coming spread like lightning over

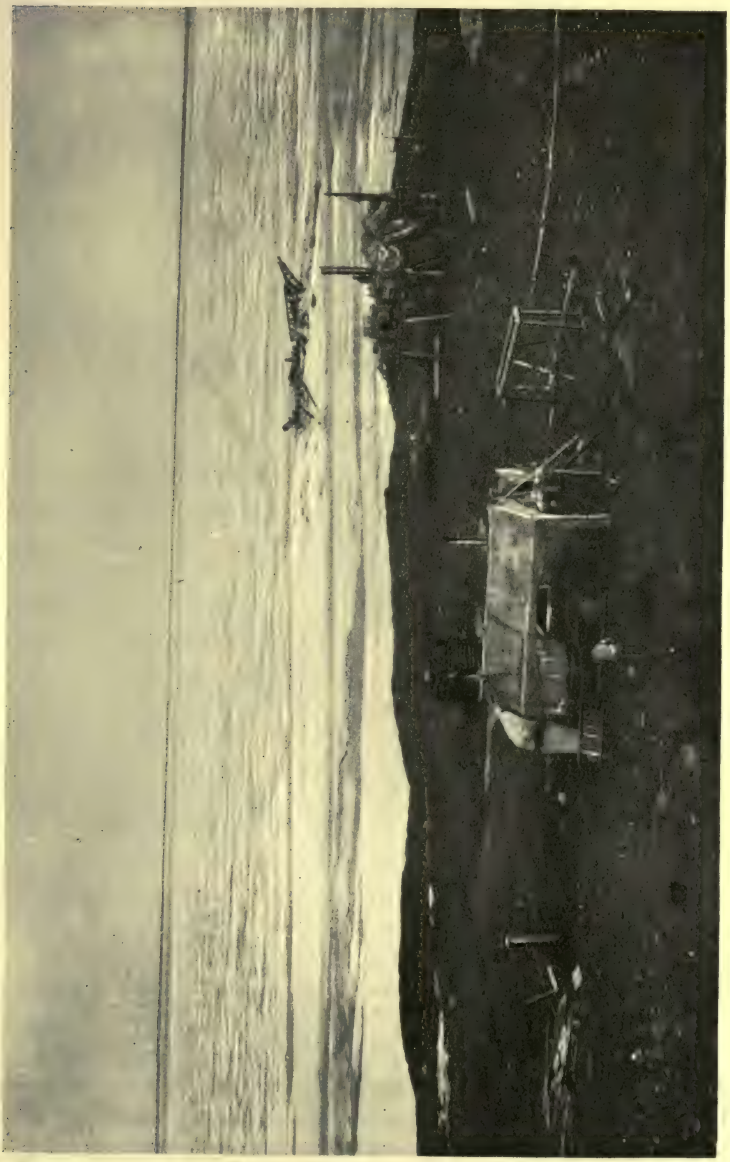
the island, and when we came out with our boat we found quite a flotilla of umiaks.

There was Uxra with Tullik sitting on a great pile of furs, while the "Artful Dodger" had come out with one poor cariboo skin, not so much because he wanted to sell anything, but in order to have an excuse for coming. Ujarajak and



DIGGING FOR ETHNOGRAPHICAL SPECIMENS.

Igloorook were paddling about with all their children; and old Ujarak had got hold of an old boat which held Sukareinna and Nanegera bailing. The natives from Point Barrow were also there with their flashy umiak and white sail. They followed us about, all talking and laughing, happy in the thought that the steamers were at last coming, bringing all sorts of good things to eat, which they could not get from us. And the great black hulk came nearer and nearer; now we heard the engine-room bell, the men were standing ready to throw us a line, and a minute later we scrambled over the railing as glad and as pleased as the Eskimos. It was our old friend S.S. *Belvedere*, Captain Cottle, and besides letters he brought us the good news that the additional provisions which we had asked for had been supplied by our backers. Mrs. Cottle was also on board, and for the first time for more than a year and a quarter I felt disagreeably conscious that a luxuriant growth of beard on my chin did not improve my looks.



FROM THE MAST BEHIND THE HOUSE ON FLAXMAN ISLAND.

But the *Belvedere* was busy and stayed only for half an hour, which, of course, hardly enabled us to get the last year's news from the outer world. Mr. Stefansson with his party was on board, and we took Fiedler and Sachawachick ashore, while he and Hicky went on with the steamer to Herschel Island in order to do some digging for ethnographical specimens on that place.



S.S. "HERMAN" DISCHARGING STORES OFF FLAXMAN ISLAND.

A few hours after the *Belvedere* had left we had other visitors; Dan Sweeney and Axel Anderson came from Point Barrow in an old skiff, bringing some provisions and other things to Ned Erie. We cracked a bottle of whisky in their honour, and Dan, who had not tasted whisky for a long time, was soon walking about proud as a king and already imagining himself the owner of a large and productive gold-mine.

Dr. Howe wanted to go down to Ned with Sweeney's boat, at the same time taking a rowing-boat in which to bring Mr. Leffingwell back, and as he was no longer needed on Storkersen's account, there was nothing to prevent his going. After he had gone I moved down to the native village to be nearer at hand when the next steamer came.

The next vessel, S.S. *Herman*, Captain Tilton, came on July 30, and anchored close to the island to disembark some provisions which he had brought for us. It was very kind of Captain Tilton to do so, as it saved us the trouble of having the goods landed on Herschel Island and afterwards shipped back to Flaxman Island on board another steamer. But more provisions were to come on board S.S. *Beluga* and S.S. *Bowhead*, and we were still keeping a sharp look-out for them. The

weather had become bad again, and it was very thick, so we thought that the steamers must have passed us when we had seen no signs of them on August 1. Storkersen sent a note to me that night, asking me to come down to the house, as his foot was getting worse. My old fears were aroused at once, and I started off immediately to see what was the matter.



INVESTIGATING AN ESKIMO GRAVE ON FLAXMAN ISLAND.

His foot was slightly inflamed, and small pieces of bone kept on coming out of the wound. I told him that I would send for the Doctor at once, but that it did not look so very bad to me. We talked over the future, and Storkersen assured me again that he had no thoughts of leaving, if only his foot got beyond danger before the Doctor left. I told him that I had heard further rumours to the effect that he wanted to go back with the rest of the crew, but he denied any such intentions in the strongest terms. I had no fears for his foot, so after our talk I went back to the village reassured and full of hope. I had hardly lain down to sleep in Sachawachick's place when I heard the natives running to and fro outside the tent, calling "Umiackpok kaily" (steamer coming). I was on my feet in a second, went down to the beach, and there the steamers were, looming through the fog and close to land. A few minutes later I was shaking hands with Captain Porter, S.S. *Beluga*. He also had some provisions for us, but, as he had broken his propeller, he asked me for permission to take them down to Herschel Island. Of course I could say nothing, as he was doing us a service in taking them up at all, and he promised to land them on his return.

Everything was now ready for sending back the crew. I had

written to our supporters to explain the case and ask them to make arrangements for the payment of the wages of the crew, so I had nothing more to do on Flaxman Island. I wanted to buy some dogs at Herschel Island, and Captain Porter kindly offered to take me there. He also agreed to take a boat and drop it outside Barter Island, where Dr. Howe was.

I had hoped that Mr. Leffingwell would have been back from the mountains before I left for Herschel Island, but I dared not risk waiting for the only whaler which was yet expected to come east; we might not see it in the fog, or it might pass us in the night, as the Eskimos had now lost all interest in the steamers, having traded away all the skins they had. So I started, and we reached Herschel Island three days later, early in the morning of August 5.



GENERAL VIEW OF HERSCHEL ISLAND.

CHAPTER IX.

ON HERSCHEL ISLAND AND FLAXMAN ISLAND.

Herschel Island—The Whaler's influence on the Natives—Catching White Whales or Seal—The Natives—Their life—Departure from the Island—Storkersen left—Sick Natives—Start for Hula-Hula River—Meet Ned and his outfit—Axel Anderson—Return to Flaxman Island—Decide to leave for civilization—Make preparations—Farewell festival.

HERSCHEL ISLAND is a fairly big place, but it is rapidly losing its importance. In the early nineties a man from Point Hope, "Little Joe," had gone east in a whaling boat to trade, and had seen numerous whales in the neighbourhood. When he came back he told stories of this wonderful land, or rather water, where the whales were lying about like logs, calm, impassive, and apparently not afraid of anything. The next year two steam whalers went in to Herschel Island and made a splendid catch, and the year after that all the vessels flocked to the place. They wintered there, to be on the spot when the ice broke up, and as many as eleven ships, with a crew of more than six hundred men, have at one time lain in shelter of the sand-spits, which make a natural and splendid harbour.

The whaling companies erected large storehouses for coal and provisions. A club-house was built for the benefit of the officers; missionaries came into the country for the sake of

the natives, and the Canadian Government sent in a detachment of Mounted Police to keep order among the many men who wintered there.

The Eskimos soon learned that there was something to be got from the whalers, that they could lead a pleasant and easy life if they took employment on their ships, and they flocked in from near and far to hunt and to work for the white men. But the Eskimo is not fond of working, and when he saw that women from the west were on board the ships, leading a life of luxury and drinking with the officers and the crew, he soon brought his own women to the market. The Eskimos, as a race, do not look upon it as immoral for a woman to belong first to one man, then to another, and it is easy to understand, and easy to forgive, that a woman who saw other women living a life of ease, instead of hunting and fighting against the cold and storms for a living, could be induced to go on board as the captains' or officers' woman during their stay in the winter quarters. So the women went, young and old—the demand was large enough—and there came a time of backsliding for the native women, a time of drinking and feasting, when they lived with the whalers and got all their hearts desired. They had food and fine clothes, sweets and rings, and it was not long before they, as well as all other savage tribes, became fond of intoxicating drinks. Orgies were common on Herschel Island in those days; drunken men and women, white men as well as natives, were carousing along the beach or in the cabins, and the local missionaries could do nothing. But when the Mounted Police came and locked up and punished the drunk and disorderly, this people for the first time became acquainted with the white man's laws, laws which the Mounted Police were always there to enforce. They made the Eskimos afraid



ESKIMO WOMAN WITH CHILD ON HER BACK.

of doing things which are not permitted by our laws, and thus the natives learned to be careful. The ships were fined if they gave out intoxicating drink, and in a very few years the drinking ceased. But not so with the diseases and desires which the white men introduced among these children of nature. Diseases from which we are more or less immune killed the people in hundreds; typhoid fever, measles, and small-pox, each had a period of deadly sway. Many died, and of those who survived a few emigrated to safer places; but more stayed, as the inducements were too great!



AN OLD WOMAN WITH HER SON.

Great numbers of half-bred children are seen on the island, but in justification of the whalers I must say that they mostly take care of them as well as they can, and send them down to Unalaska to school. But for all that I have often wondered whether it is really good to send them out of the country to school for a few years. Most of them are bound to come back to their mother-country, and what can they do then? Can they take up the fight for existence as could their maternal ancestors? I believe not. They cannot all be missionaries and school teachers; and then we have a class of people, only one generation removed from the savage, who are too proud to hunt for a living even if they had the ability, and I am inclined to think that it would be better to let them live in the country and be brought up to hunt, to fish, and to trade, with the same schooling as the other Eskimos, and to forget in the course of time that their fathers were white men.

So much for the boys. The girls are still worse off when they get the rudiments of European education. They desire to be white women, and may acquire some of their accomplishments, but for all that they are only half-bred, and when the fathers cease to pay for them they go back to their own

country; thus an educated girl becomes the squaw of some Eskimo and is obliged to do his sewing, to scrape and tan his skins, to be the mother of his children, and, in short, to live the life of the ordinary Eskimo woman. I have met one of those half-bred women, the squaw of a native, who, while she was



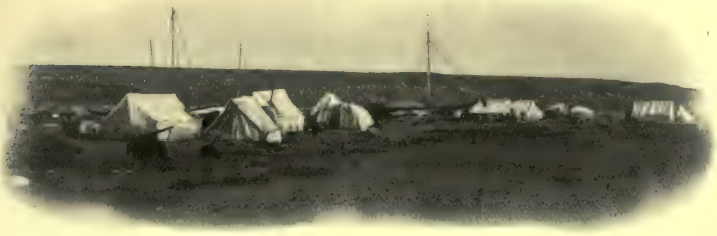
NATIVE WOMAN CLEANING A SEAL-SKIN.

cooking some seal meat and repairing some boots, was talking literature with me and reciting Byron!

But the boom on Herschel Island was only of short duration, and now there are hardly any ships wintering there. Quiet has settled on the once lively place, the Mounted Police go about to keep order where there is no disorder, and the women, spoiled bodily and mentally by their insatiable cravings for the luxuries they had a few years ago, are dragging on a miserable existence.

The whalers come for a few days in the summer to loaf about and to trade. But for the Eskimos the days of plenty are over; they have to hunt on a country where ruthless slaughter has

driven off the deer, while their desire for white man's food makes them flock to Herschel Island, at least during the two summer months, to trade their furs for flour, sugar, and tobacco. The great storehouses are empty, the club-house has long ago



ESKIMO CAMP ON HERSCHEL ISLAND.

ceased to exist as a club-house and is now a barrack for the Mounted Police, and soon the ships will cease to come at all.

These people, as a matter of fact, are far worse off than those at Point Barrow, where whalers and other vessels will continue to come, and where beach whalers are living, so that the natives can always procure our food. At Herschel Island, on the contrary, they will soon be reduced to their native food and be forced to return to their old savage life.

But, what is still worse, the native tribes are dying out in a most alarming way. Where early explorers found large settlements of hundreds of people there are now only a few ruins left; and where at one time the native tribes flourished as the lords of the country, looking in wonder and distrust upon the small parties of explorers which now and then came their way, there are now only the miserable remnants of a once powerful tribe, who are practically owned by the whalers, enslaved by the desires which these, their masters, have themselves introduced among them.

A few days after my arrival at Herschel Island I heard that a report to the effect that we were lost on the ice had been carried back to civilization. It was the tale which Uxra had told Mr. Stefansson and "Cape York," and which the latter had brought down to Herschel Island. The report had been considerably changed in course of time and was, in its latest

form, as uncompromising as it possibly could be. I was very sorry that this should have happened, as, of course, our relatives and friends would be greatly alarmed. At Herschel Island Mr. Stefansson had received some letters, which, as he had half expected, compelled him to go home, and he volunteered to go up the Mackenzie River to Fort McPherson, and thence



NATIVE WHALEBOAT RETURNED FROM A SUCCESSFUL CHASE OF WHITE WHALE.

along the Bell River until he reached the tributaries of the Porcupine River. By means of a raft he would be able to descend this river until he was picked up by a passing steamer. It was a dangerous thing to do, but he did not like the prospect of the long voyage home on board a whaler, so this was his only alternative. Of course, as he was himself anxious to go, I was only too glad to avail myself of his offer to take messages to the outer world in that way, although I knew that it would cost considerably more than his passage home in a whaler.

The Mounted Police placed a boat at our disposal, and Mr. Stefansson started with three natives on August 6.

It took the men of the *Beluga* a whole week to change their propeller, and when at last they were ready to start I was invited to stay at the police barracks. The inspector, Major

Jarvis, had just come in and was new to the island, as also were two of the constables, but the sergeant, Mr. Fitzgerald, had been there since the station was established and was much liked and highly respected by the natives.

Major Jarvis and I spent a good deal of time together and went about to look at all the sights of the place. There were many natives, about four hundred, but they were greatly mixed, and Kokmoliks and Nunatomiuts were walking about with natives from Kotzebue Sound. They looked fairly well to do. Many of them had whaleboats, almost all had good tents, and as the season wore on each native had a small store of provisions which he had got in exchange for his fur. Their women were good-looking, even pretty, and all very well dressed. Black velvet seemed to be the craze, and it made a fine effect, setting forth their splendid figures in the most flattering manner, but the price they had to pay for it was high, as much as $5 a yard.

Although most of them lived in tents, many lived in small houses which were, with very few exceptions, the most filthy things I ever saw. There the women lived who got their livelihood from the whalers, some of them with a native man, but mostly alone. The houses had belonged to the whaling fleet, had been built during the years when many ships had wintered there and the officers were living ashore, but the women were now the owners of them and could do as they pleased.

The quiet which had settled on the population when the last of the whaling vessels had left for the east was only now and then disturbed when a shoal of white whale came into the harbour, which always caused great excitement. The men ran to their boats, and in the twinkling of an eye the sails were set, the moorings gone, and the whaleboats, with their leeward railing almost at the water's edge, followed up the shining white bodies which swam lazily along just under the surface of the water. In the bow of each boat a man stood ready with a harpoon, and in case a whale came up near the boat he would drive the iron into it, while the people on shore were notified of the fact by the lowering of the sail. Sometimes they would have much trouble in killing the whale, and many escaped, but during the time I stayed at Herschel Island three or four

were caught. When the boats returned from a successful hunt the whole population would be astir. The women ran for meat or blubber, and the dogs near at hand would howl with joy, a howl which would soon resound from every part of the village. In a surprisingly short time the whale would be cut into pieces and distributed all over the island, while the skin was stretched out to dry.



PURSUING SEAL IN A KAYAK.

And then there would be great feasting. Large open fires would be built on the beach, huge pots hung over them, with people squatting round them on the ground, talking and laughing and waiting for the meat to boil.

Another excitement was when a seal was discovered inside the sand-spit. Then the rifles would crack from one end of the beach to another, the bullets would strike all round the seal, while some more enterprising Eskimos would pursue the seal in a kayak, keeping close in the animal's wake, and dodging the bullets, Heaven knows how. But as a rule the people only drifted about amongst each other, paying visits, and doing absolutely nothing all day. They would sit for hours on the sunny side of the tent, smoking their pipes in high contentment, and only moving out of the cold shadows into the sun again. And when night fell, the fires over which they were cooking their meals would light up the scene around, throwing a ruddy glow on the faces of the surrounding Eskimos, waiting for the pot to boil; and when the happy moment comes, then a shout from the cook calls forth other Eskimos from neighbouring tents, and

they fall to, each with a piece of meat, which they cut into pieces, after carefully licking their knives and wiping them on their pantaloons. After the meal they enjoy a smoke, and while the fire is burning lower and lower the people round it become quieter and quieter; first one falls asleep, then another, until the call from another tent that "grub's ready" brings them up with a start, and they walk over there, looking very unconcerned and licking their knives afresh.

From a house the sweet music of two or three drums indicates that dancing is in progress, and the stuffy house, with the windows hermetically closed, is full of happy young people, who are dancing as if their very lives depended upon it. Not far away the voices of Melba or Caruso are sounding into the quiet night, transported to these remote corners of the earth through the medium of a phonograph, while a very grave and very dignified crowd of "bucks" and "squaws," smoking and spitting, are listening to the beautiful tones. But a rival close by strikes up a coon song; some of the crowd forming the audience of the more classical music commence to prick their ears, to look interested, and at last move away over there. A contest begins as to which can draw the largest audience, and two or more phonographs are playing alongside each other, sending forth their tunes with all their might.

In the lighted tents mothers are sitting, singing to their howling offspring, who object to be alone and insist upon keeping their mothers near them, while in the darker places young people are courting, well hidden from the eyes of the inquisitive.

But there is a reverse side to the picture of a semi-civilized Eskimo town at night, and that reverse may be seen in tents where people are fighting against the death which has been brought among them by white men. A deadly disease was ravaging the village, and during the time I stayed there five or six of the people died. In each case the sad event had been expected long beforehand, and as soon as it had occurred some men went out foraging for planks with which to make a coffin, and when they had got the planks they worked with hammer and saw, and before long they had made a rude box to contain the corpse.

The tent of the deceased is full of sympathetic people, who break off their different amusements to mourn with the bereaved

until the body is removed to the coffin. And the next day a small procession of Eskimos would wind their way along the well-trodden path to their burial ground, place the coffin on the ground, while an eloquent Eskimo spoke in glorification of the deceased, a "home-made" prayer was said, and then the procession would go back to their potfuls of meat, their dances and songs, and to more death.

Sergeant Fitzgerald was very good to the sick, but, as none of us knew what the ailment was, it was rather hard to do anything, the more so as the detachment had no medicine whatever. I offered to send for Dr. Howe if the Eskimos would place boat and crew at his disposal, and even to give them food enough for the journey, but however greatly the sick needed attention, those who were sound and well had something better and more amusing to do than to sail about four hundred miles for a doctor. And so Dr. Howe was not sent for, planks continued to be in request, saw and hammer were still kept busy, and when during the night we were sometimes aroused by the carpenters at work we knew that some poor Eskimo had left this world and gone to the happy hunting-grounds.

Steamers now and then called at the harbour, and towards the end of August they came two or three at a time. The S.S. *Jeanette* was particularly welcome, as she had provisions to the value of several thousand dollars on board—provisions which were due to the natives as payment for the meat they had sold to the vessels during the winter of 1905-6, when many ships were caught unawares without sufficient food to get through the winter. The Eskimos were very well treated by Captain Hoffman, the master of the *Jeanette*, and got the food at a very reasonable price.

I made arrangements with Captain Leavett, S.S. *Narwhal*, to stop at Flaxman Island and take the crew on board, and as we had a good deal of provisions at Herschel Island, I likewise made arrangements with him to take them on board and land them at our house together with the dogs which I had bought. Captain Leavett promised to do so and left the island on August 26. I would have liked to go with him, but Captain Tilton, S.S. *Herman*, had bought some dogs for me at Cape Bathurst, and I wanted to get those and afterwards to settle with him. On August 28 the harbour was empty and the

natives commenced to scatter over the neighbourhood. Some went over to the mainland and down to the Mackenzie River with their boats heavily loaded with provisions; others went to the west, but the majority remained in order to get what they could from the steamer, the S.S. *Herman*, which was yet expected.

A great deal of food had certainly been left on the island that year; all the *cachés* and storehouses were full; every native had his own little pile locked up in the Government storehouse, and Sergeant Fitzgerald took good care of it. But, in spite of all this plenty, there was likely to be a dreary winter for those on Herschel Island with only one small ship wintering there. The years when Herschel Island was a lively place were now past.

We began to fear that the *Herman* would not come, but on the night of August 30 we who were in the houses heard to our joy the call of "Umiackpok kaily," which told us that the long-expected steamer had hove in sight. Captain Tilton had got some good dogs for us, and promised to land me as well as the dogs on Flaxman Island.

A native from Kotzebue Sound, who was well liked by all the white men at Herschel Island, wanted to come and work for us, and as he might prove of great help to Mr. Leffingwell, I engaged him. However, I could not induce Captain Tilton to take the family on board his ship, and I made arrangements with another native family to take Anderson (the native's "white man's" name) down to Flaxman Island in a whaleboat, while his dogs and some of his gear were taken on board the *Herman*. On September 1, at 5 P.M., we left Herschel Island, after I had thanked my friends the Mounted Police for all the kindness they had shown me and for the interest they had taken in our work. I had a very pleasant time on board the *Herman;* the captain and all the officers were very kind, and I was landed at the east end of Flaxman Island during the night of September 3. The *Herman* was the last vessel going back that year, and I felt quite lonely when I was left behind, but only three miles away there were other people, Mr. Leffingwell, and, as I hoped, Storkersen.

The Eskimo village was deserted, every one was out hunting deer, and I started for home at once. When I was near enough

to see the house a curious feeling of fear laid hold of me. I had not heard from my comrades for a month. I had left several people in the house, and now, how many would I find? Suppose Storkersen's foot had become worse, what was to happen? But I would not think of it; it was out of the question, the foot was looking fairly well when I left, and Storkersen had promised to stay. I entered and listened, but could hear only the deep breathing of one man, and the thought that my worst fears were after all realized flashed through my brain. I struck a match; Storkersen's bunk was empty; only one man was there, and that was Mr. Leffingwell, who awoke at the sound of my voice. He confirmed my fears; Storkersen *had* gone. His foot was all right, and Dr. Howe had told him that there was no danger, but on August 24 he had come down from the village, where the crew had been ordered to keep a look-out for the westward bound whalers, and had told Mr. Leffingwell that he wanted to go home, that he would not remain upon any conditions whatever, that if obliged to do so against his will, he would go down to Herschel Island and not do any work at all. As for reasons, he had none, or, if he had, he would not state them, and he only kept on saying "I will not go out on the ice again." Before that he had told Mr. Leffingwell, as well as myself, that he would stay and would not break his word. It was a great blow to me, but there was nothing to be done; he had left in spite of all his remonstrances to the opposite effect, and in spite of the high opinion we held of him as a man and a good comrade.

Mr. Leffingwell, however, had more bad news for me; the *Narwhal* had come to the island in heavy weather, and had stayed for eighteen hours to get the crew on board. It had been impossible to land on Flaxman Island, as the breakers had been too high, and an attempt made by Mr. Leffingwell to launch the boat had almost resulted in sinking it. Then Captain Leavett had sent a boat down westward which succeeded in getting in between two sand-spits and beating up to the island, inside the lagoon, and by means of this boat the men had got on board, though it had been impossible to land either food or dogs.

We talked the situation over long and earnestly, but in no direction did there seem to be a ray of hope. Mr. Leffingwell

did not think that two men alone would have any chance of carrying out a successful sledge trip across the ice, neither did he think that he was justified in abandoning the prospects of doing some good scientific work for the scant hope of success over the pack ice. To a certain extent I agreed with him ; he had sacrificed a year's work in his own branch to go on the ice with me, and I could hardly expect him to go again. But, nevertheless, it was hard to give up the hopes I had cherished so long, and again and again we discussed the question, until at last we let it drop, seeing that there was nothing to be done, the more so as I also had my doubts as to the possibility of carrying out a sledge trip successfully without a third man to help.

What, then, was to be done? This was the next question to be decided. We had not enough surveying instruments to allow two parties to go into the field, and as Mr. Leffingwell had commenced, and besides had much more experience in surveying work than I, it was, of course, for him to continue. He said he would be able to do so with natives to help, and insisted on the uselessness of my prolonging my stay, as I could not do any work worth my while. Reluctantly I gave in ; to go home now, with so much work we yet could do undone, was hard, and I thought it over for several days before I definitely gave up all thoughts of staying and commenced to think of my journey across country back to civilization. As a last endeavour I tried to get natives to go out on the ice with me, but no one would listen to me. The Eskimos for generations have had the greatest fear of pack ice, and the fact of our return from our former expedition was only explained as an extraordinary piece of good luck.

On September 10 we saw a umiak crossing over to the island from the mainland, which rather surprised us, as we had not yet been expecting any of the natives. We went down to the village to see who it might be, and were glad to find our old friend Sachawachick. Sachawachick had come down from the mountains as Hipana (Douglamana's son by a former connection) had become very ill. Mr. Leffingwell, who knew more about doctoring than I, thought that the boy had typhoid fever. His illness was a great sorrow to old Douglamana, who told us that they had come down from the mountains with him

in order to give him a fitting burial, as up there they had neither wood for a coffin nor calico for a shroud. We were greatly startled by the idea of an outbreak of typhoid fever among the natives, who have not the slightest notion of sanitation and do not understand the meaning of the word "infectious." We have explained to them very carefully what will happen if they do not follow our directions, but they look at us as if to say "Why, we shall get this disease, if it is coming to us, in spite of anything you may do or say."



HIPANA.

We, too, were troubled with illness, if only among our dogs. "Bismarck" had died, and so had one of the dogs I bought at Herschel Island; worse still, Mr. Leffingwell's pet, and the best dog in the team, a dog which is called after a mutual friend of ours, Dr. Werner, from the Baldwin Expedition, died on September 10.

As I wanted to find a man to accompany me across the mountains, I had asked Sachawachick to go east with me in order to speak to a native whom we all valued very much, a young man called Ujarajak. We started on September 11 in our boat with eight days' food. The first day everything went well, and we were making good headway, but on the next a gale sprang up from the south-west, and we had a very unpleasant time. Of course we wanted to use our boat as much as possible, and as it blew very hard and a high surf was running, we started as soon as we awoke, without waiting to cook our breakfast. But we had hardly left the beach before the strength of the gale increased with leaps and bounds, and the boat shot through the water like an arrow. I was working at the steering oar, to keep the boat before the wind, and Sachawachick was baling with all his might. We were almost wrecked on some shoals which we had never noticed before, but managed to get the boat over, half full of water. Neither Sachawachick nor myself liked the look of things, and when I proposed to try and land he was only too glad, though we ran the risk of losing our outfit in the surf. But it took us three hours to row about two hundred yards, and we had more than once given it up as

impossible, when at last a lull made us resume the hard work with renewed vigour. Once ashore we threw out a towing line, and Sachawachick and "Dad" towed the boat along the beach while I was steering. However, it was a waste of time and strength, and when we stuck and could see no way to get the boat round a shoal, we hauled it ashore, took out our food, lit a fire, and ate our breakfast after five hours' work.

There was no doubt now that winter was coming on. All the ponds were frozen over, young ice from the sea was forced into all the windward sides of the bays, the water which had drenched Sachawachick and myself had frozen in our clothes, and the boat, outside as well as inside, was covered with a layer of ice. When our breakfast was eaten, we each packed up a bundle of our wet blankets, three days' food, one cooking pot, the boat sail, and our rifles. Old "Dad" had a pack-saddle strapped to his back and carried, besides his own food, some few odds and ends. Then we started along the beach with the blizzard blowing from behind so hard that it was almost impossible to stand up against it. It was hard going over the frozen ground, but we made good progress, forded a river, and camped at last about ten miles to the east of Collingson's Point. We had no tent with us, only the sails from the boat, but we managed to make a kind of shelter out of driftwood and the sails. Then we cooked our supper and turned in, wet to the skin, and in blankets which we had wrung as nearly dry as possible before we rolled ourselves up in them. But tired as we were, we slept beautifully, and when we awoke on the morning of September 13 the sun was shining, the wind had died down entirely, and the weather was fine, but about —10° C. Off we went again, stepping carefully over the round pebbles of the beach, which at least was better than walking over the land, where the grass was frozen into small bunches and made walking very difficult. We forded Sadlerochit River, but suffered very much from the cold, as we were obliged to walk for almost a mile waist deep in water which came straight from the mountains and was cold as ice. The pain it caused us was almost enough to make us cry out aloud, but across we came, and again we started eastward along the beach, looking for signs of the natives. We camped at night on a spot where there had been an old Kokmolik village, and sat round a wood

fire, kindled with old wood from a blubber *caché* and saturated with oil, which warmed us up, dried our clothing and blankets, and served to roast a couple of ptarmigans. Old Sachawachick's thoughts went back to the days when this country had been a closed book to him, when it was inhabited by the greatest enemies to himself and to all western Eskimos, the Kokmoliks,



ESKIMO WOMEN PLUCKING BIRDS OUTSIDE OUR HOUSE.

who were roaming over the country in numbers. On the very spot where we were sitting an awful tragedy had taken place in Sachawachick's youth; a man, whose wife had just died, burned himself and his grown-up daughter to death while crowds watched the gruesome sight. The man must have been mad, but his life was his own and his daughter belonged to him, so why interfere? It was no one's business. Sachawachick told us this and other instances of cruelty, but as the people had been his enemies he may have been exaggerating. While we lay dozing near the warm fire I thought I could hear the cries of the unhappy girl when she was bound to the stake by her father and felt the fire which he had kindled catch hold of the wood and blubber, and knew that in a few seconds

the flames would begin to reach her. And I almost saw the old pagan himself, not bound, but perfectly free, crawling on to the fire, sitting down, and watching the agony of his girl until he himself succumbed to the fearful death.

We slept well all night and were off early in the morning, but we reached the Hula-Hula River without seeing any signs of the Eskimos. We did not like the idea of crossing it, but we had been lured on and on by our hopes of meeting the natives we were looking for, and as we were short of food, we had to go over to Ned's house to get some more. We stripped entirely for the deeper places, and, carrying our packs and clothes on our heads, we walked naked through the icy water. I had never realized that anything could be so cold as this water; it made our limbs stiff, and the pain in my bones almost brought the tears to my eyes. Beside me was poor old "Dad" swimming with pack and all. At last, on September 14, we reached Ned's house, but there was no one at home, and we made ourselves comfortable in the only room, though the smoke from the stove would almost have been strong enough to drive us out of doors if the weather had not been so very cold. As it was, we buried our heads in some furs on the bed and let the stove smoke.

Several new people had settled down in the neighbourhood since I was last there. Captain Tilton had landed a man, John Grubben, with his squaw, and they had built a house, which, by the way, was rather a splendid one for that part of the country. Dan Sweeney and Axel Anderson, a young Swede who had entered into partnership with him, had done the same, though their abode was far from being as splendid as John's; and a native from Point Barrow, Kronoloolo, had likewise built a house. But no one was at home, and at last we went out to find out what had happened to all the people. We found numerous footprints of natives and dogs leading up the river, and next morning we followed them. It took us two days of hard packing before we reached the tents, which had been pitched on a small island in the middle of Hula-Hula River, about fifty miles inland. It was high time, indeed, to find them, as my boots were entirely worn out, my stockings burned to pieces, and we had nothing to eat.

Ned did not know anything of Ujarajak's movements, but he

thought that he was still many miles further inland. What interested him far more was that the people had had great hunting, that the country had been practically swarming with cariboo, and that a great number of skins and piles of meat were to be found all over the country. Ekajuak and the children were out setting traps, and so taking advantage of the fine



NATIVE WOMEN SCRAPING SKINS.

weather. Dan and Axel lived with Ned's two boys in a little tent, and were out hunting every day, and John Grubben, with his consumptive wife, was also there to get some of the meat.

Some days full of hope followed my arrival at the camp, for Axel told me that he would like to go out on the ice. His decision meant a good deal to me, as I would then be able to stay and carry out part of the work I had commenced. I did not know very much of Axel; some things about him I liked very well, and other things less; but the men who knew him thought him an able man, though perhaps not possessing sufficient endurance for a long trip over the ice. Among others, I asked Sachawachick what he thought about him, and after

he had reflected for a little while he gave a truly philosophical answer: "Him fellow not talk much, not lie much, fellow not lie much, me believe good man."

Sachawachick could not resist the temptation to go out for cariboo, and started the day after our arrival at Ned's tent, promising to come back shortly. I determined to wait for him, but the days went by and still he did not come. He had started with nothing to eat but some tea and crackers, and I began to feel anxious about him. He returned ten days after he had gone out, smiling and pleased, with eight deer tongues hanging from his belt, which told us that his small excursion had been accompanied by success. But before he got the cariboo he had been three days without eating.

While he was away I lived a life of ease, and lay in Ned's or John's tent all day long, save for a couple of hours every day when I was out looking for cariboo, in which search, however, I met with scant success. The rest of the day was spent in talking, smoking, or walking to and fro outside the tents, brooding over the future. Upon the whole I spent a very pleasant time there, only I wanted to get back to Flaxman Island to tell the good news to Mr. Leffingwell. But Sachawachick was away, and I did not like to go without him; furthermore, I had no irresistible desire to ford the Hula-Hula River again, the one crossing being quite enough to last me for a long while. Although it was cold, about − 15° C., the ice was not yet frozen hard enough for travelling, and so I waited, spending my time as best I could.

One day we saw a caravan coming down the east bank of the river. Seen from a distance it looked rather large, but when it approached we saw that it only consisted of a man and a woman with their three children, both of them dragging a deerskin with some of their belongings, while their four dogs were likewise dragging skins holding the rest of their outfit. A surprisingly big weight can be pulled along in a skin like that, even without spoiling the fur, and some of the bundles drawn by one dog weighed, I think, nearly 100 lbs. The caravan came sliding down the high steep bank of the river, with dogs and bundles in a hopeless tangle, and not till then did we recognzie our visitors, Terigloo and his squaw. We invited them into the tent and gave them some tea, and while

sitting there the squaw opened her anout and took out a small bundle of humanity, not yet twenty-four hours old. Great consternation! We wanted to know all about it, and she told us that the child was born the night before, that Terigloo did not wish to stay in the mountains when he could not shoot cariboo (an Eskimo tradition prohibited doing so within some weeks of the birth), and had come down to the lower river to fish, having walked twenty-five miles that day. In a short time the couple had erected their tent, and while Terigloo went out with us to fish, his woman was attending to her four children, cooking and sewing. The life of the Eskimo woman is hard, but she does not seem to mind, and when we returned in the evening Terigloo's squaw was sitting in Ned's tent, where, in woman's fashion, she and Ekajuak were discussing their fellow beings, criticizing John's invalid wife most severely, and laughing at the care he took of her.

When Sachawachick had come back there was no more to detain us, and he, Axel, and myself started for the coast. There we got a sledge, loaded it with meat, and with "Dad" in the harness, and all of us helping to pull the sledge along, we started for home on September 29.

It was very hard work. A recent gale had broken up all the young ice and piled it high on the beach. We had to scramble over it as best we could, and to drag the sledge over the gravel and pebbles of the beach. A gale which had been blowing the day before had washed away all the snow, and our progress was consequently still more slow and laborious, and the runners of our sledge were almost broken. Sometimes we had to make a detour across country, a highly disagreeable thing to do, as we had to jump from one frozen "niggerhead" to another, and go up and down the deep ravines which intersected the country with only a few hundred yards between them. Then we broke through the ice on the Sadlerochit River and camped, tired and low spirited. However, I did not mind the hard travelling so much, as it gave me an opportunity to judge how Axel would behave on the trail, but, unfortunately, my impression of him was considerably less favourable than it had been when I saw him coming and going in the tent. I began to fear that he was not the right man for hard sledge work, an impression which was materially strengthened before we reached Flaxman Island three days later.

The weather had been boisterous and bad all the way, the going hard, and the frozen grass and gravel had cut our boots and feet. Time after time we had been in the water, and, as if to crown our discomforts, the ice between the mainland and Flaxman Island would not bear us. About midway we reached a small sand-spit, and then a squall set in with snow and sleet.



ESKIMOS ON A SUNNY SLOPE OUTSIDE OUR HOUSE.

We had cached our sledge, and all we had to protect us against the cutting wind were our blankets. We fired some shots to attract the attention of the inhabitants of the village, which was only a mile away, but it was more than half an hour later when we saw five forms emerge from the fog, the sleet, and the snow. The size of one of them told me that it was Mr. Leffingwell, and we hurried to meet them. They greeted us as lost and happily recovered travellers, and told us that they had been very worried over our long absence, as we had only taken food for one week and had now been away for three. The conclusion they had come to was that we had probably drifted out to sea during the violent gale on the second day after we had left the camp.

By means of the umiak we were soon on the island, and went into Sachawachick's igloo to get something hot to eat.

Douglamana was there, working hard at the red-hot stove. Like everybody else, she had given us up for lost, and her joy at our return was great. But her duties as an Eskimo wife were to get some hot food ready for her returning husband, and she did not even come out to see us land.

Nor was there any boisterous greeting of the husband when we crawled into the cosy igloo—only a happy nod for me and a searching look at Sachawachick, to see whether he had suffered; then, immediately remembering that she had a white man as her guest, she shook hands with us hurriedly, laughed, and went to work again on "flapjacks" and tea. But undemonstrative as her reception was, I saw in a corner of the house ample evidence of days and nights spent in anxiety for the safety of her lord and master, evidence which she tried to hide and consisting of some more or less finished clothes which she had made in order to face the cold when she went to look for us; this she had intended to do as soon as the ice would bear.

Hipana was quite well again, and Mr. Leffingwell's fame as a doctor was established, although he had not been able to save a child which had been brought to him by the parents and which had died after great suffering. The chin of the poor little thing had been eaten away by a kind of canker; the lower jaw was eaten through, the teeth fell out, and for days she had not been able to eat. Her parents, a young couple, Alegok and Anneksine, had come hurrying down to our house from Sadlerochil River, almost worried out of their minds, carrying their dying firstborn. Mr. Leffingwell had done all he could, but to no purpose, and the child died two days after their arrival. As soon as the child was dead the bereaved parents became calmer; only now and then they would talk of their baby, and once when they saw a calendar of Mr. Leffingwell's, with a picture of angels and the crucified Christ, they looked at it long and earnestly, and were very happy when they got it, for their child was there, they told us, in warmth, in health, in happiness, and surrounded by all sorts of good things to eat.

There were many natives on Flaxman Island, and they were all more or less dependent upon us. The hunt on the Koogoora had failed and the people who had been there had returned. Hungry, almost starving, they had reached our island, and

Mr. Leffingwell gave them something to eat until they could begin to catch seal.

He had spent some tiresome days waiting for me to return; then anxiety had taken the place of irksomeness, and during the last week of our absence he had almost given up all hope. The natives to a certain extent had helped him to pass the day, but the long evenings and nights, full of anxiety and unrest, were not pleasant, especially as he could do nothing to ascertain our fate, but only hope for the best. Spring and autumn, when we could use neither boat nor sledge, as a rule were the most tiresome part of the year in those regions, as we were then confined to our house, or at least to our island.

But now we had more than enough to occupy our minds, and once more we began to talk things over. To all intents and purposes the arguments were the same which we had used before, when I had returned from Herschel Island, but the question had now developed a new phase in the person of Axel Anderson.

Mr. Leffingwell maintained his former standpoint; he could very well carry on his surveying work without my assistance, especially now that he had Axel, and he thought it would be impossible to do anything new on the ice, at least not with a party of two. I had long ago made up my mind that Axel was not the man to take out on a sledge trip, and this opinion was shared by Mr. Leffingwell, who thought he would be an abler helper on shore, but quite useless in cases where the lives of a party were at stake, as it would be, during a trip over the moving pack ice of Beaufort Sea.

The result of several days' consultation was that I admitted the truth of Mr. Leffingwell's arguments, as corresponding with my own views, and I commenced to prepare for my three thousand miles walk. Some of the women of the village took upon themselves the task of making new clothing for me, and on October 15 the sledge was packed, my clothes were ready, and I was to start the following day if the weather permitted. As we needed some sugar and other small articles, of which we had plenty at Point Barrow, and as I also wished to take some of the dogs which Captain Leavett had landed for us at that place, while Mr. Leffingwell wanted the rest, it was decided that I was to go there first, take Axel and Hipana with

me, and send them back to Flaxman Island as soon as I could.

Another object in going round by Point Barrow was to have a talk with Mr. Brower about the probable state of the ice there; no man was more able to give me the desired information than he, who had lived in the country, and at the same place, for twenty-four years. Besides, my only other road, the path over the mountains, was bad, and I would have to wait longer to start, as the rivers were not yet passable. Everything considered, it was better to go to Point Barrow, although the distance I had to cover would be at least a thousand miles longer than if I took the shorter road over the mountains.

We had invited all the natives down to a grand Hula-Hula, a farewell festival, and they all arrived, decked out in their very best splendour. Tullik, our lady of fashion, wore a new and very elegant parkey, a piece of work which must have cost her many hours of hard work. Douglamana, on the contrary, I suppose on the strength of her position, wore her old clothes, but they had all taken pains to look as presentable as possible in order to leave a good impression upon my mind.

That they have succeeded I hope I have proved already, but I cannot conclude this chapter without saying that it has never been my lot to associate with so many kind, helpful, and considerate people as those our neighbours on Flaxman Island. Of course they have their peculiarities, which are not very agreeable to civilized men, but then we must remember that they are little more than savages and have not been much in contact with civilization. Except Sukareinna, they were all born in the neighbourhood of Point Barrow or on the west shore, as far down as Kotzebue Sound, from whence they have emigrated because they were not willing to tolerate the superiority of the average white man, because they knew that they could not hold their own if they remained where they were born, and realized that their children would be still more under white man's bondage than they were. This feeling of independence made them leave the place of their birth. Some went along the coast, some overland, and, finding the country of the Kokmoliks deserted, they claimed it as their own and settled there.

On this occasion we had a great feast. A huge pot of

pemmican had been boiling on the stove all day, jam and crackers were served, and as much tea as our guests would care to drink. The dancing they supplied themselves, and the pauses were filled with the sounds of the phonograph. And when the time came to say good-bye, each woman received as a parting present a piece of calico for a snowshirt, each man some tobacco, a pipe, or other small article, while the children ate the candy which Dr. Leffingwell had sent up for his son, and as a finish to the evening, I gave each of the people who had been kindest to us some pieces of personal wearing apparel. At last good-bye was said, and they started for home, a long, long streak, with a woman ahead, and after her team after team with the children sitting on top of the sledges, the men and women running beside them, laughing and talking.



ESKIMO GRAVES.

While these happy children of nature, in a long Indian file, were winding their way home to the small igloos, Mr. Leffingwell and I sat in our house, talking over old times and the future which lay before us. We had many things to talk about, which we had kept for the last moment; there were greetings to be sent to his parents, whom I was going to see when I again reached the civilized world, and, last of all, I tried to explain to him how much his friendship meant for me, how sincerely I had appreciated his presence during our eighteen months' stay in the Arctic, and how sorry I was to leave him, practically alone, in these cold and inhospitable regions, while I was to return to the outer world, to the warm summer and our friends.

But the morrow was coming, the day when I was to start on the long and dreary tramp; I had to get as much sleep as possible, so we said good night to each other, turned in and slept, I for the last time in the house in which, against my will, so many changes had been wrought in my plans.



OUR HOUSE AND CACHÉ AS I LEFT IT ON OCTOBER 15, 1907.

CHAPTER X.

THE SLEDGE TRIP FROM FLAXMAN ISLAND TO ICY CAPE.

The start—Good-bye to Mr. Leffingwell—Gales—Crossing Harrison's Bay—Lost on the Ice—Arrive at a Native Village—Reach Elson Bay—Arrive at Point Barrow—The Whaling Industry—The Natives—The Missionary—The School Teachers—Leave Point Barrow—Natives on the trail—Wainwright Inlet—Natives writing letters—Hard travelling alone—Icy Cape.

For days we had been working on the outfit which I was to take on the long tramp along the coast of Alaska, while bound for the outside world, and on the morning of October 15 the sledge stood packed, ready for the start. We had two sledges, but, as we only had few dogs, we lashed one on top of the other. I took provisions for twenty days for three men, which would little more than take us to Point Barrow, where I expected to be able to get more from Mr. Brower, and later on from the missionaries and school teachers along the coast.

For Axel's return trip we also carried provisions, which were

to be cached along the coast at three different places, at Sakowanuktok, Ooliktoonik, and Cape Halkett.

We took food for the dogs to last for twenty days. It consisted of cornmeal and pemmican. Our tent was a genuine native tent, the cover of which consisted of a piece of deerskin (with the hair rotted off) and a piece of calico 15 by 16 feet. A better and warmer tent could not well be carried. Some letters and other papers relating to the expedition added very much to our weight, but they were absolutely necessary and could not be left behind. My clothing was exclusively of fur and weighed 10 lbs. I carried a good deal of spare clothing, as I had to have extra pants as well as numerous stockings and boots.

The weights carried were as follows:—

Two sledges	80 lbs.
Men's food for twenty days	136 ,,
Dogs' food for twenty days	105 ,,
Food to be cached for return	105 ,,
Food to take beyond Point Barrow	76 ,,
Horlick's malted milk	15 ,,
Spare clothing (three men)	29 ,,
Sleeping bags (three)	33 ,,
Sleeping skins	6 ,,
Sedge grass	6 ,,
Boxes with papers	36 ,,
Camera and films	6 ,,
Tent and sticks	30 ,,
Stove and cooking utensils	10 ,,
Axe, spade, etc.	12 ,,
	685 lbs.

The weather was too stormy to start, and although I was aching to be off, I had one more day of ease in our house, where Mr. Leffingwell and I settled up everything relating to our work on the expedition. We went down to the village during the afternoon. Tjimigok was very sick, with the same symptoms that Hipana had developed before, and there was probably no doubt that he also had contracted typhoid fever. Poor Sachawachick took his boy's sickness very much to heart and seemed to think that

all manner of evil things were coming. Mr. Leffingwell, who had intended to start on a surveying trip to the mountains at the same time that I left for the west, promised our old friend not to go until his boy's sickness had changed for the better or worse. We were both inclined to think that it would only change for the worse, but we did not tell Sachawachick this.

Once more I bade my friends good-bye and went home to our own house. Neither Mr. Leffingwell nor myself felt particularly cheerful, and in spite of his assurances I could not but feel that it was not quite right for me to leave him behind with but one man to assist him. The Eskimo whom I had engaged at Herschel Island had not arrived, and Mr. Leffingwell had none but Axel Anderson and Makallektok to help him. But he insisted it was all right, that he would not dream of keeping me in the country for his sake, that he could not see what work worth doing I could do under the circumstances, and once more my doubts were dissipated.

We spent a considerable time in looking at the map, and I think that I almost enjoyed the prospects of the long march. At any rate there promised to be excitement on the trip, and although the road might prove long and hard, I preferred that to a year of inactivity. A big dinner was prepared. Mr. Leffingwell brought out some cigars which his father had sent, and while smoking we listened to a concert of selections from the great masters of music, performed on the gramophone, the machine which had made so many long hours pass pleasantly by.

Thursday, October 17.—The weather was fine, calm and clear, and we turned out at 5 A.M. to prepare a fitting breakfast. At 8 A.M. our dogs were hitched, a last hurried search was made through the house for any small article which we might have forgotten, and I closed the door on the place which we called "home" and in which I had spent many days, both pleasant and otherwise. I took a last walk round it, feeling quite sad at the thought of leaving the familiar sight of our rack with its numerous articles, the dark room, and our observatory. I took leave of the dogs, my faithful companions on many a trip across the pack ice or along the shore, dogs whose every trait I knew, and who had won my heart by their faithfulness, their cheerfulness,

and the good work they had done. And out in the lagoon lay the wreck of the *Duchess of Bedford*, hauled up on shore and listing over so much that the water stood over the railing. Deserted, full of water, with decks broken out and masts cut down, with every seam open and the sternpost broken, she made a sad contrast to the splendid ship which thirteen months previously had anchored there. Then her hull was black and well kept, her deck clean, the cabins warm and comfortable, the high mast was a landmark for far and wide, and cheerful people moved about everywhere.

These were melancholy thoughts, and for some time I stood absorbed in them. But my dogs were harnessed, they were eager to start, and there was nothing to wait for. A crack of the whip and a shout to stir them into further activity, and they jumped up, the sledges started, and I had commenced the long march for home. Mr. Leffingwell said good-bye just below the bank. Words did not come readily to us, but we thought all the more. A moment we stood with hands clasped, then abruptly said " good-bye," a silent wish that everything would go well with the other, and the partnership, which we both had done our best to keep so smooth as possible, from which we both had derived so much pleasure and carried away so many pleasant recollections, was dissolved. He started east, to look at Tjimigok; I started west, bound for Valdez and home!

Now and then I looked back at the black solitary figure, who in his turn was waving his hand at us, while high up on the bank we saw the familiar picture of our Arctic house and home. But then a point was passed, and house and ship passed for ever from view.

We moved very slowly; our dogs pulled hard, and so did Axel and myself, who were both in the hauling straps on either side of the sledge, while Hipana was running ahead and calling out to the dogs. The weather was warm, only — 12° C., and very little snow had fallen, so the unshod runners moved heavily over the salty surface of the ice. The ice was thin and continually bent under us as we pushed on slowly and heavily, stopping every now and then to have a rest or look about us. Almost every point we passed, every lagoon or every ruined house or *caché*, had some memory attached to it, and I felt

more lonely than ever when towards night we had passed all the different places which had been visited on many a walk during the winter.

On the first day we made only eleven to twelve miles during eight and a half hours' march, and we were eagerly wishing for cold weather, which would crystallize the slush on the top of the ice, freeze the surface of the snow and make it hard, thus giving us an opportunity to move with a little less toil.

On Friday, the 18th, we passed the Saviovik River and had some splendid going over the glare ice in its delta, but before then we had already been obliged to leave behind the 76 lbs. of pemmican which I had intended for use on the other side of Point Barrow. The weather had changed, and instead of the damp westerly wind we got clear weather and a light easterly breeze, but, judging by the look of the weather, we thought we should probably have a gale the next day.

Made fifteen miles. Temperature − 13° C.

Saturday, the 19th.—As we had expected, the beating of drifting snow against the tent was the first thing heard when we awoke. But, though strong, the wind was fair, and we started at 7 A.M. with two skis rigged up as masts and our tent stretched out as a sail.

At first things went easily enough. Axel and Hipana rode on the sledge, which moved at full speed, while I was running in front to keep ahead of the team. Whenever I turned round to see how matters stood, I saw the sledge lurching through the snowdrifts with the sail blown out, tight as a drum and sheering like a ship before the wind. The wind was quartering, and to windward the sledge cover was overlaid with a thick coating of snow, the men looked like moving snowmen, and snow was everywhere in the dogs' fur. Axel and Hipana had to stand on the windward runner and take good care that the sledge did not capsize, while on we went through snowdrifts and storm, skimming along at six miles an hour. But this rate was not maintained. Owing to the thick weather, we had come too close to the mainland and were brought to a standstill by the mudflats of the Sakovanukto River, where the wind had blown off all the snow, leaving the flats bare. The sail was taken in, Hipana was sent ahead, and Axel and I toiled

in the hauling straps. And toil it was! Every ounce of strength was used to force the sledge slowly ahead, and often we stopped altogether to move it along in standing pulls, a few feet at a time. But the wind grew stronger and stronger, the blinding snowstorm prevented us from seeing more than forty yards ahead, and the moment a familiar landmark appeared through the drifting snow we camped, with plenty of fuel at hand. The wind was now blowing at a rate of forty miles an hour, and it was hard work pitching the tent; eventually we succeeded, fed the dogs, and crawled into our cosy tent, which was soon covered with a blanket of snow.

Made about fourteen miles. Temperature – 13° C.

On Sunday, the 20th, the weather was fine, and we walked round the large delta of the Sakovanukto River. But towards night the wind sprang up again, this time from the south-west, and soon almost a gale was blowing. We had great difficulty in making land against it, and were more than pleased when at last we reached the high banks of the mainland, where shelter could be found and where once more we had plenty of firewood at hand.

From Monday, October 21, to Wednesday, October 23, the weather was constantly very bad, west wind with snow and sleet. We had a harder time than ever, and Axel and myself were continually working in the hauling straps. None the less the sledge often stopped, though we were continually encouraging the dogs with call and whip, mostly with the whip I am sorry to say. And the progress we made was poor, ten or at best fifteen miles a day as a reward for eight to ten hours' constant work. We saw several herds of cariboo, and once tried to hunt them, but with no other result than that we were delayed for two hours and had some chewed harness and traces to repair. Another time we saw a bear ahead who came walking quite placidly towards us, probably thinking that we were seals. When he discovered his mistake, at a distance of about three hundred yards, he was not slow to turn round and be off, hotly pursued by Axel and myself. We chased him for about twenty minutes, but he had the advantage of us in the soft snow and escaped. However, he must have been rather interested in our appearance, as he returned later during the night, when we had camped. Then, as before, he was

badly frightened, for our dogs, who were roaming about at large, agreed to fight the common danger and raised such a howl that Mr. Bruin made off in the greatest possible hurry, judging by the length of his strides which we could see in the snow on the following morning. We heard the noise, but stayed in our warm bags and slept peacefully on, trusting to our good dogs to keep our uninvited visitor at bay.

At Oogliktoonik we cached some more food for Axel's return, but even with this decrease of weight (60 lbs.) our sledge was still very heavy to pull. As it was almost impossible to move the sledge and our dogs were rapidly becoming worn out, we divided the load between our two sledges. Whether this plan was an improvement was very doubtful, but at least we now had a sledge each, the moving of which depended upon our own exertions, so that we had no cause to complain of the lack of energy displayed by the other party, which had been the order of the day before we divided the load. At any rate on we went with our divided loads, Axel with three and I with two dogs, over soft and sticky snow, through the worst weather which we had yet encountered, sleet, snow and fog, and without the longed for fall of temperature.

On Thursday, October 24, we reached the delta of the Colville River and were entangled in the mudflats, which caused us several hours' hard work. More than once we had to take the sledges one at a time over the wind-swept flats, where every particle of snow had been blown off, leaving the gravel and silt bare. We picked up what small pieces of wood we found on our march and camped at 5.30 P.M., after going about eight miles in ten hours, and hoping that we had now crossed the hateful flats. But camping on the salty ice was very uncomfortable, our sleeping bags became soaked, and we had recourse to a sort of drainage system to make the water from beneath our stove run out of the tent instead of being absorbed by our sleeping gear.

To make sure of crossing the wide stretch of Harrison's Bay without having to camp on the thin ice, we started before daybreak next morning. We placed the rest of our firewood on our sledges, so as to have enough in case fortune should be against us and we should be obliged to camp on the ice of the bay. The mudflats, which we thought we had left behind, still

caused us a lot of hard work, and it was not till after three hours' travelling, at 10 A.M., that we reached the ice itself. But the work there was even worse than anything we had had before. It seemed as if our sledges were sucked into the ice; all of us were in harness, the dogs were made to work to the utmost of their ability, and still we crawled along to the westward, going less than three-quarters of a mile per every hour's toil.

And to crown our hard lot, it was so foggy that we could not see more than a quarter of a mile about us, but had to work with the compass and the wind as guides. More than once we saw pressure-ridges looming through the fog and looking exactly like land. For a few minutes we rejoiced at the thought that we could camp on a sandbar or on the beach with plenty of wood to burn, but only disappointments were in store for us, and what we thought was land invariably turned out to be pressure-ridges.

We kept on till after dark, hoping to reach the other side of the bay, but the night fell, we stumbled on and on, until at last we could not see to walk any further and had to camp on the ice, which was less than a foot thick. It was a very unpleasant sensation, the ice bent under us, and we knew that a pressure during the night might open up the ice underneath us. Everything we had by way of long pieces of wood, our snow-shoes, skis, some of the tent poles, ice spears, etc., were placed on the ice to give a better support; then we crawled into our sleeping bags, trying as best we could to keep the small flame of our stove burning. All we had to drink was a little water, rather brackish; for the rest we ate cold pemmican and crackers, and after that tried to forget our craving for something warm in the arms of sleep.

Saturday, the 26th, arrived without any change in the weather; it was still foggy and warm, only — 8° C. We had nothing to drink that morning and worked all day on crackers and chocolate. We progressed very slowly, even more slowly than on the previous day, as both men and dogs were in want of something to drink, the snow on the surface being saturated with salt. We took many soundings with our ice spear, and towards night we were delighted to see the depth decreasing. The difference was very little, but we had hopes of being near land now.

Then night fell again, and once more we had to camp on the ice, trusting to luck that it would hold. We dared not eat pemmican any longer for fear of thirst, but lived on a purely vegetarian diet, and our meal that night, after a day of hard, incessant toil, was again chocolate, crackers, and a handful of snow.

But while we were eating this very frugal meal the thought occurred to one of us that the candle we had burning in the tent would do for heating as well as for lighting, and to each man's ration was added a candle. We filled our bowl with snow and began to melt it over the small flame, but it took us a whole hour to get a cupful of water. The experiment was repeated on the morning of Sunday, the 27th, and we started at 7 A.M., wandering westward over the ice, toiling as never before, thirsty and cold. But at last our trials were at an end, for at 11.30 we saw land indisputably and distinctly looming through the fog. We soon reached it, and the fire we made the instant we were on firm ground could have been seen far and wide. And there we sat, warming ourselves and drying our wet clothes or watching the soaring flames, while our wet sleeping gear was hung as close to the flames as we dared, and all the dogs lay curled up round us. After drinking a barrel of tea we started afresh, but other disappointments were in store for us before we had gone two miles. There was something about the lay of the country which roused my apprehension that we were too far south, and before long it was only too evident that my worst fears were justified. When the fog cleared we saw a point of land to the north of us, at least fifteen miles distant, and it was there we should have been instead of where we now were. We felt so miserable at this discovery that we camped at once, at 3 P.M., and tried to drown our sorrow in pemmican and more tea, as our thirst was not yet satisfied.

With the lifting of the fog the temperature became colder, and during the night it was as low as — 18° C. That at any rate gave us a ray of hope, as it would help us to travel faster, and we began talking of the immense distance which we expected to cover on the next day.

But travelling in the Arctic is always full of disappointments, and we made no startling travelling records during the following days. One day was spent in wandering round the bay we

had come into by mistake, and although we had no slush ice there, the snow was so deep that we sank almost knee deep at every step. The sledges dragged hard, the dogs could not pull in the deep snow, and the small caravan moved over the ice at a pace which might almost have been beaten by a snail.

Of wood we had very little. One night (the 28th) we had to search through the whole neighbourhood to find sticks enough to cook our supper, but, although our search was continued for more than an hour, we hardly found enough to prepare two meals. Hipana did not like our way of travelling, and once when we were crossing a wide bay and had to sleep on thin ice he told us that he had had enough of it and wanted to go home. I laughed at him, thinking it was an empty threat, but the boy (he was only about fifteen years old) put his clothing into a sack, took provisions for about three days, and then proposed to run home to Flaxman Island, more than one hundred and eighty miles distant. Of course I had to interfere and tell him to stop, but he wept and wanted to go. To pacify him I brought out some extra food, but from that day we were careful to let him sleep furthest away from the door, so that he would have to wake us in case he tried to escape during the night.

The worst of it was that we were now entirely lost. We knew that we had to go west and north, so we kept along the shore in that direction until October 29, when we came to a grave which I knew by hearsay. We immediately struck out over the ice, heading for Cape Halkett, but we did not reach it till the following day. The weather was now beautiful, perfectly clear and cold, the going was good, or at least comparatively good, and on October 30 we made twenty-four miles in eight hours.

On October 31 we were out on the coast, well past Cape Halkett, and although the wind was blowing right into our faces and the temperature was low, — 29° C., we made good progress. That day we cached the last of the food for Axel's return, and the sledges were getting lighter. Four miles west of where we came out upon the coast we passed the ruins of an old house which once had belonged to John Grubben. The house was well built, but the wear and tear of the Arctic climate was telling sadly upon it; part of the roof had fallen in, the door

had disappeared, and the whole thing, once a well-known stopping place, where weary travellers were well treated by the hospitable John, was now filled with snow to such an extent that we could hardly crawl into it. It was still too early in the day for camping, the trail to Point Barrow was yet long, our sledges were emptier than I cared to think about, our dogs foot-sore and tired, and we had to move on against the increasing wind, which cut through our clothing, froze our wrists and faces, and made travelling hard. We kept on driving till after dark, as there was plenty of wood about, and we wanted to make as long marches as possible. Besides, it was so bitterly cold that the thought of having to pitch tent was far from tempting, and we consequently put it off as long as possible, till at last the darkness forced us to camp.

When the tent was raised and all our belongings inside it, Axel generally made a big fire outside, on which to cook the dog-feed while I began to prepare our own food. As soon as the dogs saw that the big kerosene tin which we used for dog-feed was filled with snow or ice, they would come up to the fire and watch Axel's every movement with the greatest interest, and never move until the food was ready. It took quite a long time, as a rule about an hour or even more, and I must admit that I never envied Axel this part of the work, which meant freezing stiff on one side and roasting on the other. And when the food at last was ready, it was too warm to eat, and to the great dismay of the dogs it had to be taken into the tent to cool. The cheated animals set up a fearful howl, and every now and then they would poke their noses under the tent or try to force the door. The only reward, however, which they received would be a cut of the whip, not very hard, but just enough to show them that the tent belonged to us and that their place was outside. By the time we had eaten our meal their food was cool enough, and the three of us turned out to feed them. Still howling, but now with delight, they again watched all our movements, most of them sitting on their haunches with their noses high in the air, while others were jumping up against us as if to make us remember their existence. Our pets were permitted to lick the tin inside as well as outside, which, however, is rather a dangerous habit for dogs to acquire, for more than once we have been roused from our sleep by the mournful

howls of a poor animal who had awaked during the night, and, feeling hungry, had tried to get some more food out of the tin, with the result that the tongue froze to the cold iron. But they soon learned the danger, and by the time they had all



GROUNDED ICE OFF PITT POINT.

been in trouble on that account they were clever enough to leave the tin alone.

On November 1 we passed Pitt Point. The surface was good, but the weather was now very cold, and we had a wind of fifteen to twenty miles an hour, and that blowing right into our faces, which, with a temperature of 33° C. below zero, was anything but pleasant.

At Pitt Point we saw the heaviest grounded ice we had ever seen, pieces of old ice being forced almost up on shore, forming a dome of clear blue ice about 25 feet high and 100 feet long. We did not dare to trust to luck again over the rather thin ice of Smith's Bay, and so we made up our minds to follow the coast instead. On November 2, just as we were about to camp, we saw some umiaks cached not far away, and we at once went up to look at them, hoping to find people in the immediate neighbourhood. However, we were disappointed; there was no one there, but natives had been at the place the same day, judging by the fresh tracks we saw round the boats. They had been digging one of them out of the snow and had commenced to take the skin off, but they had not been able to finish before the coming night had forced them to leave the work half done. It was too dark for us to follow the trail, so we curbed our

impatience, pitched our tent, and hurried into it. It was still blowing, and the mercury of our thermometer was frozen.

Next morning the trail was almost covered with snow, and only here and there, at rather long intervals, were we able



NATIVE HOUSES NEAR PITT POINT.

to see it, but it was evident that it had been used a good deal, as it felt rather hard under our feet. We had travelled for an hour and a half, when all at once the dogs pricked their ears, sniffed at the air, and were off, pulling the sledges with ourselves on top, as if the weight on the sledges had all at once gone down to nothing. We rounded a point of the coast, and behind it, in a small cove, we saw several houses. Some children were playing outside them, and when we hallooed they stopped to see what was the matter. One look was sufficient, and the little ones were scattered in all directions, disappearing into the houses, from which in a remarkably short time emerged one crawling person after another. In what seemed a never ending stream they came scrambling out and hurried down to the beach to meet us.

We let the dogs go, and in a fighting mood they pulled the sledge up in the middle of the village, where all the loose dogs had gathered to fight the new-comers. All mutual bickerings and quarrels were forgotten in the common feeling that they had to fight for supremacy, and that at once. As soon as we had shaken hands with one native, off he went to the fighting dogs, and with a club order was soon restored. As a further assurance of peace all the dogs belonging to the village were tied up, and ours, which were left running at large, were soon

poking their noses into every corner, trying to find meat or other eatables.

The natives were very kind to us. They unlashed our sledges, took everything into the houses and fed our dogs, while a pot of coffee and some seal meat was placed on the stove in almost every cabin of the village, and the mistress of each was waiting and eager to have us come to her house and eat the meal she had prepared. And then they began to ask us where we came from, what kind of a trip we had had, and where we were going. When I showed them my destination on a map they would not believe me; it was much too far— "Oh, no, white man plenty lie!"

We stayed with them all day, living on the fat of the land, attending to our many frostbites and the feet of our dogs, while listening to their tales of events which had taken place at their permanent home at Point Barrow. And we were in fact only too glad to stay, for the weather was still very cold, the mercury was frozen, and it was blowing from the south-west.

Our hosts were exceedingly kind. They gave us the best of everything, their wives and daughters overhauled our clothes, and one old woman sat up all night to mend my fur pantaloons and other things which were in need of repair. When night fell, the people who owned the igloo in which we stayed sent their children out to find a sleeping place somewhere else, while we took their places and rolled ourselves up in their blankets, our sleeping bags being still wet from the journey across Harrison Bay.

The next morning the whole village saw us off, and we followed some old sledge tracks towards Point Tangent. We made splendid time, the more so as we had got a new dog, a large powerful animal, which I had bought on credit from the man who had entertained us on the preceding day. However, this addition to our team was of very little real use to us, as he broke loose during the first night and made for home, which was about twenty-five miles distant.

On Wednesday, November 5, we reached Elson Bay, and, following the sand-spits, we made good progress along a well-beaten trail. People were living all along the road, and we could have got many hot meals a day if we had cared for them,

but we had been longer on the trail than we expected and consequently wanted to lose as little time as possible.

At night we stayed with the Eskimos. It is not an unmixed pleasure, as they often sit up all night to play a peculiar kind of whist, which is, I believe, their own invention. The course of the game is not smooth, but is marked by continual quarrels and discussions. As they are smoking all the time, the men as well as the women, the air at last becomes suffocating, but still it is better to sleep in a house than in a tent, and we were willing to put up with considerable inconvenience in order to do so.

Besides, it was almost impossible not to like them or be anything but pleased with the treatment we received at their hands. They all knew who I was and took the greatest interest in everything pertaining to our expedition. From beginning to end we were treated with kindness and consideration, were always given the place of honour, and all they had was ours.

But in spite of everything I was exceedingly anxious to reach Point Barrow. Rumours were abroad that the dogs which the S.S. *Narwhal* had failed to land at Flaxman Island had been thrown overboard, but I could see no reason whatever for such an action and tried not to think of it; it would be a very heavy blow to Mr. Leffingwell as well as to myself.

At about 1 P.M. on November 8 we reached the village at Point Barrow. After that we were soon in Tom Gordon's house, where we had some lunch. And there my worst fears were confirmed. The dogs had not been landed, only the provisions, and not even all we had a right to expect. After lunch we started for the whaling station at Cape Smyth, where we found Mr. Brower, but he could only repeat what Tom Gordon had stated, that no dogs and very few provisions had been landed. But, in spite of disappointments, it was a splendid feeling to be once more in a large and comfortable house where a bath was waiting, a razor ready stropped, and clean clothes provided for me. In an hour I had made my toilet and emerged from the bath-room in borrowed feathers from top to toe.

There is a big whaling industry at Point Barrow, and all the natives living there are engaged in it. Mr. Brower's station

employs about seventy men with their families, and they get all they need, and, as far as I can see, a little more, from him. Some get a certain amount of food, and during the winter, when the ice lies close inland and there is no whaling, they



NATIVE HOUSES AT POINT BARROW.

leave the station, go further into the country to hunt cariboo and bears, or to set traps for foxes.

Others remain at the station all the year round. They are provided with houses to live in, and every day the men, as well as the women and children, came over to the storehouse to get their ration of food or clothing. The houses, in my opinion, do not add materially to their comfort and welfare, but the system of paying them in food and clothing is better for the natives than any other way. Each man costs the station about $250 a year. But the income derived from whaling, when carried on systematically, is great, and the profit made by Mr. Brower and his associates is considerable, and was increased by commencing an autumn whaling season, which has proved very successful hitherto. When I was there Mr. Brower had 5,000 lbs. of whalebone at a price of $4.50 to $5.00 per lb. in his storehouses, and besides that there was the spring whaling, which until two years ago was his only source of income.

But he has no monopoly of the whaling industry; there are

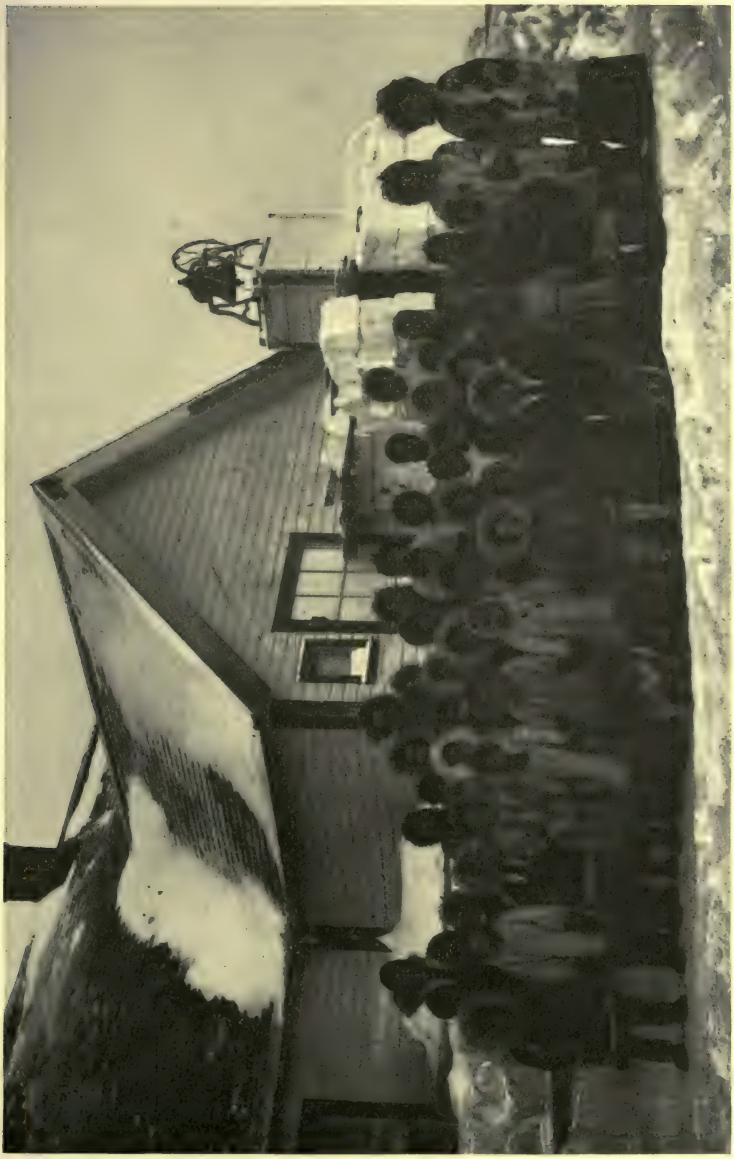
three other stations, all under white men, but by no means so large as Mr. Brower's, while two natives are working up a very good business under the patronage of Mr. Spriggs, the Presbyterian missionary, who has been in the country for six years.

No one is so constantly watched and talked of on the frontier as the missionary, and many stories were in circulation about this particular man. I had heard much of him before I saw him, and I must admit that I had never thought highly of him or his work, but when I came to the field of his activity I set about investigating the different stories I had heard or even seen in print. But from numerous conversations with the white men living at Point Barrow, and whose word could be trusted, or with the natives, whom, according to what I had heard, Mr. Spriggs had wronged, I found out that the stories, as far as I could investigate, were invariably groundless, and my opinion is that a missionary like Mr. Spriggs is doing much good among the natives, who all like him very much and speak highly of him.

I do not mean to defend *all* the missionaries; some whom I met on my way back ought never to have held that position, but more do good work under conditions which are not always easy to grapple with.

The Eskimos have strong religious tendencies, but, like all savage people, are apt to carry them to extremes, and small independent teachers appear now and then in the ranks of the natives themselves. They get followers, possibly only for a short time, but as long as they have them these inventive people are a power to be reckoned with in an Eskimo community. Point Barrow, like every other place, has had its "home-made religions," although they do not flourish side by side with the missionaries, and the native prophets are usually clever enough to betake themselves to places where their sometimes very extraordinary teaching cannot be contradicted by their white colleagues.

Every Sunday the church bell sounds over the silent country, vibrating far and wide through the cold air, calling together all who can travel to hear the word of God, and telling those who cannot come that it is time to pray. The people come from far and near; team after team drives into the village, all



SCHOOL CHILDREN AT POINT BARROW.

in the direction of the church, and all bringing loads of men and women with numbers of children, dressed for the occasion in their best clothes, all looking clean and very happy. The service begins with a hymn. The Eskimos sing splendidly, and no surroundings can be more in harmony with a religious service than are those of the Arctic. The missionary, if a sincere man, is deeply interested in his work, and has spent considerable time and labour in learning the language of the people; preaching in their tongue, he earnestly impresses them with our teaching and morals, and achieves results which must indeed be called remarkable. Where fifteen years ago drinking and worse were the usual Sunday amusements of the inhabitants, they now all go to church, and after that they pay quiet visits to one another or come to the stations to talk with the owners. They have something new to live for, a life after death, and they are happy and contented.

Point Barrow has changed much in these few years, and the change is mostly due to men like Mr. Spriggs and Mr. Brower, each in a different way. Besides being a preacher of the Gospel, Mr. Spriggs is a physician, and has, I am sorry to say, a large and extensive practice. Such diseases as typhoid fever, measles, and whooping cough are almost permanent visitors in this town of six hundred souls. Every day Mr. Spriggs goes about visiting his patients in storm and calm, and he is often called out of his warm bed at night to put on his furs and follow a call of mercy which may perhaps take him several miles away from his house. It is a big as well as an important addition to his missionary duties, and the Government ought to have a qualified doctor in the place.

But one more class claims the attention of the Eskimos, the school teachers. The Eskimos go to school, the grown-up people as well as the small boys and girls. Yet schools are not compulsory as with us; the Eskimos go there because they like it, and because the older ones at least know the immense advantage of being able to read, write, and talk the white man's tongue. The Eskimos are industrious and intelligent, and a couple of years' schooling gives them sufficient knowledge to write a letter to each other or to the white men along the coast. The school teacher at Point Barrow, Mr. Hogsworth, with a native assistant, a girl who had been for ten years at Carlyle,

daily teaches about sixty natives, and many of them can read a story and write a very intelligent summary of it.

Besides reading and writing they are all taught mathematics and religion. The girls furthermore are instructed in needlework, while some of the best of the pupils are taken in hand by the wives of the missionaries and school teachers and taught the household duties of a white woman, as well as how to cook and prepare food. All in all, the Eskimos are fairly well taught by now. Only it is a pity that they should have begun so late and that their first acquaintance with white men should have been made through the unscrupulous whalers.

However, I had to start for the south; my clothes were repaired, and the tent cover which Mrs. Brower had made for me was ready. Mr. Brower had bought me the dogs I wanted, so that I now had a good team; he had likewise given me food to make up for what the whalers had stolen, and in every respect he had done much for my comfort on the trail. I could get no one to travel with me, and had already made up my mind to go alone, when, the day before I intended to start, a native came from a place further down the coast. He was going back on the following day, or rather such were his intentions, but my friend met a woman, an old widow with several children, and she made him change his mind. She had long been a public charge at Point Barrow, where she and her children had been fed and clothed by the white men, and consequently they looked with interest at the opening courtship of the two. I also was interested, but for another reason, for what I had heard made me fairly confident that my companion would not be induced to go at once. I sent word, and he came up to the station—a happy bridegroom! The two had been married by Mr. Spriggs, and now they insisted on having a honeymoon only of one day and night. I could do nothing, so I agreed to wait, and the native solemnly promised to come on the following morning. But a kind Providence extended his honeymoon; a gale sprang up during the night, which kept us there until the 15th of November, when I finally took my leave of the white men at the station, whom I was glad to have met and who had been very kind to me.

Mr. Brower promised to fit out Axel so that he could reach Cape Halkett, where we had cached food for his return trip,

and then, after the sun had left this part of the world, I started to follow it, and expected shortly to see it rise over the southern horizon. But I never saw the whole sun before it reached its most southerly point and returned to bring warmth and light to the northern zones.

My travelling companion left his newly-wedded wife in the care of Mr. Brower, who promised to take care of her until he himself returned, and we drove out of town as fast as our dogs would carry us.

It was a glorious day, rather cold,—30° C., but calm and clear. The wind had packed the snow of the trail till it was as hard as brick, the sledges flew over it, and such of my old dogs as I had taken with me were rested and in fine condition. The new ones I had got pulled well, my sledge was light, and on we went. Cape after cape was passed; igloos and tents perching high on the banks had no attraction for us, whose only aim was to go southward, to use the fine days as long as we had them; besides, our goal for the day, a native shanty, was thirty odd miles distant. And the reddish colours faded out of the sky, dusk set in, but over the hills rose the bright orb of the moon, lighting up the country far more effectually than the faint light of the day, and yelping, with their tails lifted high in the air, our dogs followed the man ahead of them, trying to play with him. The last point was passed, and we saw a faint glow some way up a ravine. We started towards it, the dogs smelt it, and we had barely time to throw ourselves on the sledges when they whirled by, and we were at the door. The people who had heard the noise came out to greet us, and our day's work was done. The natives unharnessed the dogs, fed them, placed our sledges so that the dogs could not get at them, and cooked food for us. Then we had a smoke, a short talk, and turned in, as the next day we had to be on the trail again. Our host for the night was a young native, married to the daughter of a white man, a Portuguese, who had a small whaling station at Point Barrow, and for whom the young man worked. The girl was intelligent and rather well read, the husband a nice young Eskimo, and in spite of the difference of race they seemed to be very fond of each other.

The next day was fine again, and with shouts and calls to the dogs we hurried along over the frozen ground. We passed a

large herd of domesticated reindeer, at least two hundred, all belonging to a young native, an unmarried man, the best match in the country. Many were the mothers who schemed to bring their daughters in his way; but further down the coast he had a sweetheart, and from the instructions he gave me regarding a letter to her I understood at once that it must have been a very tender epistle he entrusted to my keeping. Later on, when I saw the girl, I understood quite well why he had chosen her, a poor orphan, though far better matches had offered closer at hand, for the girl was one of the most perfectly built Eskimo women I ever saw; she was pretty and kind, she loved him dearly, and blushed whenever we teased her about him. She was now learning to keep house in European fashion; she could wash and sew, bake bread and raise it with yeast; so upon the whole our young Eskimo might have fared far worse.

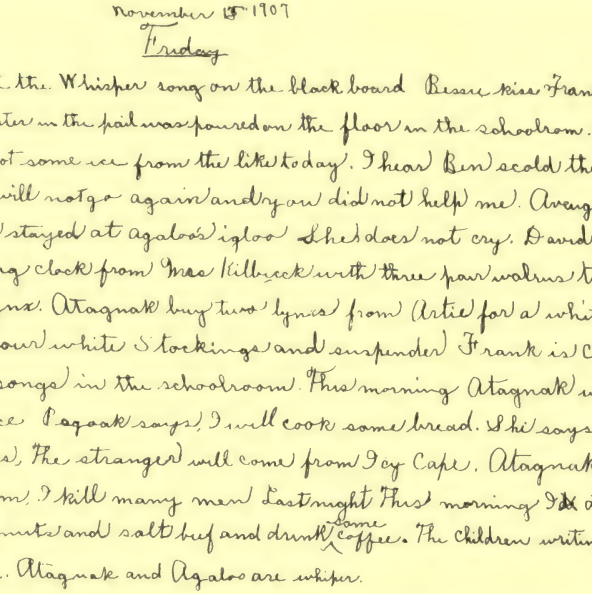
The moon was very good to us. Every night it shone with remarkable brilliancy from the clear sky and made travelling a pure delight, lengthened our days indefinitely, and almost turned the Arctic night into day.

The places we stopped at were usually not very roomy, and numbers of natives, who took advantage of the moonlight for travelling, were found in every house and took up every square inch of room. But the rule "Where there is heartroom there is also houseroom" holds good here, and, even if we were much crowded, no one was ever sent away.

One night in Pearl Bay I stopped at a small house only 9 by 18 and 5 feet high. There were eight grown-up people in it when I drove up with my Eskimo friend, and the place looked very crowded. I asked the owner whether he had room for us; he grinned, they all grinned, and asked where I was going to sleep if not in the house, and the fellow fired off his only English words, "Me savy, him plenty room." That settled it; I was squeezed in between two other people, and when at last we were arranged as well as possible, the owner and his wife pressed themselves into a corner, where they remained sitting all night. Such is hospitality in the Arctic.

Next morning we had to turn out when the cooking commenced, as our sleeping gear would otherwise have been more or less burned by the hot stove, on which a big potful of seal meat with flour was being cooked for us. We all ate out of

the pot and had only two spoons between us, but we managed very well, and at daybreak four different parties started, three for the north, one for the south. My native companion thought that he was in need of rest, and as I could not induce him to go, I travelled on by myself. Everything went beautifully, the ice was level, and the dogs pulled well, so I made splendid headway,



November 18 1909
Friday

I wrote the Whisper song on the black board Bessie kiss Frankie Atigu. The water in the pail was poured on the floor in the schoolroom. Peter and Ben got some ice from the like to day. I hear Ben scold the dog you will not go again and you did not help me. Avaqunnaq's sister stayed at Agaloo's igloo She does not cry. David bought the big clock from Mac Kilbuck with three pair walrus tusks and one lynx. Atagnak buy two lynxs from Artie for a white Calico and four white Stockings and suspender Frank is Copying my songs in the schoolroom. This morning Atagnak went on the ice Paqaak says, I will cook some bread. She says, to day I guess, The stranger will come from Icy Cape. Atagnak says, I dream. I kill many men Last night This morning I ate some doughnuts and salt beef and drunk some coffee. The Children writing in the setting. Atagnak and Agaloo are whisper.

A PAGE OF LITTLE SHOODLAK'S DIARY.

and in the evening (November 18) I came to Wainwright Inlet, where I was kindly received by Mr. and Mrs. Kilbuck, the school teachers of the place.

They had a splendid large house, in which one room besides the school-room was set apart for the use of the natives. They sat in a clean, warm, and well-lighted room, playing games, reading, singing a little, or writing their diaries. This last was the invention of Mr. Kilbuck, who had succeeded in making the natives interested in it, and it was remarkable to see what boys and girls about twelve years old could write. I got one diary written by a little boy about thirteen years old, who had only been to school for twenty-two months, and before

then had never known a word of English. I admit that he may have been one of the brightest pupils, but when I asked for one of the twenty diaries which Mr. Kilbuck had in his keeping it was difficult to decide which was really the best.

As a good illustration of what can be done by this people if they are properly taken care of, and have a teacher who can make them interested in their work, I have inserted one of the eight pages of little Shoodlak's diary.

Besides, they write letters to their friends along the coast, as far south as Point Hope or as far north as Point Barrow, and whenever a traveller drives into camp they all crowd round him, hoping that he has letters for them, and when he leaves he usually is burdened with an extra weight of several pounds of paper.

The letters do not contain much, but the little they contain is interesting to those people, viz., a description of a particularly big and splendid meal, the shooting of a bear, or accounts of the seal hunting. It is good practice, and the teachers, who are interested in their work, do all they can to encourage letter-writing.

I stayed a whole day at the house of Mr. and Mrs. Kilbuck, partly for my own sake, partly for theirs. The lot of a school teacher in this country of great distances is not enviable. Months go by when they never see another white man, and when one arrives his company must be enjoyed to the utmost. We sat up late and talked about what had happened to us since we "came in"; events which in themselves are small and insignificant rise into importance and are discussed and considered from all sides. We had not been at this place when we came along the coast a year and a half ago, but the natives had seen our vessel and were grieved to hear that it was "dead" (to use the native phraseology). There were about eighty natives at the place, and the school was daily visited by about twenty-five. Mr. Kilbuck had made the natives utilize the coal mines, which lie in a small river close to the sea. They burn coal themselves and also sell it at $20.00 per ton to the white men at Point Barrow or to others. It is a new source of income to the natives, but they are not very industrious, and but for Mr. Kilbuck's example they would only mine enough for their own use. However, they like the money, they work

for it, and the time may come, or ought to come, when these natives will be able to live on the mine, by supplying coal to the schools at Icy Cape, Wainwright Inlet, and Point Barrow. If the plan succeeds it will only be another of the endeavours of the American Government to teach these people to do really useful work.

On Wednesday, November 20, I left the kind people at Wainwright and started alone for Icy Cape. At first all went well, but then I struck some rough ice and had an awful time. I had to go ahead to break the trail, and the sledge, being thus unguarded, capsized time after time, was run into a snowdrift, or brought up against a sharp piece of ice. Whenever any of these things happened, as they very often did, I had to go back to the sledge, right it, dig it out of the snow, or disentangle it from the ice, as the case might be. The dogs had now learned to follow my every movement, and when I had to attend to the sledge they at once rushed after me and got their traces badly tangled. In their endeavours to get out of their difficulty they would then bite them in two, and when the sledge was ready to move I had to disentangle the traces of my nine dogs, which were always in a hopeless state of confusion. Then I had to knot together the chewed traces, take the hauling straps over my shoulder, and start the sledge from ahead of the dogs. For two minutes all might go well; then again I would have a capsized sledge, and the same trouble would begin afresh.

It was the hardest day I had been through yet, and I felt as if I could go no further when I came to the sand-spit I had been making for. But there was a house only three miles away, and after a short rest we started again. It was dark, the moon had not yet risen over the horizon, and the sand-spit was bare of snow, only, as it were, glazed over with ice, which made the going very hard. It cut the feet of the dogs badly and wore through their pads; even my kamicks were torn, and all the time it was getting darker and darker. There was a trail on the sand-spit, but I could not see it, and I had to light a candle and shelter its feeble flame from a light draught from S.W., while I toiled and toiled, calling and encouraging my footsore and weary animals to follow.

At last, at 8.30 P.M., we heard the faint bark of a dog. The sound put new life into my dogs and myself. We all did our best,

but very slow was our progress towards the house. The sledge was very hard to pull over the pebbles, and when we had stopped three times in five minutes to recover our breath, I unharnessed the dogs and started for the house to get assistance. The natives went out at once, and shortly afterwards my sledge and everything belonging to it was brought into camp. After the hard day's work it was a glorious feeling to rest, to stretch my legs and remove my outer garments. I was waiting for my food to be cooked, but before it came I was in "dreamland," where everything I had gone through during the day kept on repeating itself, until a woman woke me up with the welcome news that a meal, consisting of flapjacks, molasses, and bacon with crackers and tea, was ready for me.

It is always the custom in Eskimo houses, when a white man has come into camp and eats of his own food, for him to give the owners what is left of his meal, and they consequently cook an immense amount of food if the traveller does not himself take care to prevent them. In this case I had been asleep, and the woman had profited by my sleep to make twenty-seven flapjacks, fry about six pounds of bacon, and make a barrel of tea. It was telling hard on my food, but I was too tired to protest.

They told me that the ice was very rough from their house to Icy Cape, that I should never be able to reach it alone, and that I had better take one of their sons with me. I did not want a repetition of the toil of the day before, so I consented, although I had to pay the boy handsomely. They were rather strange people I had fallen among. For one thing, they were highly religious, in theory, and prayed for blessings on everything—on their water and their pots before they commenced cooking; they said grace for me, and afterwards for themselves. Then they probably thought that they had done their duty towards God, and commenced gambling. Everything was staked: clothing, food, and dogs, and comparatively big stakes changed hands in this curious household. Next morning they begged hard of me, and as I was not inclined to give them anything, they stole whenever my back was turned. Then they fed their dogs out of my scanty food supply—of course without my knowing it—and upon the whole they were by far the most villainous natives I had ever met.

But it was true that the ice was rough from their house to

Icy Cape, and I was glad I had taken the boy with me. We had a hard day's travelling and did not reach the school-house where we intended to pass the night until 8 P.M. My dogs were too tired to fight, and we entered the village without making any noise. When I pushed open the door of the school-house, the teacher, Mr. Fellows, was playing some games with the natives. He looked up casually, expecting me to be an Eskimo, and this was indeed his first impression of the fur clad and dirty figure who stood in his room beating the snow from his furs. But then a great smile overspread Mr. Fellows' features; he had discovered that the traveller had a beard, he jumped up, looked at me for a little while, stepped across some children who were playing on the floor, shook hands with me, and by way of starting a conversation told me that I looked as if I might "be a white man."

Of course I knew Mr. Fellows from the time we went up and stopped at Icy Cape, and I had heard that he was still there, so I had the advantage of him, who did not know what to make of me. However, he immediately turned out the Eskimos, lit a fire, and was soon busy cooking, and all the time he must have been thinking "Who can he be?"—for all of a sudden he rushed into the room, where I stood washing myself, and asked me smilingly whether I was not Mikkelsen. I thought he had recognized me; but such is the hospitality of the Arctic that a perfect stranger may arrive at a house and at once a meal will be set before him. If he tells his name, of course his hosts are pleased, but if he is not inclined to do so, no one will ask him who he is. They may wonder, perhaps, but asking is not considered good manners in Alaska.

Mr. Fellows was very glad to see me, as I was the first white man he had seen since September, when the last steamer had passed. And no wonder, for the life he lives as a single man, with no one to speak to but the natives for month after month, must be deadening. I have been kindly received in many places, both before and later, but nothing equalled Mr. Fellows' hospitality. I was very tired, and when I had eaten my supper I wanted to spread out my sleeping bag and go to sleep. But Mr. Fellows would not hear of that; I was to sleep with him in his bed, the best and warmest place in the house. I consented with pleasure, and was soon fast asleep.

I had intended to start the next day, but my kind host would not let me go, and I promised to stay one day more. My stay at Icy Cape, however, became longer than any of us had expected, for during the day a furious gale sprang up, which lasted three days longer. It blew at times as much as fifty



HOMEWARD BOUND.

miles an hour, and I was glad and thankful to be in so substantial a shelter as the Government school-house afforded.

One of my dogs had broken down on the trail and was perfectly useless; his four paws were bleeding and almost raw underneath. The poor beast suffered agonies when walking, and I traded my only rifle for a dog. The animal I got was the best to be had, which is, however, not saying very much, and it caused me much trouble later on.

About a hundred natives were living at Icy Cape, and about thirty-five persons attended the school. As everywhere in those parts, the pupils were of all ages, and it is not an uncommon sight to see father and son sitting on the same bench learning to read or write, and it is almost invariably the case that the son is the cleverer of the two and has to help his father out of school hours. There are no missionaries at Icy Cape, and the natives themselves hold a sort of service every Sunday. They sing some hymns, a prayer is said, and it often happens that some of the more advanced among them deliver a sermon.

A young man, Oojooaktok, wanted to go down the coast, and we soon agreed that he and I should travel together. He was a nice fellow, and I never had any reason to regret our association, as he was not only clever, but also helpful and willing.

Oojooaktok knew what he was about when he came and asked for permission to travel with me, for a herd of reindeer were expected at Icy Cape, and some young men were wanted as apprentices. He reasoned that Mr. Evans, the assistant superintendent of the reindeer herds of Alaska, would thus have the opportunity of seeing him before any of the other young men who stayed at Icy Cape. He wanted to go with me until we reached the herds, then he would go back with them. Oojooaktok was in love with a nice young girl, who in her turn liked another man better, but he knew that she would take him if he, and not the other man, became a herdsman. It is the old story which repeats itself all over the world: the man who wants to win a girl, even though some one else may hold her heart; and many times during our life together he would tell me about the girl, her many good points, the beautiful clothes she could make, and the dishes she could prepare. Yes, Oojooaktok was in love, very much in love.

CHAPTER XI.

FROM ICY CAPE BACK TO CIVILIZATION.

Leave Icy Cape—Sledge breaks down—Meet Natives—Travel with them—Arrive at Cape Lisburne—A Blizzard—Hard travelling to reach Point Hope—The Missionary—The Natives—Leave Point Hope — Keevalina—Kotzebue Mission—Dogs giving out—Arrive at Candle—Civilization again.

We started on Monday, November 25, and Mr. Fellows was loth to say good-bye, which to him meant other months of solitude, and of none but native company. But the trail before me was still long, I had only covered the smaller part of it, and as it was I had already stayed too long, so I was forced to refuse his invitation to stay "only one day more." When some walrus meat we had bought for dog-feed was broken out of the ice cellar at 9.50 A.M., we cracked our whips at the dogs and were again on the trail. But when we came to the last of the huts it was almost dark, and we accepted the invitation of the inhabitants and stayed in their dwelling, which was half house, half tent. The walls were constructed of turf, supported by a few pieces of wood, and the tent cover was stretched over it. It was small but warm, and the Eskimos, with their usual hospitality, gave us the best places and took the worst themselves. We were off early in the morning. The weather was splendid and the moon still shining, but it was waning faster than I liked, being at this time smaller than a quarter. The moon is certainly a great blessing in the Arctic, and at this time of the year travelling without it would be very slow, as we have only a few hours of twilight in the middle of the day.

At noon we caught a glimpse of the sun just peeping over the hills to the south, and I hoped soon to be able to see more of it, as I ought to travel faster than it could do. But in the Arctic what one "ought" is not always what one "can" do. As it was, bad weather, heavy going, tired dogs, and sledge break-downs delayed me so much that the sun ran away from me,

and the glimpse I saw on November 27 was the last before December 28.

We began the day by following the tops of the sand-spits, but it told so heavily on the runners that I saw the sledge would break down hopelessly far from help and assistance. Consequently we gave up travelling on the sand-spit and went down to the ice, swept bare by the furious gales which had been blowing; the surface thus exposed was so sharp that the dogs were all limping after a couple of days' travelling over it, and we had to repair our kamicks every night. We camped about 2 P.M., when the daylight was already disappearing, and before we had pitched our tent and fed the dogs it was so dark that we had to use a candle to work outside, which, however, did not matter much, as the weather was so fine that the flame stood immovable and the candle burned down, leaving a thin tube of stearine all around the flame.

The weather remained fine and we ought to have made good progress, but our sledge was in no ideal state. The runners were cross-grained, and we had to stop every two or three hours to whittle off the splinters, which dug their way into the ice and slush and made the sledge almost immovable. We did not bless the maker, whose fault it was. He had had much experience in building sledges, and it was inexcusable to use such wood for the runners, still more inexcusable because the sledge was shod with German silver, and we could not see the runner itself until the metal was worn off, and then, of course, it was too late. It might very easily have become serious in our case, far away, as we thought, from any people, and with a sledge rapidly going to pieces.

To use every minute of light, we would turn out an hour before the moon rose over the eastern hills, and toil hard all day to help our weary dogs ; but still we made little progress, on an average about eighteen miles a day. In the middle of the day we stopped for a quarter of an hour to eat our lunch, a frozen salmon of about one pound, and I found it a sustaining as well as a palatable meal. We missed some fat to eat with it while on the trail, and had to take a small chunk of butter or lard as a substitute for the seal oil which the natives used.

But apart from that quarter of an hour we were moving continually; slowly but surely we were forging ahead. Our load

was becoming alarmingly small. I had not counted on such small marches, but I tried not to think of unpleasant days to come, as every day had burdens enough of its own.

On Thursday, November 28, at 2 P.M., we thought that we could smell smoke, while our tired dogs also began to pick up a little and pull better. We climbed on to a piece of ice, but it was too hazy to see far, so we went on edging in towards land. The closer we came the stronger the smell became, and we were not surprised, though nevertheless very pleased, when we crossed a fresh track, heading a little more towards the shore than we did. We let the dogs follow the trail, but it was evident that the heavy pull over the salty ice with split runners was beginning to tell on their spirits, and we had to use the whip frequently, even after they heard barking ashore. A few minutes later a house and some natives loomed out of the fog, and the people came running towards us; for visitors were scarce in those places, and their arrival could only be looked upon as a pleasant event.

Our sledge-runners broke completely when we hauled the sledge up the bank outside the house. They were beyond repair and were nothing but a collection of splinters; this, of course, was bad enough, but it would have been still worse had it happened anywhere but just outside the house.

We had to get a new sledge, and bought one from the natives, an old thing, rather rickety, but anyhow better than our own. It cost me all my small personal belongings, including my compass and everything I had, except the five-dollar piece given me by little Miss Campbell. It was Thanksgiving Day, and my dinner on that occasion was not very splendid, consisting as it did of cooked seal meat and dried salmon, with rancid seal oil as sauce.

The people I stayed with, three families living in one house, were rather nice, and had a large place, but they were short of food, and I gave a little of my scanty store to the children, much to Oojooaktok's disgust. Like all other natives along the coast, these were highly religious and prayed for blessings on their washing water, on their food, and on anything they used. They have a number of rhymes which they repeat on every occasion, mostly, however, I believe, when a white man is near, and the people claim to have learned this excessive praying at the mission at Keevalina.

As usual they played cards, and I woke up several times during the night to see the people sitting in a circle on the floor, playing continually, forgetting the world about them, their children and all.

The next morning Oojooaktok was not very anxious to start, but I persuaded him to do so, as the weather was too fine for loafing, and almost to my own surprise I succeeded in making him see my point. Two men from the house were starting at the same time, as they had to go somewhere to buy food for their children.

But the natives are not always pleasant travelling companions. They do not like to travel long distances, and at 2 P.M., when we came to a place thickly studded with driftwood, they swore that there was no other wood within miles to the southward, and I had to give in and commence to pitch the tent. But I consented with a heavy heart; we had only travelled for four and a half hours that day, my provisions were very nearly exhausted, and we had a long distance to cover before supplies could be had.

On November 30 we saw the last of the moon, using what there was of it as long as we possibly could. It had been a good friend to me all the way from Point Barrow and had made it possible for me to travel several hours more a day than I should otherwise have been able to do; I had for days been watching anxiously for its decrease and fearing the time when we would be altogether without it, when we would have to travel as hard as we could during the few hours' day, which in our present state was far from easy, for our dogs were rapidly losing their strength, their feet were bleeding, and a trail of blood showed the course we had taken. Poor beasts—underfed, tired and footsore, a sledge dog's life is surely hard!

The last of November was fine, calm and cold (−38° C.), and I was surprised and thankful for my constant good luck in this respect. Since I left Flaxman Island I had only to camp once on account of a storm. It had blown while I was at Point Barrow and at Icy Cape, but there I was in comfort, and, even if it delayed my departure, my stay was pleasant and not like the days spent on the trail, storm-bound in a tent.

Although the moon was not shining now, we left camp at 7.30 A.M. on December 1, and travelled as well as we could

until night fell. The going was fair, we ran along on the narrow icefoot, and were consequently out of the salty ice, but the new sledge was by no means a light one and was almost as hard to pull as my old sledge had been. The natives who were travelling with us were making twice as good time as we were. I asked them more than once to take some of my load, without being able to induce them to do so, but as soon as we had camped they came over to "get a hand out," promising to take some of my gear on the following day. When that had happened twice, and they had forgotten it on each following day, I knew what to do and camped about half a mile from them. The next morning they were hungry, insisted upon taking some of my load, and were highly disgusted when I would not trust them with any of my provisions.

As we progressed along the coast and came to the mountains the scenery became almost grand, at least compared with any I had hitherto seen. The coast-line rises out of the water, high and perpendicular, wherever it is not broken by a small stream. The dark mountains, too steep for the snow to settle on, formed a pleasing contrast to the monotonous white which hitherto had been my daily outlook, and far away in the distance a blue-looking bluff against the reddish evening sky told me that I was slowly approaching Cape Lisburne. The refraction was playing with it, sometimes lifting it up in the air, making it at other times look as if it were twenty miles nearer, but while I was looking at it, it faded and grew fainter until all at once it again loomed out of the twilight, distorted, wild, and weird.

But the days were short, the faint daylight faded completely, Cape Lisburne disappeared in the gathering dusk, cape after cape was engulfed in the darkness, and before long we were groping our way along the dark bluff only some 20 feet away, rising sheer out of the water to a height of 300 feet, while the stars were twinkling and shining over our heads, and the dark sky was made still darker by contrast with some greenish streamers of light shooting up from behind the mountains, moving about over the sky, a flickering light which faded into nothingness, only to be followed by other streamers.

We pushed on, feeling contented with ourselves and life in general. We could run ahead of our dogs for ten hours

without a rest and still feel as if we could run for ten hours more, only it was a pity that the days were so short.

We reached Corvins coal mines at 6.30 P.M. on December 1, and to our joy found some natives living there. They had nothing to eat, so we cooked the last of our food and went out with a gun, selected our poorest dog, pressed the barrel against his head, pulled the trigger, and a spasmodic twitching of the legs was his last movement in life. Then a knife was taken out, the dog was ripped open, the carcase cut into pieces, and each of our dogs got a piece, envied and hotly attacked by all the others. Then we were ready for sleep, for the morrow ought to see us on the trail again, travelling with full speed toward Point Hope, as we had now no more to eat.

An ominous noise was the first thing which greeted us on Monday, the 2nd; the wind was blowing hard, the snow was drifting, and we turned out to see from what quarter the wind had risen. Luckily it was blowing from the east, right in our backs; so, after eating the cold remnants of last night's supper and drinking some tea, we hitched our dogs and started, carried along by the strong wind, which raised such a snow-drift that we could only see a darkness to the south of us where the steep mountains joined the edge of the water. The twenty-eight miles between the coal mines and Cape Lisburne were covered in seven and a half hours, though it was almost the worst weather I had ever travelled in. The man in front, who was only a few feet ahead of the foremost dog, could hardly see the blurred form of his travelling companion running along the side of the sledge, whip in hand, forcing the whimpering animals ahead. We had nothing to eat except half a dog, no fuel was to be found on this steep coast, and, worse than either, no tent could stand against the furious blast of wind which every now and then swept down from the perpendicular cliffs. But on we went apace, and at 3.10 P.M. we saw the first house of the rather large village of Weyok, then only 10 feet distant. In a surprisingly short time it became known that travellers from the north had come into camp, and people emerged from the snowdrift, all eager to help. We were hustled into a house, our frozen furs were pulled off, and soon we had a bowl of scalding hot tea before us. The people asked for my food, and I was forced to tell them that I had nothing

left; they did not look pleased, but brought forth a tiny bit of seal meat, cooked it, and gave it to us. What we left was given to the children, who were loudly clamouring for food, and after that we turned in, hoping that the gale would spend itself during the night.

But morning came, and the gale was blowing as hard as ever. And, what was still worse, the natives had no food left, as they had given us their last piece of meat on the night before. The first day our food consisted of horrid flapjacks, made of flour and water; then even that gave out, and we only had one meal all day long. After that we resorted to some fish, which had been kept for dog-feed and was putrid but eatable. Another dog was killed to feed my team, which lay curled up in the alley leading to the house in which I stayed, so as to be out of the wind.

We stayed in the village until December 4; then, although the wind blew almost as hard as ever, and the natives attempted to dissuade me, I hitched up my dogs and started. All went well for the first couple of miles, and I began to think that it was not so bad after all. We were swept along, falling and sliding, but we knew that if we could pass the point we should be safe and should be able to reach Point Hope. Ahead of us, a quarter of a mile distant, was the most windy spot, and alongside of us the mountains rose perpendicularly almost to 700 feet. We could hear the thundering of the wind as it came roaring over the top, loosening large stones and hurling them out over the ice. Then we were caught in a whirlwind. I, who was ahead of the team, was blown over and slid along the ice for several hundred feet, until I was brought to a standstill by a piece of ice not 10 feet from an open lane. I anchored myself securely and turned round to see how Oojooaktok was faring. He also had been caught in the whirlwind and rolled over with sledge and dogs. The sledge had been lifted and hurled against a piece of ice, a runner was broken in two, again and again the sledge was lifted up, blown along, and hurled against some iceblocks until nothing but kindling wood was left. Then the furious whirlwind continued on its way over the ocean, contented with the havoc it had done, and in the comparatively calm spell which followed I crawled back to the wreck. Our gear was scattered all over

the ice, but we had nowhere to stow it, so we cut the harness of the dogs. I shouldered my box with my papers and journals, and, crawling along on hands and knees, we made our way out of the dangerous neighbourhood, with water close on one side and steep mountains on the other, from which stones as large as a man were hurled down as if by invisible hands. We had enough to do to crawl along ourselves and could not help our dogs, who were so terrified that they dared not move. We were freezing fast; Oojooaktok had lost one mitten in the tussle with the wind, my furs were ripped by a sharp piece of ice; we felt a stiffness come over us, an almost irresistible desire to lie down and give up the struggle against the elements. But we roused ourselves, and half crawling, half walking, we came back to the houses, badly frozen and exhausted.

When the natives heard that our dogs were still on the ice, four men went out to bring them back, but it was almost three hours before they returned, frozen and cold, one with a hand torn, each dragging a dog or two. They brought them all except one which they could not find.

Never till then did I fully realize the force of the wind. It was frightful to watch the raging of the elements, to hear the wind roaring over the cliffs, the crash of stones hurled from a height of 700 feet against the ice below, to hear the sighing and groaning of the ice when it bent under the pressure of the wind, to see the water whipped into foam in the open lanes. One of the natives, a fellow called Pikok, a sailor from one of the whalers, illustrated the force of the wind with the following graphic saying: "By God! him wind, him blow like hell, hit hard, rock all the same," words which were not far from expressing my own opinion. I was glad to be back, but when the gale kept on blowing and our food was still flapjacks and rotten fish, I more than ever longed to be at Point Hope, where food abounded and where white men lived.

As my sledge was a perfect wreck and one of my dogs had a foot frozen, I hired one of the natives to take me down to Point Hope. We started on Friday, December 6, when the weather abated, and reached the scene of my breakdown. My scattered outfit had been blown along for more than a quarter of a mile, but I found most of it, more or less dilapidated, and after lashing it on the sledge we started afresh.

My natives had started under protest, and stopped when we came to a place where the wind had broken the ice away from the shore. It was just near a cape, and on the other side of it the surface would be splendid.

It was still blowing, but with two men at the sledge we managed to get along without capsizing, that is, as far as the water, for beyond that neither good words nor cursing would make them go. Then I told them that I would walk all the way to Point Hope, as I was thoroughly tired of the life in the native camp, and started over the broken ice along the icefoot. The natives remained, as they were sure that I would return. For about a mile I jumped from floe to floe or crawled on hands and knees on the narrow icefoot, hooking on with my hands, digging my toes into every little fissure to prevent myself from being blown into the water by the violent whirlwinds. But on the cape itself, where the water was washing the black rocks, I was stopped and could go no further. It was impossible to force a passage, so I gave it up and returned with the others to the houses.

The people I stayed with were very nice indeed—a better host or hostess could nowhere be found—but I was longing feverishly to be off, and my enforced stay tried my patience severely. The natives laughed at me. Why all that hurry? The weather would be fine once more, and then I could go, but why chafe with impatience now, when it was so perfectly useless? They are true philosophers, these natives. Mother Nature had taught them patience, and they talked about these white men, who in their opinion were such queer people. At last they thought they had solved the riddle, that they knew why I was in such a desperate hurry to go, and they asked me teasingly whether a girl in the white man's country was drawing me, whether she had written for me to come and come quickly. I protested, but it was of no use; they thought they had found the one reasonable explanation, and the women asked me many questions as to the looks, the age, and behaviour of their fair sister.

At last, on December 7, I left them for good. It was still blowing a little, but they did not think travelling impossible, and so we started, followed by the good wishes of these kind people.

We made fine headway until we came to the open water and

broken ice, when the trouble began all over again. The two natives were afraid of the ice; I had to talk nicely to them, and partly so, partly by threatening them with all manner of evil things, I at last worked my will, and by walking carefully we managed to cover the one mile of small icefloes, broken up by the wind, without any serious accident.

It was a hard day's march. The wind was still blowing hard enough to capsize the sledge, although two men were continually trying to keep it right side up, and we ran along on the icefoot, which was about 5 to 10 feet wide. On one side we had the cliffs, high, sinister, and perpendicular; on the other there was luckily a small pressure-ridge, and it often prevented us from being blown into the water which stretched to our right as far as we could see. The foaming water looked as if it were boiling under the strong pressure of the wind, which came sweeping down along the mountains with almost irresistible force, enshrouding us in large clouds of fine white spray, till our furs were covered with a thick layer of ice.

But in spite of the wind and the intense cold I could not help admiring the magnificent sight of the high and rugged cliffs with their shining icicles and coating of solid ice. However, we had other things to attend to than the grand scenery; twice in two hours the sledge broke down and had to be repaired in a temperature of — 30° C. and with a blizzard raging; it was far from pleasant work. This and the hard going delayed us so much that we had to seek shelter in a house about halfway to Point Hope and stay there for the night. Another party was there, stormbound like ourselves, and the house was overcrowded. Here, as at Weyok, the people had nothing to eat but flour and molasses, so our fare was not luxurious.

I wished at the time that the people who sold *that* flour and *those* molasses to the natives could be forced to eat it themselves, but now I think that it would be almost too great a punishment. It was simply horrid; the molasses tasted like ink, as thin and of the same colour. The flour was almost black and full of maggots, which we had to eat, as it was impossible to pick them out before baking the bread.

The next day the travelling was still very hard; the ice was blown away from the shore, so that not even the icefoot was

left, and we had to go inland behind the mountains. Twice again the sledge broke down, and when we reached Joe Tucker's house on the north side of the sand-spit of Point Hope it had been dark for two hours. The meal which "Little Joe" prepared for us even now seems to me one of the most delicious banquets I ever sat down to, and I ate and ate till I could not eat another morsel, then had a smoke, and after that we were on the trail again, bound for Jim Allen's house. We arrived there at 10.15 P.M., and Mr. McIntoch, the school teacher, was just saying good-bye. For half an hour we "spoke trail," then we turned in, I enjoying the thought that I should not have to wake up in the morning, just swallow a meal, and then be off again on the trail.

The next day I went down to Dr. Driggs, M.D., a physician, who is at the same time a missionary and school teacher. Dr. Driggs, who had been at the same place for nineteen years, had only been out of it twice on a holiday, and one cannot but admire a man who goes into a country of this kind, and for the sake of the natives, for the sake of the religion he believes in, changes a life of comparative ease for one of the hardest drudgery.

But his work had brought its own reward; he is beloved in the village, and the young men and women look upon him as a father, wiser and better than their own—a father who is willing to help and guide, and who does all he can to make the people for whom he has sacrificed his life a useful and self-dependent race. They, like the natives at Point Barrow, are to a great extent working for themselves, or for each other, and the white men, who have whaling stations there, have often great difficulties in getting crews for their boats.

There is a large native colony at Point Hope, but here, as everywhere, they are rapidly decreasing; sicknesses and epidemics, from which we are more or less immune, are the death of many a native, and all along my marching line I saw ruined houses and depopulated villages, a silent reproach to the white man, who came to the country bringing diseases in his wake. Now there are hardly three hundred natives living at Point Hope, where before there were twice as many, and that though Eskimos from all parts of the coast have congregated round the two centres, Point Barrow and Point Hope.

I had expected to get some food from Dr. Driggs, but the supply ship had stranded, and the white men had hardly anything to eat themselves. He had only a few sacks of rather bad flour, and was living on seal meat, the diet of the natives. This meant that I would have to pick my way to Candle as best I could, and must hope to get food as I went along.

The school teacher provided me with a sledge, which I soon got into good shape, but although the white men at Point Hope were nice and kind, it was not an agreeable place to stay in. Dog-feed was very expensive, and in one place I had to pay $2.0 for a small seal; this was not owing to any scarcity of food, as the inhabitants had ample provision of seal, but they had no idea of the real value of money, and consequently demanded exorbitant prices.

During the summer these people work in the mines at Candle, while their women earn money themselves by sewing and washing; and the natives have not learned the explanation of the riddle that they can make $5.0 a day during the summertime, and get $5.0 for a pair of kamicks in a mining camp, while they cannot get more than half the amount in winter, when the demand is small. In the same way they have never learned to understand the full meaning of another "white man's word," which, however, they use frequently enough—a mile. We may ask a native how many miles he thinks we will have to cover before we come to such and such a camp, and he will look as if he reflected most seriously, count on his fingers, and then say, with a happy grin, "Me believe him six miles away," although it may be thirty, or on the other hand he may, after much reflection, tell us it is thirty when it is only six.

The weather was bad for several days after I reached Point Hope, and I was not able to start before December 14, when I left in company with Jim Allen, who was going to Candle to buy some baking powder. Candle was two hundred and fifty miles distant.

The recent storms had blown the ice out to sea from Cape Thompson, and we had to cross overland. It was a steep climb, and it tried the strength of the dogs severely, although the sledge was now as light as it could be—I had not an ounce of food on it. Downhill all went well, and the small caravan—for four native sledges had joined us—was moving along at the greatest

possible speed. The slope was about three miles long, and the whole stretch was taken at a single run, the dogs barking and feeling happy and contented. That is, all the teams except mine. They, to be sure, were not much inclined to show any satisfaction at all; not one of them had sound feet, all were weary and tired, and, worse than that, they were underfed. But dog-feed could not be had here, and I relied upon being able to get some frozen or dried fish at Keevalina. Towards night the wind sprang up again, and soon we were once more fighting against the whirlwinds, until we came to what we supposed to be an empty house, and pulled in, only to find it full of natives. We managed to squeeze ourselves in somehow, but spent an exceedingly unpleasant night. The weather changed during the night; instead of wind we had a heavy snowfall, and of all hard things on the trail that is the worst. It clogs the runners and makes them drag; it gets between the toes of the dogs and forms small balls of ice, which soon wear away the thin skin between them; it is hard for the men to wade through, and, worse than either of these, we cannot make any headway. But at noon the snowing ceased and a wind sprang up, sending the drifting snow right into our faces. In low spirits and very tired we reached a native house, where we stayed for the night instead of pushing on to Keevalina, which we reached on the following day, December 16, at 12 A.M.

We met the missionary and his wife, who acted as a school teacher, and we saw the third school-house in a stretch of sixty miles. It is a strange thing that so many school-houses should be built so close together, and one at least of the three was almost empty, the school-house at Point Hope, where at the time of my visit there were only three children. At Keevalina there is not the same opportunity for hunting as at Point Hope, and seals are almost at a premium. In summer there is some fishing in the river, which joins the ocean just beside the village, but it is not enough to support the people, who flocked from Point Hope to this place when the school was built. It is only natural that the natives should congregate round the missionaries, the more so when they are trading at the same time, but for this very reason more care should be taken in selecting a centre for their activity. At a place like Keevalina the natives cannot exist, but have to go to Point Hope for food. At Keevalina I

lost my friend Oojooaktok, who was going to wait there for the reindeer herd, and I was sorry to see him go, as he had always been a very faithful man, who had done his share of the hard work without grumbling. Whether he was ever made an apprentice in the herd, and thus won the girl he loved, I do not know, but at any rate he had my best wishes.

We left early on December 17, but the going was hard; my dogs were almost worn out, and we could only advance slowly. Unfortunately the weather became worse, the temperature rose almost to freezing point, the air was full of moisture, which soaked our clothing, made the trail heavy, and the sledge, with a weight of only 150 lbs., was sorely taxing the strength of my five worn-out animals. We reached a large cabin owned by two partners, Messrs. Thompson and Holm, who were mining, trading, whaling, sailing a schooner at summertime, and held the office as recorder for a district in which there was no mining. They were pleasant men, and in their company we soon forgot that on the following day we would have to start again, through sleet and fog and deep snow. The going had been rough, my sledge had broken down once more, and I left it there, while my load was placed on the sledge of Jim Allen and Mr. Holm, who joined us for Candle. My dogs were barely able to hold their traces tight, and two days later they were taken out of harness altogether and allowed to run at large. One of them was then so tired and broken-spirited that he could not follow, but lay down in the snow and probably died there.

The temperature became a little lower on December 19, and helped by Holm's fresh team we made fairly good progress, particularly after we had reached some large lakes with the snow blown off their smooth surfaces. On December 20 we reached Kegertavrook, where the "Blossom" mission and school is situated. Mr. Geary, the missionary, was absent with the reindeer herd which was just then passing, but Mrs. Geary was very kind and invited us to dinner. In this place I saw the first signs that civilization was not so very far off. Two large stores were selling groceries and everything else an Eskimo could require, either for money or for furs. The natives were very well treated in these stores; they were well paid for the furs, and the prices of groceries were not exorbitant. This,

to a certain extent, was owing to the principle of competition. The two stores had combined and were fighting the missionary's store, and reducing the prices as much as they possibly could.

The mission, as the one at Keevalina, is said to be situated in a very poor place, as the natives cannot support themselves by hunting, but have to go either to Point Hope or to Candle



THE "BLOSSOM" MISSION AND SCHOOL AT KEGERTAVROOK.

to get means of livelihood. At Point Hope they go whaling, and at Candle they work in the mines. The natives, upon the whole, seem to like the mining work, but it may not be altogether good for them, and Candle is a dangerous place for the natives to live in, bad for the men, but worse still for the women, who flock to places of that description and usually degenerate in astonishingly short time.

There was great excitement at Kegertavrook; Christmas was at the door, and presents had arrived for the natives, which people who were interested in the Eskimos had sent up to them. There were books and wearing apparel, tools, and all sorts of sweets, etc. But most of the presents were on board the supply ship, which had stranded, and seven sledges with large teams had gone down to the wreck to get what belonged to them. Mrs. Geary was walking about among the Eskimo women and children, who were unpacking boxes and sorting out things in preparation for the big feast, directing and advising with a kind word or a smile to everybody.

But we had to start again, and I bade Jim Allen good-bye; he had got the baking powder he wanted at Blossom, had used what money he had, and was returning for Point Hope, while on Sunday, the 22nd, in the morning we headed for Candle.

However, Candle was far away, nearly one hundred miles; the trail was bad, the dogs worse than ever, so we could not reach the place we had expected, but had to camp in the shelter of some canvas, which once might have been called a tent. Food we had now neither for ourselves nor for the dogs, but we tightened our belts, crawled into our bags, and soon were fast asleep.

We had been confident that we would reach Candle on the 23rd, but before long we discovered that there was little prospect of our doing so. The trail was heavy and bad as usual, and the dogs half dead with fatigue and hunger. We camped in a large native house, where other travellers had already found shelter before us. The people who owned it had left their home, containing all their belongings, with the door unlocked, so that tired and exhausted travellers might rest there during the holidays, and had themselves gone to Kegertavrook for Christmas. Here I had to use the five-dollar gold piece of little Miss Campbell, which I had carried ever since I left Victoria. The natives, who were there before us, came from the south; they had excellent food, but they also wanted a good price for it, and as we were hungry we had to buy the food at whatever price they asked. Upon the whole, we were now made to feel that we were rapidly nearing the outposts of civilization, where the courtesy of the trail was no longer law, and where the natives by sad experience had learned that you can get food if you have money, that the price you are willing to pay depends upon how hungry you are, but that you cannot get food at all if money is lacking or the fur bag empty.

During the march of the day we had met eleven sledges bound north for Kegertavrook, all full of people who were living far from the Mission, and now were flocking there for Christmas, to get some of the presents they knew would be there, and to gossip with their friends and relatives. The Mission at Blossom and Mr. and Mrs. Geary seemed well liked by the natives.

On December 24, after eight hours' travelling, we reached

the sand-spit outside Candle, got a good meal with one of the white men living there, and were in addition furnished with all the particulars of the latest murder, an innkeeper who had been shot in cold blood. After an hour's rest we were on the



KEGERTAVROOK.

trail again; Candle was yet eight to ten miles distant, but the trail was fine and we made splendid progress.

Large horse sledges were drawing wood and coal up to the town, some with four, others with six horses. Our dogs, who were deeply interested in these strange-looking animals, forgot their sore feet, forgot their chafed legs and their almost empty stomachs, and, carried along by the excitement of the men, they flew over the glare ice and the hard-beaten trail. It was dark before we reached the river; everywhere there were lanterns, and men were working on the hillsides, prospecting and sinking holes through the frozen ground. The whole hillside was full, a new "strike" had been made, and people were digging to see whether they were "in it" or not. When we neared the town more lights shone through the darkness on either side of the river, and then our goal was reached; a turn of the river, and we were in the main street.

There were crowds of people, or at any rate so it looked to me, moving to and fro between the stores and the saloons, of which there was one in almost every house; from every window lights were shining brightly, beautiful things were placed on exhibition in the windows of the stores, but nothing appealed to me so much as cigars and some nice clean under-garments.

Laughter and talk sounded everywhere, but the laughing and talking ceased whenever I came by in my worn-out furs, followed by my weary and footsore dogs, and when I had passed I could hear them say to each other "Who is he?" "Where to hell has he blown in from?" "Wonder whether he has made a strike?" "He has travelled far, look at his torn kamicks!" and one wound up with the remark, "I say, boys, I am going to find out who he is."

I had come to civilization at last, and it was Christmas. I could get what I wanted, and what I wanted most was a bath and shave. The bath-room was most elegant, and it was a delightful sensation once more to stretch myself in a bath tub, and after the many days of toil and dirt to feel the warm water round my body.

There was an hotel in Candle, a very fine place considering its locality. A bed with sheets looked very tempting, and I was very tired, but I wanted something to eat before I turned in.

I hallooed. A man came in, bowing and smiling, to inquire what I wanted. My answer, "Something to eat," was not sufficient; they had all sorts of things, and he gave me a dinner-card. There were soup and fish, there were poultry and veal, there were two or three different desserts, and coffee. I ordered it all; the waiter bowed respectfully and disappeared. But shortly afterwards he returned with a clean tablecloth (which I dared not touch with my greasy and dirty furs), unchipped china, and a napkin.

And he brought papers new from the outside world, only two months old, and papers from Nome, which seemed almost damp from the press, as they were only two weeks old. Yes, surely I had reached civilization! What a change those few miles had wrought! Only fifty miles further up the line I had been squatting on the floor, eating off the same plate with three others; I had revelled in frozen fish, eaten doughnuts with molasses, and had drank black and bitter coffee. And now the first dish came, others followed in rapid succession, and I ate and ate, looking casually at the many people who filed by my table, still wondering who I might be, still wondering what I might tell when I had had my fill and would be looking round for a smoke and perhaps a drink. Through the

thin wooden partition I heard people in the bar discussing my appearance; some thought they knew me and mentioned names. But then some one else came in who knew better, who had found Mr. Holm, who stayed with some friends, and from him learned where I came from, that I had travelled all the way from Flaxman Island, and had been two and a half months on the trail.

A quiet followed, and the next I heard was "To hell you say—not a miner?" and then they came in, took a seat close to mine, and stared at the man who had been travelling through the night all the way from the far north, and, wonder of wonders, who was neither looking for gold nor trading. Nothing else would probably have surprised them, but a man in this country who was not a miner was an incredible sight.

All at once the attention of the whole room was attracted by an exclamation of surprise and pain, and we all jumped up, to find a man writhing on the floor with his abdomen cut open, while another was standing over him brandishing a bloody knife. In the twinkling of an eye the man was struck down, his knife was taken from him, and he was carried away to gaol —another proof that I had come to a white man's country. When everything was comparatively quiet again, a man sitting close to me, and one of those who had been discussing me, turned round, and by way of introduction said, "Well, partner, you see you have reached civilization." I could not deny it; it was all there, even to a judge and a marshal. At last I turned in, lulled to sleep by the tones of half a dozen phonographs, mingled with the jingle of glasses and the hoarse cries of drunken men. And during my sleep I dreamt of the last Christmas, woke up and felt ashamed of myself for having been so preoccupied with these many new things as to forget my friend, Mr. Leffingwell, who was sitting at Flaxman Island keeping Christmas all alone with the natives.

I stayed in Candle until December 29 and had a very pleasant time. Everybody was kind to me, invited me to dine at their really splendid homes, and I came, furs and all. By way of dressing I pulled off my fur coat and came in my shirt sleeves, which were clean and did not smell so strongly as my furs. Mr. Evans and Dr. Whitiger, Mr. Herron and Mr. Ryberg, were particularly kind, and so was Mrs. Noise, who also invited

me to dinner, and, wonder of wonders, gave us fresh milk direct from the udders of a cow.

I found out that she kept a cow on the premises, and after dinner we went out to have a look at the poor animal which gave us the rare pleasure of fresh milk far from home in a strange climate.

My dogs were so tired and their feet in such a state that they could not even walk over to Nome, so I gave them away to people who promised to be kind to them. Poor little Journiska, who had slept with me in the tent and very often in my bag, had been my best friend on the trail, my old leader and constant companion on all sledge trips ; now I had to part with him, which, however, I did with a heavy heart. And my four-footed friend seemed to have a vague idea that I was taking leave of him, for he whimpered and licked my face and hands, looked appealingly at me as if he would ask me to take him with me, howled with dismay when I left, and I was told that he howled most of that night. Faithful little animal, he had suffered hardships on the trail, he had been footsore and wet, he had felt the whip and the pangs of hunger, but whenever he saw that I was unoccupied he would come up to me, jump about on his sore feet, and play and frisk about as if nothing was the matter. No wonder that I was sorry to say good-bye to him !



I SAW THE SUN.

CHAPTER XII.

FROM CANDLE TO FORT GIBBON.

Leave Candle — Crossing Seward Peninsula — Extreme Cold Weather—Counsil—Nome—Leave Nome—A Blizzard—Crossing Norton Bay—Caught by the rising Water—Telegraph Stations—Kaltag—The Yukon — Over Nulato Portage — Stormy Weather on the River — Trading Stations on the Yukon—Fort Gibbon.

A "MUSHER" (professional dog driver) had come from Nome with a passenger and was going back, so we went together. His name was Sheldon, and he was a pleasant man as well as a splendid traveller. He taught me many things about travelling which I had never known before, among others that dogs could be trained to go in the desired direction without a man ahead of them. We started at 10 A.M. on Sunday, the 29th, and were shortly among the trees of the Keewalik River. And there, for the first time since I left Point Barrow, I saw the sun. It was quite high in the sky, so it was only the thick and warm weather we had had of late which had prevented my seeing it.

What a difference between travelling inland and out on the

coast! Here the trail was fine and hard, the snow packed and the sledge slipping easily over it, instead of clogging and pulling as hard as over the salty ice on the sea. And the trail was even instead of undulating, as over the sea ice, and, last but by no means least, the high, or comparatively high, trees broke the wind and made travelling very pleasant. We went along the river, most of the day at a run, now and then making a portage to shorten the road. The night we spent with a squaw man, who had a sort of road house, but from then and onwards till we came to the south side of Seward Peninsula we stayed in empty cabins along the line of march.

The travelling was splendid and I enjoyed it very much. We climbed a divide and ran down into the valley beyond, with our eleven dogs running at full speed, one man riding on the sledge, and the other aft in the handle bars, holding on and applying the brake as hard as he could. And down we flew over the three miles of slope, lurching from side to side, rolling like a ship in a heavy sea, barely escaping capsizing, and with the brake ploughing up clouds of fine snow behind. Then we reached the "timber" again; the snow became a little deeper, but we still made good progress; the dogs followed the trail, and we ran beside the sledge on snow-shoes. The temperature was falling rapidly, and was on the 31st of December — 50° C., but the sky was perfectly clear, the sun was shining brightly, and we hardly felt the cold at all. But nevertheless we were glad to get under shelter towards night and to have the stove lighted.

On January 1 a wind sprang up. We could hear the noise it made among the trees, and as soon as we were beyond their protection we felt the full force of it. We had to pass a perfectly unprotected stretch of land with high mountains on either side and at least fifteen miles long. It was known by the unencouraging name of "Death Valley" and was duly dreaded by all travellers. And no wonder! The wind blows down the icy slopes of the mountains, raises the fine and powdered snow in large clouds, blows it along the surface, and thus shuts everything out of view. There is absolutely no protection against the wind, which may spring up without any warning whatsoever, while the trail is covered up and cannot be distinguished. We had a hard time of it, although the wind

was with us, and for the first time during my trip out I felt cold in my furs. Our thermometer registered — 58° C., but when we came out to the coast we found that the temperature had been below — 64° as well to the north as to the south of us.

In the midst of "Death Valley" we met some travellers, northward bound, dressed not for the trail, but for the parlour.



OUR TEAM WINDING ITS WAY OVER A PORTAGE.

They were freezing, their faces and hands were in an awful state, and they had no idea where they were. We advised them to return with us, but they wanted to carry out their purpose, and mushed on against the wind and snowdrift, freezing more and more.

We came through the dreaded valley, and two miles down a hillside brought us into Telephone Creek. But the wind was still blowing hard, and sent us over the glare ice of the small stream with a speed so great that we went faster than the dogs could pull and had to unhitch them all. It was growing worse and worse, and at last we stopped at a small cabin, halfway down the creek.

On January 2, at 9 P.M., we came to Counsil after a day's drive of fully thirteen hours. It was still cold, but it was calm, and the low temperature was consequently not felt so much as on the previous day. We had some steep climbing,

but preferred to take a direct line along the telephone poles connecting Nome and Candle, instead of following the easier but considerably more roundabout way of the Fish River. We made in all forty-four miles that day over exceedingly rough ground.

On the next day the weather was still cold and fine, and we were off early to make a good run. We went over the Fox River, where there was hardly a particle of snow for seven miles, and the sledge almost flew along the glare ice and went faster than ever, when a ptarmigan happened to fly up in front of the sledge and take our course. Then the dogs became excited, they wanted to catch it, and for a long time we went as fast as a dog could run, and the sledge was jumping from one unevenness to another, sliding broadside at times over the ice, almost shaking us off. It was a fine run and we enjoyed it immensely, but, like most good things, it was not destined to last. After the smooth expanse of the river we came to some awful hills, first going up slowly and heavily, then sliding down on the other side with a speed that was neckbreaking. At last the divide was behind us and we came down on Salomon River. The wind blew hard and raised a strong snowdrift, but it was fair, and before dark we had reached a road-house. Near this road-house was one of civilization's outposts—a railroad station. The train was, of course, only running in summertime, but there all the same were bridges, station, everything, in fact, which belongs to a modern railroad.

Through storms and snowdrifts, in a fearfully low temperature, we pushed our way along the south side of Seward Peninsula toward Nome, where we arrived on Saturday, January 4, about eighty days after I left Flaxman Island. In Nome a great and unexpected pleasure was in store for me. When I came within a few miles of the town itself some countrymen came out to meet me. They had the Danish and the American flags with them; the Danish flag, I confess to my shame, was the first I had seen since leaving Victoria, as one I had expected with the mail before our departure came too late. At the time I was not able to thank them in proper words for their kindness, nor can I do so now, but this I will say, that nothing has ever touched me more deeply or caused me greater pleasure than to see men and women, some of them old enough to be my

parents, coming out in the early morning to give their countryman a befitting welcome. And not all of them were countrymen even, for many Norwegians had also come out to welcome me to the capital of the North, Nome. At their invitation I was not slow to change the dog sledge for the infinitely more comfortable horse sledge, and I immediately felt at home in the company of the people whom I had never met before. In the club-house of "The Sons of the North" we had something to eat, toasts were drunk, appreciative words were spoken, and I had the pleasant sensation of being back in civilization once more; still more pleasant was it to see that the work we had staked everything to accomplish was highly valued in this northern town, where every one knew what trailing meant. I missed only one friend, my partner Mr. Leffingwell, who at that time was sitting about fifteen hundred miles away on the shores of the Arctic Ocean. I drank a silent toast to him, to the successful accomplishment of his work, and before all to his safe return to his home and friends.

The days I then spent in Nome were very pleasant indeed; every one, my countrymen, the Norwegians, and the Americans, endeavoured to make my stay as happy as possible. Honours were heaped on me, and when at last the time came to leave I was loth to say good-bye. To enumerate the people who were kind to me, a traveller from the north, would be impossible, for never have I met with so much hospitality and such true kindness as in Nome, for which I here tender my most heartfelt thanks to every one, the town, the clubs, the people themselves.

One of the men from the Alaska Mercantile Company, the largest general store in Nome, Mr. Adams, was going to the "outside," and the chief manager, Mr. Campbell, arranged for me to go with him. We got a team of dogs, our clothing was put into shape for the long trip, and on Sunday, January 18, we started, followed by the good wishes of my friends and accompanied for part of the way by Mr. and Mrs. Campbell. This last tie which bound us to Nome was severed when Mr. and Mrs. Campbell turned back at the road house "Do Drop In," and with them I sent a last greeting to my many friends. Then Mr. Adams and myself struck the trail for good, our dogs pulled well, our sledge was light, and we made splendid progress. Road-house after road-house was passed, the dogs were in good

trim, the trail was hard, and on Monday, the 20th, we stopped at Golofin as the guests of a Danish trader, Mr. Hansen.

The next morning the weather did not look tempting, but we started along the hard-beaten mail trail. The leaden-coloured sky became darker and darker. An ominous noise was heard from the mountains, where the snow was drifting heavily, raising large clouds of pure white snow against the dark sky. But bad though it looked, we had never for a minute thought that it would really become as bad as it did. It was just when we reached the land on the other side of a bay, where the trail went up over the hills, that the blizzard broke. Like lightning it was upon us. Before many seconds everything was obliterated from our view; we could not see 10 feet ahead in the blinding snow which was beating in our faces. We lost the trail and were just sitting down to look about us a little, or, rather, regain our breath, which some minutes of fighting against the gale had almost beaten out of us, when we heard—only a few yards distant it seemed—"Gee! God damn you, gee!" ("Gee" is the word of command which makes the trained dogs turn to the right.) We knew that some one was near and probably in the same plight as ourselves. Our dogs jumped up, pulled over to the left, and then stopped. On account of the snowdrift I could only see half of the team, and went along the line of the dogs (they were hitched two and two on a central trace); on reaching the leader, about 15 feet from the sledge, I saw him standing in front of a strange dog. I crawled to the sledge which the strange dog belonged to, and found a man sitting in it, swearing in the most lurid language at his dogs, the weather, and the country in general.

We communicated with each other by yelling at the top of our voices, and I found out that his name was Carson, that he owned the road-house which we were making for, and that he was willing to take us there. But the weather was so bad that we had to wait for some time; we found an old house which was full of snow, but could at least afford us some shelter. The weather abated a little, and we started, though it was rather a foolhardy thing to do. We could not see the trail, and the snowdrift was so strong that we could not distinguish the land-marks either. Carson and I took turns to go ahead, which was almost better than driving the dogs, as the whip had to be used

continually, and that in spite of our knowing that our dogs were doing their best under the circumstances. None of them but the leader could see anything, and he only with one eye; the other eye, as well as those of all the other dogs, was covered with a coating of ice, caused by the snowdrift and the condensation of their breaths. But we crawled slowly and laboriously



CARSON'S ROAD-HOUSE.

upwards, plunging into deep snow, getting off the trail time after time, stopping continually to sit on the sledge with the back to the wind, trying to restore the circulation in our frozen faces.

After four hours of climbing we reached the summit, and the weather became considerably better, but not so the trail, which was the worst I had seen yet. First, it was so narrow that one of the sledge-runners all the time was outside it; secondly, it was crooked and impossible to follow, while the snow on either side was soft and several feet deep. Mr. Carson went ahead with Mr. Adams, who was quite worn out, as he was not in training for the trail, and I plodded slowly along behind, only one mile an hour, though with hard work and the horrid weather our progress seemed still slower.

At last the road-house came in sight, and Mrs. Carson, who

had seen us coming, received us with something warm to eat and drink. It was most welcome, and the first cup of tea, which was swallowed scalding hot, seemed the best drink I ever tasted.

On the following day the hard weather showed no signs of abating, and we stayed on, rubbing and tending the feet of our dogs and talking with Mr. and Mrs. Carson. They had come into the country during the rush of 1898, and like many others they had failed to realize their hopes of a bonanza. But the life in Alaska appealed to them, and although Mr. Carson was himself M.D., he built a road-house on the shores of Norton Bay, where he made a good deal of money during the rush for Nome. However, those good days were already past, and now there was nothing to be done but to board an occasional stranger and breed and bring up sledge dogs.

On January 23, after leaving the road-house, we had another very disagreeable day. First we had soft snow along the coast, through which we had to wade knee deep, both of us toiling hard. Then we came to thin ice, dangerously thin, and next into water. The gale had made the water rise on top of the icefoot, and we broke through continually, at times as far as the waist. The wind freshened, the snow commenced to drift, and the short winter day was rapidly waning. We had no tent, as we had expected to go from road-house to road-house, and it was soon too dark to see where we were going. But our good fortune guided us into a ruined Eskimo town, where "Old Moses" had the most miserable and poorest of road-houses, but it gave us the shelter, the warmth, and the food which we needed.

Day after day passed with never-ending toil, for the weather was rather warm and the snow of the trail soft and deep. We stayed in Isaack's Point road-house, where "Old Julius" cooked a splendid dinner for us, and after that we crossed Norton Sound and stayed at Bonanza road-house. Then we went across country and reached Shaktolik, and not till then did the weather change. It became cold and windy, the snow was blowing right into our faces, and although we ought to have gone on and covered the fifteen miles which were between ourselves and the next road-house, the thought was not agreeable to us, and we stayed with the host of the road-house of Shaktolik, a half-bred Russian, who gave us a very nice meal.

On January 27 we left that place in a snowstorm, which, however, decreased as the day wore on. We made good progress and expected to reach Unalaklik before nightfall. Our prospects were of the best. The mail courier, with his splendid team, was ahead of us, making a fresh trail which our dogs could follow, and the snow was not nearly so deep as on the



IN NORTON BAY.

previous days. In a little more than five hours we made twenty-eight miles; then we stopped for lunch, and as there was only a distance of twelve miles between us and Unalaklik, we took our time over the lunch and even permitted ourselves the luxury of smoking a cigar after it. But I ought to have been long enough on the trail to have learned that a place is never reached until we actually are there, nothing being so full of surprises as the trail itself. We started at 2 P.M., but it was soon evident that our luck had entirely changed. Over the mail courier's trail, only an hour old, there was water two or three inches deep, and the water was still rising over the icefoot on which we travelled. The ice had broken up during the recent gales and drifted far out to sea, only leaving a narrow icefoot about 15 feet wide. The land to which the icefoot was attached was inaccessible, as it was about 300 feet high and very steep. For a time all went well, and as we were not far from the place where the mountains went further inland, I thought that we should manage to get through. But when we had gone for about a mile through the water, which had by that time reached our knees, it commenced to rise faster, so much as to frighten both the dogs and ourselves. And no

wonder, for the icefoot became narrower and narrower, the bright disc of the sun disappeared below the horizon, and still we had a couple of miles to go before we could expect a better road. I went ahead and sounded a path for about 300 yards, then returned to the sledge, and Mr. Adams went ahead pulling the dogs, which were now swimming, dragging the floating sledge after them, while I walked beside it to prevent it from capsizing. The water soon reached our waists. On one side only, five to ten feet distant, were three to four fathoms of water and an icefoot which could only be felt but not seen ; on the other side we had the bluffs, absolutely inaccessible, and looking blacker aad blacker as the red glow of the western horizon faded and darkness spread over the country. The dogs were crazy with fear, one was almost drowned in the tangle, the pain which the cold water caused us was almost intolerable, and we made possibly half a mile an hour. The depth of the water increased to almost three feet, was still increasing, and there we were, caught like rats in a trap from which escape almost seemed impossible.

But about 7 o'clock in the evening, when our prospects were blackest, we came to a narrow ledge about ten feet above the water, and we succeeded in hauling the sledge on to the top of it. The ledge was barely large enough for us to sleep on, but we had no choice, so we took out our sleeping bags, spread them on the ledge, took our spare clothing, and commenced to strip off our wet things. The temperature was low, — 25° C., but we hurried to change, and were soon forgetting the rising waters and other hardships in sleep.

Next day, after three hours' hard travelling, we reached Unalaklik, hungry and cold. We stayed there that day, and on Thursday, January 30, I turned my back on the coast, which I was not to see again till I crossed the mountains a thousand miles away and saw the open waters of the Pacific Ocean.

We made good progress ; the trail was fine, the dogs in good condition ; and after seven hours' run we had covered forty miles and had reached the telegraph station at the place which is called the " Old Woman."

The weather had been perfect, cold enough to make the trail hard, but not too cold to make us uncomfortable (— 22° C.).



A LAKE . . . FRINGED WITH BEAUTIFUL, GRACEFUL BIRCH TREES.

We had gone up the river, with high timber on both sides; we had crossed portages and run down steep hills; we had passed native houses as fast as the dogs could run; we had flown across lakes fringed with beautiful, graceful birch trees, and over Tundra, where the trail, like a long white streak, disappeared in the far horizon. And towards night, when nearing the "Old Woman," we had come into timberland again, where the trail was like a ditch, with high banks on either side. The weather was splendid, clear, and only a light wind rocked the tops of the trees gently to and fro, shaking off the snow from the ice-covered branches which gleamed and glittered in the fading sunlight.

The telegraph station at the "Old Woman" was a pleasant place, large and clean, with the "ticker" sounding to me like the voice of an old friend through which I could communicate with people thousands of miles away, in pleasant places where I myself longed to be.

It is strange to hear the ticker incessantly at work, sending in news to the papers of Nome or telling of business transacted through its medium, and that in a country which until a few years ago was unexplored and practically unknown, where previously people would never have dreamt of living.

My thoughts went back to the days when the gold was found, when thousands of men of all sorts and conditions flocked into the region of the gold-diggings. Towns sprang up round them, large stores were opened, the noise from saloons and dancing-halls broke the silence which from the beginning of all things reigned supreme over the vast stretches of Alaska. Business throve, and soon the slow dog sledges were no longer the fitting bearers of news; the pioneers, who had conquered the country with pick and shovel, clamoured for something better. Then troops were sent from the Straits to cut a trail through the country, telegraph poles were erected along it, wires were stretched between these all the way from the Pacific to Nome, cabins were built with only twenty miles between them, and stations with forty miles, and one day a message flashed from one end of the country to another.

And all this for the yellow metal found on the beach of Nome, along the rivers or on the bedrock; the yellow metal which drives men mad, for which crimes are committed, homes laid

waste, for which fathers and brothers, husbands and sweethearts, leave their nearest and dearest, to play for stakes in the greatest gamble in the world. And many, only too many, flocked into this land of promise, which perhaps had more disappointments in store than any other place in the world. They all hoped to be one of the elect, but they all knew the disappointment lurking behind the promise of this merciless country, only they refused to see it, hoping against hope that fortune might turn.

Only the fittest survived in this struggle for gold; many left the country, broken-spirited and possibly crippled for life, after losing all they had. Others never left it, but bleached skeletons along the trail tell a tale of insurmountable hardship, of broken hopes and wasted lives. Others again, the strong and the enthusiastic, catch the fever of the goldfield, the irresistible desire for gold-hunting. They go to the outskirts of the country, dig holes wherever they find a chance of doing so, meet with disappointment after disappointment, but nevertheless they go on hoping, and each time a new hole is made they feel certain that at last they have found gold and that luck has turned. But while they dig and break out the frozen soil with almost superhuman strength and energy, the hope gets fainter and fainter until the bare bedrock is reached, and it disappears altogether. The hard labour of months has been fruitless, the starving and freezing have met with no reward, and no wonder that they despair. But only for a few hours; then they start again, hoping that next time they will be successful, feeling sure that their luck some some day must change, that some day they must find gold, that some day the toil will cease and luxury take its place. And thus they continue year after year, digging hole upon hole as eager and undaunted as before.

Oh! beautiful yellow metal, the lustre of which tempts so many to follow you, the modern Fortuna, rolling on her ball, rolling to the north, through forests and over plains, over rivers and mountains, luring your followers on and on. And in your wake an army of men and women, people whom nothing can subdue and nothing daunt, stagger along until they fall in their tracks and are left behind, to join the many dead and dying who mark your trail across the hitherto untrodden parts of the world.

But whatever the influence of the lust of gold has been upon the individual, the country is now habitable for man; it is producing much wealth, business is brisk, and more than 60,000 men and women are living where some few years ago the native hunted cariboo and moose, travelling days without seeing a soul, and where a white man was looked on as a zoological curiosity, a kind of freak of the Indian tribe. What a change a few years have wrought in the history of Alaska!

We had two more days of overland travelling, then we reached Kaltag, on the banks of the large Yukon River. At last I thought my prospects looked brighter, that my hardships were a thing of the past, and travelling a pleasure compared to what it had been, for numbers of houses lined my path, and the weather—so I thought—was unusually fine, calm, and cold.

But my experience did not realize these hopes. It was at least as windy inland as on the coast; the only advantage of the Yukon being that a traveller could enter the woods and thus get out of the wind. At Kaltag we stayed for one day to give our dogs a rest, and I wired to the superintendent of the telegraph line, Captain Clifton, U.S. Army, for permission to use the telegraph stations and cabins along the line of march. I got a very courteous reply with the desired permission, and afterwards we stopped almost every night at the stations. It was a great help to me, as I could get dog-feed all along the route and have it cooked and ready before I arrived; lunch or dinner was always prepared and ready when we came in, while the agreeable inhabitants of the various stations shortened many an otherwise tedious hour with interesting talk.

It was on Monday, February 3, that we had our first day's run over the splendid level ice of the Yukon River; the trail was a little soft, but not enough to cause us any inconvenience, the weather was fine, and the sun was shining. Four dog sledges were going the same way, enough to form a small caravan, and as Nulato—our destination—was forty miles distant, we agreed to distribute our loads so that all the sledges had about the same weight and could go equally fast. It was a splendid day; the bracing air of the Yukon seemed to stimulate the dogs; they pulled as never before, frisked along, barking with joy, their tails high in the air, while the many



MR. ADAMS WITH OUR TEAM ON THE YUKON RIVER.

bells of the thirty dogs made a noise which could be heard for miles around. We were all riding, and had an old leader ahead who followed the trail in a wonderful way, while the other dogs followed him. And thus we drove into Nulato, where the jingling of the bells, the shouting of the men, and the yelping and barking of the dogs brought people to the doors of every house in the town. To stop the dogs was impossible, so we drove into the midst of the cluster of houses at break-neck speed, each driver standing on the brake, which he pressed down into the snow with all his might, ripping up the trail. At last, when we had reached the place where we wanted to be, we capsized the sledges as the only means of stopping the animals. Helpful hands unhitched our eleven dogs, who were soon running about, poking their noses into every corner, smelling and snuffing for something to eat, and fighting whenever they came near other dogs. The whole place was in commotion, dogs howled, barked, and fought till the blood ran, and people went about with clubs to beat off the assailants. But soon the stir and the noise subsided; only now and then the stillness was broken by a snarl, a short fight; then everything would be quiet again, and each dog would stay with his own team, fighting an occasional solitary wanderer of the night.

Inside the telegraph station the soldiers had spread a splendid repast. We ate it with relish, we talked, we "swopped news," we "spoke trail," and all the while the ticker was busy sending news to Nome or receiving news in return.

The river makes a large bend at Nulato, and a portage is cut across the country, thus saving the traveller about twenty miles. We started for it on the morning of the 5th and had a fine day. On both sides of the trail were the trees; it was blowing rather hard outside, and their tops were bending and swaying in the gusts of wind. But where we were not a breath was stirring, the air felt warm though the temperature was — 18° C., and off went our parkeys, mittens were put away on the sledge, while we were flying along warm and comfortable. The portage was hilly, and the weather was such that a hill looked much steeper, flanked by tall pines, than it really was. Going up was slow work, and we often had to help the teams, but downhill we went fast enough. The forest was the most

beautiful of its kind we had yet seen, and we often stopped to admire the clusters of high birches which stood at the edges of lakes or streams. High and white they rose above us, forming a strong contrast to the smaller and darker pines, with every twig silhouetted against the heavy snowclouds. Even now, in the middle of the winter, this, the most graceful of trees, is a splendid sight, as it bends its snow-covered branches over the trail, sometimes so deeply that we must take care to avoid them. And the snow alongside the trail completely obliterates the smaller scrub trees; sometimes the tops are just visible, but usually they stand up like small round domes, hidden under a soft white snow blanket.



THE TRAIL OVER A PORTAGE.

Mile after mile we laid behind us. At 3 P.M. we thought that we had covered the distance to the road-house (supposed to be twenty-two miles), but it became 4 P.M. and 5 P.M., and yet no sign of the house. On we passed, uphill and downhill, over rivers and lakes, hoping to see the house at every bend of the trail. But the night settled about us, and we had to light our lanterns. We marched on and on, cursing our bad luck, worn out, tired, straining our eyes to catch sight of the lantern of the road-house. Then we struck a fresh trail; we were near people who had been coming and going on the same day for the purpose of cutting wood, so we whipped up the dogs, and soon we stopped in front of a wretched log cabin. A woman came out and took care of our dogs; her husband, a white man, had gone to Loudon.

She cooked for our dogs and for us, and as soon as we had

eaten we rolled ourselves up in our blankets to sleep. We were told that the road-house was a halfway house; in other words, we had twenty-two miles before us, and, as they proved, they were the longest twenty-two miles I ever walked.

We started before daybreak on the 6th. The weather was bad; a heavy snowfall obliterated the trail and made the going hard. Every now and then we had to stop to allow our dogs to bite the snow from between their toes, and as the day wore on the halts became both more frequent and longer; two of the dogs had learned the trick of assuming a limping gait, which at once made the driver stop the team. We met a mail courier about halfway and were glad to follow his trail, but before long we were again feeling our way along. A traveller on a portage must be careful to follow the trail, for in case he should leave it he will be lost entirely and will not know how to find his way out again. Whenever we came to a lake I therefore went ahead, breaking the trail for the dogs. It was easy enough to stay on the trail without snow-shoes, as I sank waist deep into snow immediately I stepped off it, but it was hard to keep the sledge on it, narrow and snow covered as it was. The dogs hustled each other for fear of falling into the deep snow on either side of the trail, and, everything considered, we went very slowly and very laboriously. Just as the day was fading we came out to the Yukon again, but there it was blowing and snowing so hard that we could not see three hundred yards about us. Trail there was none; we only knew that we had to cross the river, follow the opposite bank eastwards, and we would come to Loudon. I lit a lantern to see where we were going, but only now and then, at long intervals, we could see a faint indication of the trail. We crossed to the other side of the river, but whether we were east or west of the station we did not know. For two hours we went along the bank, then we saw a faint light ahead; we whipped up our weary animals to make one last effort, and in the course of a few minutes we drove into town.

The soldiers had been expecting us, and at once hustled us inside to get something to eat, of which, indeed, we were in great need, as we had not eaten for nearly eighteen hours.

All the next day a gale was blowing from the up-river country.

Starting was out of the question, so we stayed with the soldiers, reading, playing games, and sleeping.

On February 8 the weather was still very stormy, but we were tired of waiting, so we hitched our team and started against the wind. After eight hours' travelling we came to a store, only sixteen miles from Loudon, where we put up, as its owner, Mr. Lewis, gave a vivid description of the hard trail ahead, the snow and storm, and the discomforts of sleeping out of doors without a tent, all of which we should expose ourselves to if we did not avail ourselves of his offer to stay in his house as his guests. We were perfectly aware of all this, and had no intention of going further that day, so even if he had not pressed us quite so much we should have stayed and been glad to do so.

There was an Indian settlement near Mr. Lewis, and the people were nice enough when we sat talking in the store, but if it came to a bargain with them, then God help us!

Upon the whole there are many natives living along the banks of the river, but we see very little of them, as all our dealings are with white men, the natives asking too much for everything they have to sell. They are not pleasant people here, and, coming straight from the kind and hospitable Eskimos, I find it hard to put up with their impudence. With sorrow I thought of the future of the Eskimos, when they had been as long in contact with white men as these Indians have, and had lost their old habits and customs. That this will be their fate some day I have no doubt.

The weather was worse again the next morning when we were going to start, but it was only eighteen miles to the next telegraph station, so we thought we might risk it. However, we were soon sorry that we had started, as the wind was far too strong for travelling, but some fairly good going made up for the poor weather. We reached Melozi at 3 P.M. and stopped promptly, as we had long before lost all desire to face the weather any further.

The following day, February 9, the weather was fine, but what a trail! I had to walk ahead on snow-shoes, and sometimes I had to go over the trail three times before it was firm enough for the dogs to pull. Again we followed a portage, and when we were halfway through we met a team going in the opposite direction. The situation was far from agreeable. One

of us would be forced to go out into the neck-deep snow alongside the trail in order to let the other team pass. We were all tired and cross, and consequently Mr. Adams and myself claimed that we had the right of the way; our friend asserted that he had, and he expressed his opinion on the subject in stronger terms than his rights and the occasion seemed to call for.



NEAR KOKRINES.

As I have often said before, people are touchy when on the trail, and I made up my mind not to go out of the other man's way, and as he did the same, we stayed where we were, sat down on our sledges, hauled out pipes and tobacco, and lit up, all very deliberately, and all the while glaring at each other. The smoke was soon standing about us in the calm and oppressive atmosphere, and the puffing at the pipes was the only sound heard. One pipe was smoked, then another, and still we did not move. At last we heard a halloo somewhere ahead on the trail; a man came along at a good speed, singing and whistling, and apparently feeling very contented and satisfied. When he came into view he stopped with a laugh. In a moment he had seen how matters stood, and, still laughing, he inquired whether we boys were out on a picnic. I admit that I felt ridiculous, but nothing more. The new-comer, a happy young fellow, who was not yet tired, hauled his own sledge and that of my now very silent friend out of the trail, we aroused our dogs and started to pass on eastwards, secretly proud that we had won and stayed on the trail.

This is only one out of many instances of the strange way in which people behave on the trail, their readiness to take offence,

their stiffness and unmanageableness. We had lost a whole hour through our stupidity, and it was dark before we had covered the twenty-five miles between Melozi and Kornings, where we stayed with a native road-house keeper.

A bright young fellow, Joe Indian, wanted to run "up the line," and Mr. Adams, who was not accustomed to the hard



KOKRINES TELEGRAPH STATION

mushing on the trail, made an arrangement with Joe to ride on his sledge. We started early on February 10 to make a fine run, and for once the weather was splendid, calm and clear. The intense cold had covered the snow with a thick crust of ice, over which the sledges passed easily; the trail was fairly well marked, and everything was in our favour for making a good run. In four hours we made sixteen miles; then we stopped for an hour and a half at the telegraph station at Kokrines, started again, and when the sun set and the dusk commenced to settle around us the moon rose over the tree tops, lighting up our trail. At 7 P.M. we reached Wilson's road-house, having covered forty miles during the nine hours and a half we had been actually travelling.

Next morning Joe Indian had left us. Our way of travelling did not suit him; there had been no time to talk with casual natives, nor to take an hour's rest at every native house we

passed. The work facing us was hard, for before us lay another portage with soft snow, but the weather was so beautiful that we did not feel as depressed and miserable as usual under the same conditions. The trail was cut through a heavy forest; on either side were the dark trees, lifting up their leafless branches against the clear sky. Large blotches of snow hung all over



LARGE BLOTCHES OF SNOW HUNG ALL OVER THE TRUNKS AND BRANCHES.

the trunks and branches, and if a bird alighted on a tree, or if we lightly touched one of the branches, a shower of soft downy snow would descend upon us, and every twig, every branch, was encased in frozen snow, which glittered and gleamed like diamonds in the bright sunlight. Ahead of us, where the trail went towards the sun, the air was full of minute ice particles, gleaming and glittering with all the colours of the rainbow. To our left we had a lofty mountain, visible now and then through a clearing in the forest, dazzlingly white against a dark blue sky.

All was quiet, dead quiet; the silence was only broken now and then by the chirping of a snow sparrow, which would hop along talking to itself at a respectful distance from the sledge, and looking at us in wonder and surprise. The bells attached to the harness of our dogs chimed out over the country, the sound penetrating the great stillness, sounding in the frosty air loud and solemn, like church bells.

It would all have been very perfect had we been able to stop and lie down to look at it, but Birches, our goal, was far away, and we had to reach it. At 4 P.M. we drove up before the telegraph station, Mr. Adams almost dead with fatigue. We heard of a road-house about nine miles further on, and as I wanted to pass the night there, Mr. Adams hired one of the



NATIVE CAMP ON THE YUKON.

soldiers to drive him. We arrived at our destination tired and sore in every limb, but we had made more than thirty-five miles and were close to Fort Gibbon. The road-house was run by a couple of miners who had a "sure thing" hidden somewhere in the forest, in which they expected some day to find the golden dreams of every miner. They wanted, in consideration of a suitable payment, to let us into this "dead sure thing," but, to their disgust, we were not very enthusiastic about their project and refused. They were nice fellows and cooked a splendid dinner for us; they also cooked our dog-feed and made out a fine bill—$19.0 for one night.

On February 12 we had hoped to reach Fort Gibbon, but it was too far, the trail was hard, and furthermore we lost it for almost two hours and had to wander about till we found it again. At

night we had to put up at the house of a native, who had only one rabbit for the two of us. Needless to say that we could have eaten more, so I went out to look for frozen fish, and was as proud as a king when I found one. Mr. Adams did not want to eat it, so I ate the whole of it myself.

We started early to make the short run to Fort Gibbon, and



TYPICAL VIEW ON THE YUKON.

at 10 A.M. on Thursday, February 13, we drove into the town, passed along the line of houses, and put our dogs into some kennels belonging to an "hotel." The fort, which holds about two hundred men and half a dozen officers, is a fine place; with its neat and commodious buildings for the officers, offices, hospitals, the large drill ground, a bath-house, the barracks, stables, etc., it flanks the only street of the town. Further up the street there are about a dozen saloons, a restaurant, some hotels, the N.A.C. store, and a couple of other smaller shops, some dwelling-houses, and finally a gaol. The town stretches along the river banks of the Yukon for about a mile, and looks big and imposing when seen from the river, but this impression disappears as soon as we enter the town and see how little there is beyond the houses of the front street. However, at summertime the town has a good many ships coming and going, as the larger steamers from St. Michael's meet the smaller

ones from Dawson and Fairbanks, into which the cargo is reshipped for further transportation.

Captain Clifton, who had charge of the telegraph line from Delta River to Kaltag, a distance of more than seven hundred miles, had invited me to stay with him during my halt at Fort Gibbon. After shaving and dressing as well as I could, I went out to find him, and, after inquiring for him at his office without success, I went into the street to look for a man who answered to the description the men at the office had given me. I met one, and upon inquiry found out that he was in fact the man I was looking for.

He was very kind and courteous, introduced me at once to the other members of the small group of ladies and officers he was walking with, and repeated the invitation which he had already telegraphed to me. Of course I accepted with thanks, and stayed with him and Mrs. Clifton for about ten days, days which will always remain in my memory as some of the pleasantest I ever spent. And not only Captain Clifton, but also Mr. Müller, the N.A.C. agent, Mr. Corbisher, the mail service superintendent, Mr. Vachan, and the officers at the fort, showed me great kindness.

Mr. Adams had enough of "mushing" when we reached Fort Gibbon, and wanted to take the horse sledge, which runs down to the Hotsprings with the mail once a week, in connection with the stage to Valdez. Mr. Adams left for the Hotsprings with the first stage, but I stayed on for another week, as I wished to enjoy my period of rest and ease, the first I had had since the beginning of the expedition. But even I could not prolong this pleasant time for more than one week, and on February 22 I left on the horse sledge for the Hotsprings.



HORSE STAGE ON FISH LAKE.

CHAPTER XIII.

CONCLUSION.

Leave for Fairbanks—Stage-driving—Mining Camps—Hotsprings—Fairbanks—Start for Valdez—Strike-breakers—Warm Weather—A Blizzard—Stay in a Road-house—Through the Keystone Cañon—Arrive at Valdez—Leave Alaska.

On Saturday, February 22, I started for Fairbanks, travelling now in quite a new way, sitting in a horse stage drawn by four horses, wrapped up in furs and rugs, and with nothing to do all day but to sit still, now and then dropping off to sleep, and upon the whole taking life easily while we were moving southward at a rate of four and a half to five miles an hour.

On the 23rd we reached Sullivan Creek and the little neighbouring town, where we stopped a couple of hours for lunch. The road-house was full of men, who loafed about apparently unconcerned, but in reality waiting for the mail from the north. Rumours had come to the mining camp that a new strike had been made on the Kayukok, and that two men had taken sufficient gold out of their claim to fill a five-gallon kerosene tin.

They are strange places, these small mining camps. A man goes wandering through the wilderness until he finds a likely-looking place. Then he commences to "sink a hole," which

means tackling the frozen earth with pick and shovel, thawing it with log fires, throwing out the loosened soil, thawing it again, and panning all the while to see whether there are any "colours" (small gold particles) in it. Sometimes it will take a man a couple of months to sink such a hole, and usually he gets nothing for his pains, but sometimes he finds the glittering and desirable



LAKE, FIFTEEN MILES SOUTH FROM FORT GIBBON.

metal. If gold is found, off he goes to the nearest town or store to get a "grubstake" (food to work on), and he returns to his claim to ascertain the extent of the gold seam. Rumours spread, God only knows how, and far and wide sounds the report that gold is struck at Sullivan Creek! But rumour magnifies the amount of gold found to an alarming extent, and the further away from the strike the richer it becomes. Day and night the miner will dream of this rich strike, and at last he cannot resist temptation any longer, but starts out on the trail as one of the many who from all parts of Alaska are stampeding toward Sullivan Creek. Most of these people are splendid travellers; wonderful marches are on record, performed by men travelling for long distances with nothing to eat but a handful of beans and some bacon, on the small hand sledges they pull themselves.

But excitement is at its highest at the diggings themselves, and from the immediate neighbourhood people will flock there almost immediately gold has been found. The N.A.C. people

send provisions to the place, a couple of tins with baking powder, some flour, beans, and bacon. They build a log house, more food comes to them from the nearest store, and business commences to be brisk. Other log houses are built. The bar tender, who at once has raised a tent in which to serve out drinks, soon finds the place too small for him. The miners are thirsty, and



SULLIVAN CREEK ROAD-HOUSE AND HOTEL.

one day, a surprisingly short time after it has been commenced, the house is ready to receive him, his few bottles, and his many guests. Then a couple of girls come to the town, a dancing-hall is built, so small that it hardly deserves the name carefully painted over the door in bright flaring colours. Liquor is also served there, and for these desires of the miners ample provision is made. And people keep on flocking to the diggings, the town grows and grows, road-houses and banks are built, and in the course of a month a number of cabins have sprung up as if by magic, and the gold which has lured all these people to the place in question is the main object of conversation. The people who came first have "staked in" the country for miles about the hole which contains the gold; they take in new-comers to dig a hole for them at a price of one-third or even more of their claim, the pick and shovel are used with good will, holes are sunk, more gold is struck, money flows freely, and people keep

on coming. If the strike is really worth anything, or thought to be so, a town is built in a year ; every house contains a saloon which is always open. Phonographs and pianofortes enliven the scene, and rows of drunken men, mingled with the shrieks



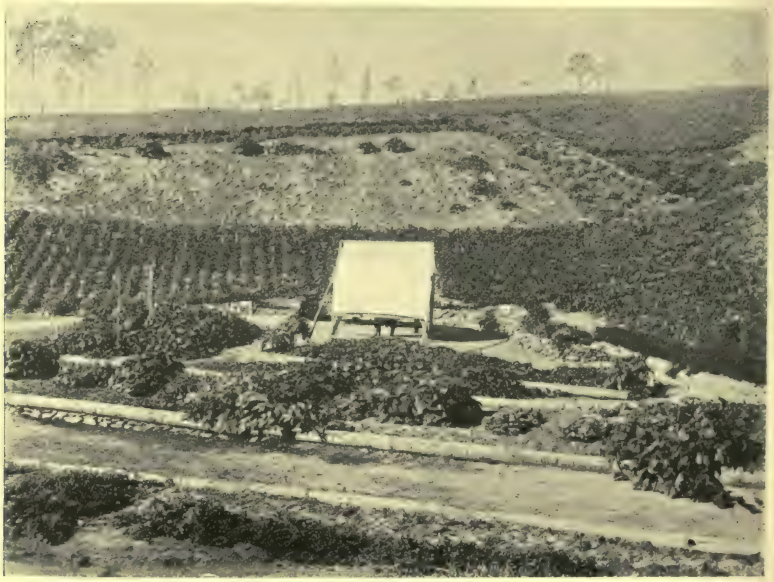
MR. MANLEY'S LARGE HOTEL.

of half-drunken dance-house girls, are heard by night as well as by day.

But all these people will disperse as quickly as they came if the strike turns out to be valueless ; the newly-made log cabins will be left empty, and the litter of broken sledges and numerous odds and ends will remain to tell of one more broken hope, a mute evidence of man's foolhardiness and credulity.

Such is the story of most "strikes," but there are cases where the report is true, where gold really exists, and in such cases the town will last for years. The mining camp near Sullivan Creek was not very large yet ; it was not certain that there was much gold there, though some men had been very lucky. However, Sullivan Creek will never be a regular town. Mr. Manley's large hotel at the Hotsprings is so close that most of the touring, dancing, and drinking will go on there, as it is only about eight miles away. I had heard much of this place, but I must

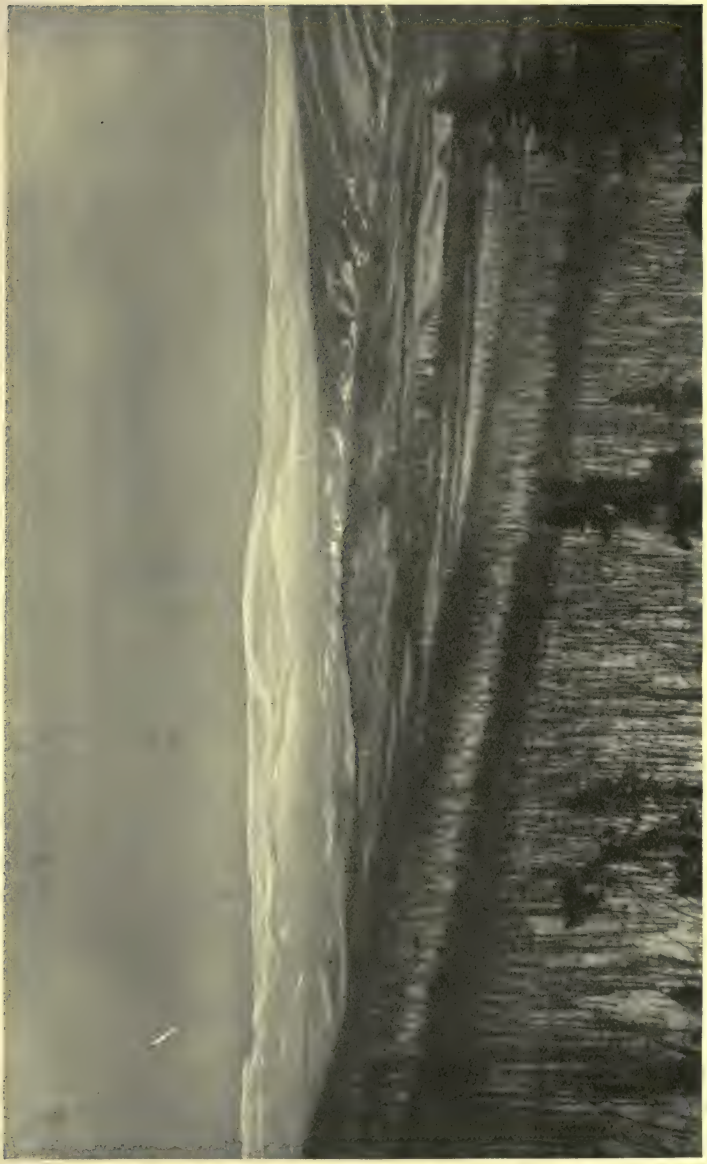
admit that I was surprised when we came out of the forest and stopped in front of the large, well-built, two-storied log building. It was a splendid place with a nicely furnished dining-room, bedrooms, and sitting-rooms; a large saloon with a billiard-room took up the lower story of the house, and in an annexe were baths for men and women. The water came from



THE HOTSPRINGS DISTRICT IN SUMMERTIME.

some hot springs, the temperature of which was 108° Fahr. When cooled it made splendid water to bathe in, and when hot it was used for heating the hotel, the stores, the stables, and some immense chicken-houses in which 1,200 chickens were living the life of warmer climes. Fresh eggs were no rarity at the hotel, no more than fresh chicken and potatoes (twenty tons grew there in one summer); cabbages and even corn grow in the warm soil during the summer months. Mr. Manley was proud of his hotel, as in fact he had a right to be.

The hotel was a favourite winter resort to the people from Fairbanks, who at the time of my visit had flocked there in such numbers that every room was taken up, and I got the only spare room and bed that were to be had.



VIEW EASTWARD FROM THE HILLS NORTH OF HOTSPRINGS.

But only too soon I had to leave this pleasant place. The stage only left once a week, and I had already idled away far too much time on the trail, and, consequently, when the stage



STRAIGHT AND BARE TRUNKS.

started for Fairbanks on the following morning, February 24, I was one of its six passengers.

We followed an inland trail, and the country was very uninteresting, the more so as the weather was thick and it was snowing for the greater part of the day. We drove through mile after mile of forests which some years ago had been burnt down, and nothing was left but the tall bare trunks, charred



A HORSE BREAKING THROUGH THE ICE ON THE DELTA RIVER.

and black with the ravages of the fire. Most of this damage was due to the carelessness of people who had used camp fires and not put them out before leaving. The first day we drove fifty miles, the next about the same distance, and then stopped within ten miles of Fairbanks, at a large mining place called



A GENERAL VIEW OF THE ALASKAN RANGE.

Ester Creek, one of the best of the many camps in the neighbourhood of Fairbanks. Ester Creek could almost be called a small town, but most of its business went to Fairbanks, with which it was connected by a railroad, running, if not frequently, at any rate regularly.

In spite of the serious working men's strike, which had continued during the preceding summer and which was raging still, large "dumps" of dirt were taken out of the different mines. Water, for sluicing out the gold, was led to the camp by means of ditches and pipes from some rivers and large lakes twenty miles or more distant. It was a scene of great activity. The clank of the steam winches and pumps was heard above the less penetrating noise of the trolley cars from which the soil from the mines was dumped in great loads. Steam whistles were blowing when we drove in, the signal for stopping work on that day, and we might have thought ourselves in a large manufacturing town, and not upon a mining property in the middle of Alaska.

Unfortunately, we came in so late that I could not see the works, and the next morning before daylight we were on the trail again for Fairbanks, where we arrived at 10 A.M. on Wednesday, February 26. The most interesting sight which



THE ALASKAN RANGE AND AN ALASKAN MAIL-BOX.

we saw along the trail was the railroad, looking rather out of place with the dog and horse sledges running parallel to it.

Fairbanks itself was a great surprise to me. It is a large town, with several big hotels, immense stores (N. A. C. and Vachan's) and dry goods stores as large and well assorted as in many "outside" towns, where the latest fashions can be had nearly as quickly as in New York. There were shipyards, machine shops, where almost any kind of machinery could be made or repaired; there was electric light, steamheat, and a waterworks, with water mains along the main streets, placed there in case of fire, against which special precautions were necessary, as the town was built chiefly of wood. There were club-rooms, saloons, and dancing-halls, even large and beautiful jewellery shops, where everything in that line could be bought. There was a theatre and a large skating rink. There were splendid restaurants, two or three large lecture-halls, and three newspapers, sold in single copies at the trifling price of 25 cents apiece!

It was a wonderful sight to see the stores and then to think that most of their contents had been brought over the trail from Valdez. All the dry goods had been hauled in over the ice, a very expensive mode of transport, seeing that the distance to the coast is about four hundred miles, that everything has to be carried on horse sledges at a price of 30 cents a pound, and that a man is wanted for every sledge. Eggs, vegetables, etc., are brought in the same manner, and large herds of oxen "mush" the long way from the coast to Fairbanks to be slaughtered there.

All this costs money, but money, which is easily come by in a mining town, is just as easily spent. This is never more apparent than at night, when people go to the rink, where they pay 75 cents for admittance, and where the man who plays "Home, sweet home" and other tunes on a large piano gets $15 a single night. The same extravagance prevails in the fashionable club-rooms, where the more well-to-do part of the population go to talk over the news, drink and smoke, and where champagne suppers are given, the cost of which sounds fabulous to European ears; in the theatre, where a lady team play basket ball, while their sisters among the spectators appear in gorgeous toilettes, or in the same place a couple of nights later, when a wrestling match takes place before a crowded hall, where seats are sold for as much as $5. The splendour of private dinners makes it hard to think that they are given in Alaska, at a place where only six years ago the forest was untouched and the very ground on which the town now stands was untrodden by any white man's foot.

Fairbanks is a fine town, and it is wonderful that a town of its size can be built on such uncertain prospects as those of a mining centre. No one knows when the production of gold may end, and then the whole thing will not be worth ten dollars.

Fairbanks, according to a story I heard, was found in rather a strange way, in fact could appropriately be called the result of a lie. A Japanese had sent a number of men post haste into the country by telling a wonderful tale of rich gold mines which he had found. He wanted men to work in them, but when the men came they found that the smart "Jap" had a road-house, where meals cost a lot of money, and that he had not put a single spade into the promised mines. Matters

looked serious enough for the deceiver; revolvers or the rope, according to each man's individual taste, were proposed as a fitting revenge, when a witty fellow interfered, proposing as a good joke to let the "Jap" prospect the ground on the chance.



"OUR HOME" (A ROAD-HOUSE).

If he found gold they would spare his life, if not, then he would have to pay for his fraud.

The "Jap" worked as he had never worked before, and lo! one day he struck bedrock, gold was found in remarkable quantities, and the fortunes of all present were made through that lie. What happened to the "Jap" no one cared; he left the camp while the excitement was at its height, taking with him what money he could lay hold of. The miners did not regret the money, for before them was gold in plenty. A recorder was elected, the town of Fairbanks was founded like many other mining camps, by stampeders who had come to it from far and near, and now the town has five thousand inhabitants in the winter and twice that number in summer.

I spent some pleasant days at Fairbanks. The first night there was a reception at the club in my honour. I was invited

out every day, but Mr. Vachan and Mr. Gordon showed me special kindness. I stayed in the house of the former, and everywhere the work we had done met with the warmest appreciation—an appreciation which meant a good deal to me,



WATERING HORSES ON THE TRAIL.

as coming from men who all knew what life on the trail meant and the difficulties attending it.

But my conscience was pricking me. Valdez was still far off, and I left on March 4 at 6 P.M. Captain Clifton had telegraphed to me that he was going up to the further end of his district and would join the stage; so he, Mr. Dreibelbis, and myself went together.

When I arrived at Fairbanks the weather was nearly 40° C. below freezing point; when I left it was 3° C. above, and rain and snow were falling—rather a strange state of affairs in the interior of Alaska during the early spring. It was hard work for the horses to pull the stage in such weather, but they were changed every twenty miles, and we made fine progress in spite of the sticky trail. On the morning of March 5 it was still raining, but it cleared up and became colder towards the afternoon, when we had a splendid view of the magnificent Alaskan range.

Traffic on the trail was lively. About six hundred men were on their way to Fairbanks and the neighbouring camps to take



A "HORSE-STABLE" ON THE TRAIL.

the places of the miners on strike. We met them, alone, in parties of two or three, or in large parties of as many as about a hundred men, but most of them with their foot gear torn, badly dressed, freezing and half-starved. There were road-houses enough, some permanent, but also some made of canvas and constructed only for the season. There were always people in them, and laughter and song would mock the poor "mushers" who could not afford to pay two dollars, or even more, for a meal.

The second day after we had left Fairbanks we travelled sixty-two miles, an enormous advance upon dog-driving!

We left Sullivan's road-house at 6 A.M. on March 6 and made splendid progress over the trail, which now was frozen as hard as ice after the warm weather of yesterday. But the weather was still rather cloudy, and we much regretted the fact that we should probably miss seeing some of the finest scenery along the trail. At 11 o'clock, however, the fog suddenly cleared, and, as if a curtain had been lifted, we saw the ragged mountain line in all its grandeur, the lofty white peaks sharply silhouetted against the blue sky, while clouds were still hanging over some of the summits or in the deep gullies, where the rays of the sun had not yet been able to disperse them. Weird and solemn was the effect produced, and we enjoyed it greatly, driving along at our ease, well wrapped up in furs, smoking and talking while watching the rapidly changing scenery.

Our driver, John, a fine young fellow, sent us along at a reckless speed. Down steep hills we flew, with a gulch yawning on one side, but nothing happened to disturb our ride, and we stopped at Rabid's road-house at 4.30 P.M., having made forty-five miles that day.

The next day the weather was bad and we could not make connection with the stage on the other side of the summit. We used double-enders (sledges for a single horse, low, with a rail round it), and six of these were required to move our outfit. We passengers each had one sledge; on the others the mail was placed.

The upper Delta River is famous for its storms, and the storm which surprised us that day was one of its worst. But we could crawl down under the ropes and let the wind roar above us, though the snow was drifting so hard as almost to blind the two

mail couriers who guided the train. At 11 A.M. we stopped at Yorst road-house, and Captain Clifton and I again said good-bye to each other.

While we were laid up at Yorst another large troop of strike-breakers came by, almost one hundred men in all. First came the young and the strong; a short rest, and they were off again;



TRAIL NEAR "OUR HOME" ROAD-HOUSE AFTER THE HEAVY SNOWFALL.

then came the bulk of the men with four teams on which their food and spare clothing were transported. In torn kamicks and worn out rubber boots they went out into the deep overflows (water standing on top of the ice), though we told them that there was much water. But what did they care? They had now been eleven days on the trail, they were weary and tired, and almost in despair.

On March 8 we continued the march with our double-enders. The weather was worse than ever; it was blowing and snowing very hard, so that it was impossible to see any distance ahead. When driving across Summit Lake we met a freighting expedition, who were stuck in the snow and had to empty their sledges of the millinery and dry goods, which were to adorn the fair ladies of Fairbanks. We just saw them when we passed, and five minutes later they were lost in the drifting snow. At last the wide expanse of the lake was passed, and we commenced

driving through the timber. We ploughed up a deep ditch as we went along, and a horse which slipped on the trail almost disappeared in the deep snow. Upon the whole it was a hard drive, and we were glad when we reached Meyer's road-house and met the stage from the coast.

It kept on snowing throughout the night, and when we



A VIEW OF THE UPPER COPPER RIVER.

started on the 9th we had more than three feet of snow on the trail. Three of the horses worked very hard, but the fourth jibbed, and we could do nothing with him; after five hours, in which we had only made three miles, we gave it up and rode on to the nearest road-house ahead.

The bareback ride on an old thin mare was the worst I ever experienced, and we were quite worn out when we reached "Our Home," a dingy little road-house with a dirty "bunk-room," and numbers of people who had been obliged to stop there on account of the heavy snowfall. We all found room somehow, but it became worse towards night, when a couple of sledges with seven passengers coming from the opposite direction were likewise forced to seek shelter in the already over-crowded road-house. We slept two men in a bunk, and were glad when the day broke and we were able to turn out. All that day we stayed in "Our Home," spending our time as best

we could, eating, reading old papers, talking and smoking, and looking down the trail, eagerly watching for the first sign of our driver, who had gone back for his sledge. Another stage with passengers from the "outside" arrived at about 2 P.M., and the



MOUNT DRUM SEEN FROM COPPER-CENTRE ROAD-HOUSE.

woman who owned the house, helped by her daughter, had hard work to feed her numerous snowbound guests.

At last our driver came back, but the horses were nearly dead, and starting was out of the question; so we stayed one more night at the place with the pleasant but very inappropriate name. We were eighteen people, five of whom were women, and our quarters were, to say the least of it, very cramped. We passed as much of the night as we could, sitting round the red-hot stove, cursing our bad luck, the snow, the trail in general, and the Alaskan one in particular. The men were all "old-timers" and had known the country for years, but they had not yet learned to take the trail as it came. Still it helped us to pass the weary hours, and after we had talked knowingly about politics and a religious debate had been started with scant success, we took up the last resource, "swopping lies," a favourite occupation of Alaskan travellers. The inventive

powers of the present company were truly marvellous, but even this interesting occupation became tiresome in the long run, and we turned in, two in all the bunks, and men and women in the same room.

We were glad to start on the next morning (March 11), the more so as the weather had changed and was now very beautiful.

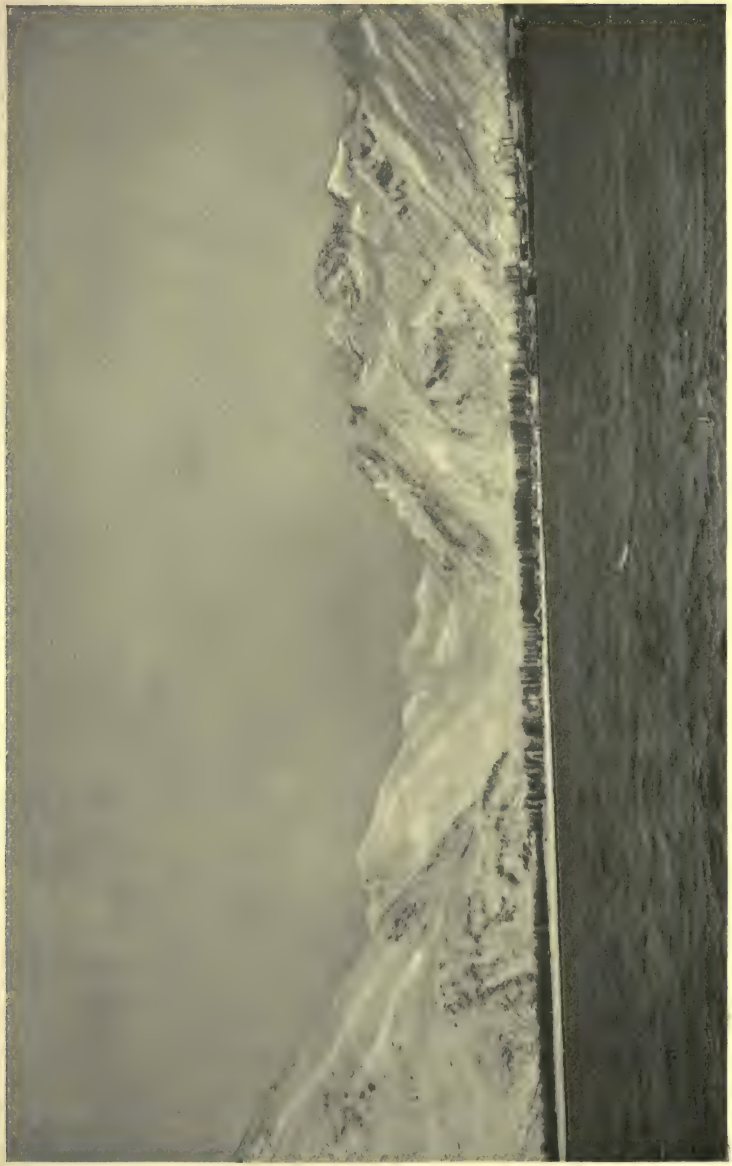


ON THE TOP OF THOMPSON'S PASS.

Personally, however, I felt rather melancholy, for the two days' delay in "Our Home," otherwise pleasant enough, had made it impossible for me to reach the boat I had counted on, and I should have to stay a whole week in Valdez.

On March 15 we made a splendid run. We left Gulkana at 4.30 A.M. and arrived at Teikill, more than eighty miles distant, at 10 P.M. The day was long, but the scenery was so beautiful and the weather so glorious that we really did not mind.

When we started it was very cold, almost -40° C., but before long the sun rose over the mountains. It was a strange sensation to sit there, comfortably warmed by the rays of the sun, while deep snow was lying on the ground and the trees were covered with hoarfrost; but the spring was coming, the pleasant season when the snow would melt, the trees would bud, the rivers open up, and sledging become a thing of the past.



VALDEZ SEEN FROM THE SEA.

But while we were enjoying the warmth we sped along as fast as four strong horses could carry us. Every twenty miles we changed horses, and the halt afforded us an opportunity to stretch our legs before we again commenced speeding towards the south, towards the high and rugged coast mountains which came nearer and nearer. To the east we could see Mount



"HOTEL" BELOW THOMPSON'S PASS.

Drum and Mount Wrangel quite clearly, as if they were close to us instead of thirty-five miles away, and from the middle of the large even dome of Mount Wrangel the smoke of the crater was rising high in the calm air. The forests we drove through were beautiful; only now and again we came to large tracts of land where destroying fires had robbed the trees of their branches and only left the tall straight trunks.

But finer still it became when night fell and the sun sank behind the coast mountains. To the east the full moon rose over the Alaskan range, lighting up the magnificent mountains on either side of the trail. For miles and miles the mountains were visible, showing every fissure, every snowdrift, in the soft moonlight, while the tall trees, the tallest we yet had seen, were rocking to and fro with large blotches of snow on their branches. Not a sound was heard, except the tinkling of the bells on the harness of the horses and the clattering of hoofs



A RAILROAD BRIDGE AT CARDOVA (NEAR VALDEZ).

upon the hard trail. When we had passed Toscanna we came upon a congregation of sledges—parties carrying wares to Fairbanks and the telegraph stations inland. They had camped, and their large tents stood on either side of the trail, lit up with lamps. From a distance we could hear the people talking, and here and there also the sound of an accordion. In



STAGE ARRIVING AT VALDEZ.

another tent some one was singing, but as we sped by the singing stopped, people came out to look at us, cracked their whips at our horses, and all the while on and on we went through that veritable street of tents. Outside each tent one or more horses were standing, shivering in the cold, with a blanket thrown over them, and munching their food. We reached Teikill road-house and found it full, but we were accommodated somehow and slept beautifully until 2 A.M., when we were called to continue our journey.

The trail was very bad, practically nothing but "chuck-holes," holes five to six feet deep and about ten feet long, which had been dug out in the trail by the heavily loaded double-enders. Down and up again we went, jolting unmercifully, at times almost shaken out of our sledge. We drove through a narrow cañon with high, steep mountains on either side,

twisting along in rather a dangerous way. However, we reached Ptarmigan Drop without any accident and began to climb the mountains, the other side of which was washed by the waves of the Pacific Ocean.

It blew hard, but we reached the top, and our downward progress began. The trail which had been cut into the mountain



HEADING SOUTH FROM VALDEZ.

was narrow and steep, and we held ourselves in readiness to jump out of the sledge in case it should come too near to the edge. And down we went faster and faster, while through the drifting snow we began to see the tops of the trees below; they became clearer and clearer, a twist of the trail, and we were surrounded by them on all sides. But only for a mile; then we emerged into an open plain where a large road-house—it called itself an "hotel"—was situated. A stage was waiting for us there, and our last run commenced. How it blew! The stage sailed along like a ship in heavy seas, hit the sides of the trail, lurched as if to throw us out, made straight for the other side—another lurch, and thus we went through the Keystone Cañon, down towards the coast. The Keystone Cañon presented a grand spectacle. On either side of the trail the mountains rose to the height of 2,000 feet and were so steep that the snow could find no resting-place; large icicles hung everywhere, and a huge belt of ice, a now silent waterfall, wound its way along

the side of the mountain. Weird and grotesque it looked with its frostbound waters, and, as if to make up for the stillness and quiet of the surrounding scene, the wind, roaring, shrieking,



A FROZEN WATERFALL IN KEYSTONE CAÑON.

howling, forced its way through the cañon, coming to a standstill against steep walls of rock, then changing its course and continuing with renewed force, blowing with all its might against the sides of the stage. The snow which was whirled up by it flew in dense clouds through the cañon, covering everything with a thick white blanket, while on we went as fast as our horses could take us.



MOUNTAINS IN "THE NARROWS," TEN MILES SOUTH OF VALDEZ.

When we were out of the cañon the weather became better, the wind having freer scope, but still it blew hard. Road-houses and tents were passed, unfinished railroads and houses, another forest; then, after crossing the river, the last bend of the trail, and there in front of us lay, large and dark, the ocean.



ENTRANCE TO KEYSTONE CAÑON.

The long trip from Flaxman Island to Valdez was finished. It had taken me almost six months, from the 16th of October till the 13th of March, but I had covered about three thousand miles, had travelled along the Alaskan coast, had crossed overland through rugged and mountainous stretches, followed the highway of Alaska—the Yukon, travelled with my own teams, practically begging my way along the shore, where I was kindly received by the natives, travelled with other men's teams, used the stage, and now, after a long and weary trip, I was at the goal. I could have stood up in the stage and shouted with delight to see that it was all but reached, and my joy increased when we came nearer and I saw a steamer at the wharf. The last few hundred yards lay through the town, and we stopped at the stage office, where I found out that I had to wait six days before the steamer left. I stayed in the town, where, as usual, people were kind to me, but still I was glad when the day of departure came.

Our expedition, as far as I was concerned, was finished, and even if the results were not what we had expected when we went north, I still felt confident that we had done some good work which entitled us to some self-satisfaction. I was now going home to start again for "terra incognita"; but there, far away

on Flaxman Island, was my friend and partner, Mr. Leffingwell, who had remained to finish the work which he had commenced and for a time given up to join me on my way across the pack ice. I sent him a kind thought when I felt the steamer move, and another to his father and mother, to whom I was soon to bring the warm love of their absent son, who was about to sacrifice two years more on the altar of science.



ON THE TRAIL.

APPENDIX I

In the agreement between Mr. Leffingwell and myself, an arrangement was made providing for the distribution of our work both while the expedition was in progress and after our return. Mr. Leffingwell was to have charge of the scientific work, as well on the expedition as after our homecoming; hence the task of summarizing the scientific results of the expedition in an appendix belongs properly to him, but owing to circumstances detailed in the narrative he remained on Flaxman Island to finish his surveys of the coast, of the numerous rivers, and of the mountain range, hitherto unexplored. He also proposed to devote some time to studying the geology of the country.

As we had not foreseen the possibility of my return alone, I feel that I can do no more than give a very brief statement of the work we have done, and refer readers who desire further information to the scientific results, which will be worked out and published by Mr. Leffingwell upon his return.

Immediately on our arrival at winter quarters, meteorological observations were begun and continued without interruption until the time when the crew left Flaxman Island. Mr. Storkersen made these observations, and while he was absent on sledge trips they were taken by Hicky.

Our record of tide observations is highly valuable. We commenced to take them in earnest as soon as the sea ice was sufficiently solid to bear our weight (September 16). Direct readings were made for every hour, and for every ten minutes from forty minutes before to forty minutes after the turn of the tide. The readings at the station on Flaxman Island were continued without interruption to January 1, 1907. Besides the observations made at Flaxman Island, others were made at Icy Point (120 miles to the east) and at Pole Island, some little distance to the west.

These records were too heavy for me to carry on the sledge on my homeward journey, and the numerous observations will not be worked out until the return of Mr. Leffingwell.

During the winter the absolute latitude and longitude of Flaxman Island were determined by Mr. Leffingwell, but magnetic observations were not taken, as we could not afford the expensive instruments.

My contribution to the scientific work of the expedition is the investigations carried on during our sledge trips over Beaufort Sea. Soundings and discussions on the drift will be found in the two chapters describing the sledge trips, but I will here summarize the results.

Although such scientists as Dr. Nansen and Dr. Spencer had suspected that the Continental Shelf was very narrow to the north of Alaska, we thought we had well-founded proof that it was considerably broader than they

believed, and we were consequently not so careful to take soundings as we ought to have been. On April 1, about thirty-two miles off land, we had 44 metres, and on April 7, thirty-one miles further to the north, we had 620 metres (the length of our sounding-wire) with no bottom.

It was not until April 22, on 71° 12′ N. lat. and 148° 24′ W. long., that we could again touch bottom with our sounding-wire, having at that spot 63 metres. We sounded due north from this point, and came again into deep water, only two and a quarter miles to the north of the first sounding. The following curve will show the increase of the depth right over the edge of the Continental Shelf.

The colour and condition of the bottom will likewise be seen on the diagram.

The set of the ice in Beaufort Sea is very puzzling, and we could not arrive at a satisfactory explanation of it. With calm or an easterly wind the ice would open up, long and broad lanes would appear, and the ice would drift westward at a rate of almost ten miles in twenty-four hours.

When the conditions were reversed and the wind was west we found that all lanes closed up and that the ice was exposed to very severe pressure, but the drift to the east was very small and generally *nil*, even when a west wind was blowing at a rate of twenty to twenty-five miles an hour.

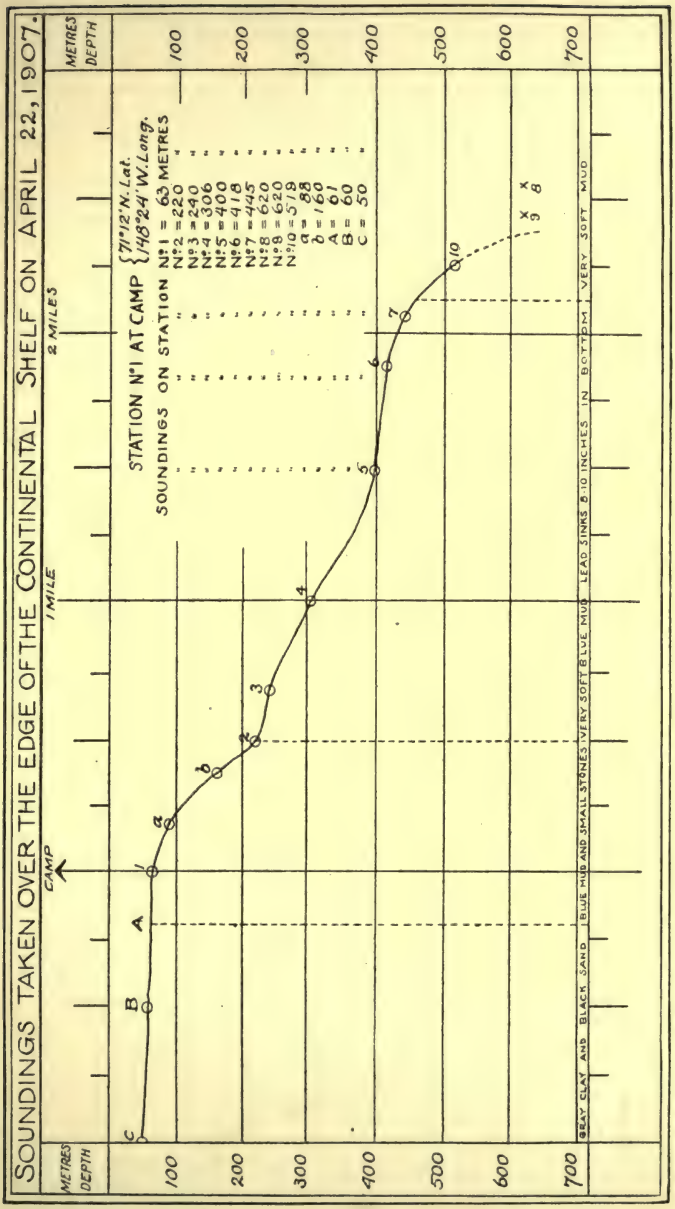
If there was a possibility of the existence of an island extending north and south to the north of Alaska, much could be explained, but this hypothetical land can probably not be found, as the Continental Shelf is too narrow. The existence of such land would, to a certain extent, explain the drift of the ice under the influence of the wind, but in view of the facts before us we must disregard the theory that land is to be found, and base our explanation on observed facts.

In the spring of the year there is a permanent and strong westerly set to the north of Alaska, but all the whalers agree that in the summertime an easterly set is predominant close to the land.

Observations on the set of the ice in Lancaster Sound likewise show a drift to the east, and to the north of Ellesmere Land the ice is also moving fast in the same direction, according to Peary.

That the current cannot set to the west all the year round seems to be proved by the quantity of ice which is found in Beaufort Sea every year. With a current such as that which we encountered the ice would drift away from the west shores of Parry Archipelago, leaving a large body of open water, as the supply from the east, the ice found between the Parry Islands, could not fill up the large expanse thus laid open. However, this is not the case ; only in very good ice years can the powerful steam whalers force their way along the west shore of Banks Land.

The explanation of Dr. Harris, relating to the heavy old floes in Beaufort Sea, namely, that the ice must be kept there by the eastern set of the current and by a stretch of land to the north, cannot be right. Our experience plainly shows that the ice could not remain in Beaufort Sea for any length of time, but would drift across the Polar sea and emerge on the east coast of Greenland in the course of comparatively few years ; and we must thus


SOUNDINGS TAKEN OVER THE EDGE OF THE CONTINENTAL SHELF ON APRIL 22, 1907.
METRES DEPTH
1 MILE
2 MILES
CAMP
STATION N°1 AT CAMP {71°12' N. Lat. 148°24' W. Long.
SOUNDINGS ON STATION N°1 = 63 METRES
N°2 = 220
N°3 = 240
N°4 = 306
N°5 = 400
N°6 = 418
N°7 = 445
N°8 = 620
N°9 = 620
N°10 = 578
a = 88
b = 160
A = 61
B = 60
C = 50
100
200
300
400
500
600
700
GRAY CLAY AND BLACK SAND
BLUE MUD AND SMALL STONES
VERY SOFT BLUE MUD
LEAD SINKS 8 10 INCHES IN BOTTOM
VERY SOFT MUD

look for another explanation of this phenomenon. That the ice is more than a few years old is beyond a doubt, but it must yet remain an open question how it is formed and from whence it comes.

It may be safely stated as a peculiarity of Beaufort Sea that this ice is found in larger amounts there than in any other known waters of the Arctic, but Nansen has seen it on his way across the Polar pack to the north of Franz Joseph Land. However, that it is not common is undoubted, as Captain Cagni never saw any of it, or at least has not described it.

The dimensions of it have probably been somewhat exaggerated by former explorers, for instance by Captain McClure, who claims to have seen hills on the ice a hundred feet high ; we at least never saw any such heights. About thirty feet is the greatest height we have observed.

It seems incredible that this ice should have been formed in an open sea, where the ice is constantly renewed, in the course of a few years ; but against the theory of land to the north of Alaska, a land extensive enough to cause this ice to remain in almost one position year after year, stands the irrefutable evidence of the narrow Continental Shelf.

APPENDIX II

(THE following extracts from letters written by Mr. Leffingwell to his father in Illinois relate to details of the expedition which are not so fully given in my diary.—E. MIKKELSEN.)

It was late—September 17—when we arrived at Flaxman Island, and navigation might close at any time. The place seemed very desirable, especially as there were two native families on the island from whom we could get game and furs. These people have been a great blessing in many ways, and we have never regretted coming here: Sachawachick, wife and two sons; Uxra, wife and baby, are their names. The former is a very high type, and has generously given up his whole year to us, hunting seal for our dog-feed all the winter in the worst weather.

Shortly after we were settled at the island, Captain Mikkelsen and our Dr. Howe went off cariboo hunting with Uxra, but got only a couple. In the meantime I got ready for a trip to Herschel Island, to send out my mail. On account of many gales ice did not form until October 15, and immediately Mate Storkersen and I set out for the island with five dogs, provisioned for six weeks, as we had only two hundred miles of coastway. The ice was very thin at first, so we had to keep close to the shore. When we reached Collingson Point, in Camden Bay, we were blocked by open water for eight days. Luckily we met Erie at the same place, *en route* for Point Barrow, on account of scarcity of provisions. The whalers were all frozen in the year before, and only one came east. Erie had his native wife, two sons, seventeen and fifteen years, and two children, six and three years old. Then for the first time we saw how comfortably a man could live in this country, if he only knew how. In the year at Franz Joseph I and I learned practically nothing, but after a year here I feel that I have learned a great deal; so that camping need not be a hardship, even in the severest weather.

While we were there, his boys made a trip out after cariboo meat and brought in a sled-load, so we lived on the fat of the land. The squaw did all the work and we boys loafed. Surely, a fine life! "Everybody works but father!"

When the ice formed Storkersen and I pushed on, stopping one day at Erie's cabin, near Barter Island. Later we were held back by deep, soft snow during a calm spell, and we prayed for the wind to come and pack the snow. The wind came, and we had fine going, but too much wind for comfort. Just opposite Herschel we were held for two days by a violent gale, one of the worst of the year. We never expected our tent to stand, although we built a wind-break of hard snowblocks. These were rapidly

cut down and had to be renewed. When the gale was over our tent was nearly buried and crushed with snow, so that we could not even sit up straight. In the morning we had to dig our way out.

We arrived at the island on November 22, after five weeks on the trail. As we expected to make it in two weeks we took only six weeks' provision, so had to cook dog-food on our return trip. As it was, we had only five days' rations for men and no food for the dogs when we arrived. We had to kill two dogs to feed the others. We were very much relieved to find the whaler Narwhal, Captain Leavett, wintering there, for we were uncertain whether any one had gone in. Captain Leavett kindly advanced us provisions to get home with, and to buy a couple of dogs.

After about a week of gales at the island, we started home. The sun had set for the winter, but we had about five or six hours of twilight, and moonlight besides. The return journey took three weeks, for we had many head-winds and made only a few full days' marches. Time and time again we would start off at 4 or 5 A.M. by moonlight, only to be stopped by 10 A.M. by head-winds. Our ethnologist, Stefansson, of Harvard, made the trip in six marches in the spring, with good weather and long days.

We reached the ship about December 16, and after a rest started preparations for our ice trip to the north, to look for supposed land and to sound the ocean for the Continental Shelf. In January Captain Mikkelsen and a sailor went down to Erie's. Expecting to be gone only two weeks he did not show up for nearly a month, and we were about to start in search of him when he came in. They had sent up into the country for cariboo meat, which the boys had cached during the fall hunting ; besides, they had much bad weather. On their way home they were struck by a severe gale, which broke the tent poles, and later tore the tent so that it filled with snow, forcing them to the open. They lay outside in their sleeping bags for about twenty-four hours ; then the wind slackened somewhat and they started for Erie's cabin, fifteen miles away, with the wind at their backs. They took sleeping bags along in case they should miss the cabin in the thick snowdrift which obscured everything. People who have never been in cold climates do not understand what drifting snow is. During high winds the air is often so thick with flying snow that we cannot see a black object thirty yards away. During the winter we had many gales, when we could see only the topmasts of the schooner from the shore, about sixty yards away.

Captain Mikkelsen got into an open crack in the ice and was soaked up to his waist. His arms also got wet, and his clothing froze and shrunk, leaving his wrists exposed. That night they reached the neighbourhood of Erie's cabin, but could not find it, so they slept out again. The next morning the wind had fallen and they could recognize some landmarks, but it was much colder. It took them scarcely half an hour to reach Erie's, but in that time Captain Mikkelsen's wet clothes had shrunk and stiffened so that he could hardly walk. As it was they had to cut them to get them off. He reached the cabin just in time, for his heel, knees, and all the back of his hands and wrists were severely nipped. He felt the symptoms of a

total freeze approaching. One of the dogs came in before him, greatly alarming Erie, who was about to start out in search of Mikkelsen as he came to camp. The other dogs came in one by one, the last after eight days. Erie's squaw nearly cried when she saw the last dog, and spent hours nursing him, so that he recovered quickly.

About February 1 Dr. Howe went with me to Erie's to aid his boys to haul provisions down. We had extremely heavy loads, about 2,500 lbs., and twelve dogs, but they took it nicely. We had four good days in succession, and easily made one hundred and fifty miles in that time. Then came four days of bad weather, which we "loafed out" in the cabin. We had a beautiful day when we started home, clear, calm, and about 40° below zero. With a light sled we ran all the way, making thirty miles in six hours. Then we were stuck in camp for two days by a gale, and were very much cramped, as the snow gradually drifted over the tent. The third day we dug ourselves out, and decided to face an unpleasant wind rather than stay any longer in camp. The snow was drifting about a foot high (temperature — 33° Fahr.), and it was not pleasant to run against it. However, we made twenty-five miles and the island in six hours with only a few frostbites in our faces. In our excursions for pleasure, or semi-business trips, in this country there is no reason why we should face unpleasant weather if we do not feel disposed to do so. We have learned to take a wide margin of food, and to stay in camp when we feel inclined. A properly made camp is as comfortable and safe as a house, though of course smaller. The tent used by natives and whites who have been long in the country is made by sticking bent sticks into the snow and lashing the tops so as to form a hemisphere. Over this is thrown a cariboo fur covering, hair side out, and a drill cloth over that to keep the snow out of the fur. If one does not possess a fur tent two drill covers are used, the air space between making it many times warmer than one thickness of the heaviest canvas. The floor is covered with fur, and the stove is set up, and one is ready to defy the worst that can come. The tent is about 3½ feet high, and round, so that the wind cannot get hold of it. Sometimes it is necessary to put a few slabs of snow around the weather side, and to build a snow alley-way in front of the door ; but that is the work of a few minutes with a saw or snow knife, which one always has. In a fur tent water does not freeze except in the most extreme weather. Even in a double drill tent no frost forms upon one's clothes from the breath, and scarcely any upon the wall of the tent. Snow houses were used a good deal in the past, but once in a while people get caught out in exposed places where the tremendous winds will cut the hardest snowblocks down in a few hours.

Speaking of the high winds along here, I should have mentioned that on this very island, a few years ago, a native girl went from the cabin to the *caché* for something needed in the "house." As she did not return, the man went out to find her, and he did not return either. After the gale was over, the girl came in, but the man was found only when the snow that buried him had melted, in the spring. The *caché* was not a hundred feet from the cabin. The girl sat down with her back to the wind, and drew her

arms inside her fur shirt, next to her skin, and sat it out. This is the great advantage of furs, though there are many others. In them one can sleep out without freezing. Any good hunter will chase cariboo all day, without food, sleep out even two nights, if necessary, and come into camp as well as he left it. In wool clothes a man can keep warm as long as he is on the move, but the minute he stops the cold is felt.

On March 3 we started out upon our ice trip; three men, three sleds, and twelve dogs, with about 1,600 lbs. of outfit for ninety days.

. . . On May 17, the second day after our return, I started for the mountains with Erie and his eldest boy Gallikar. We went back to his cabin and up the Ookpeelak river, sledding nearly to the mountains, and then packing the rest of the way. I think the men had 50 lbs. each, and the four dogs about 45 lbs. each. We were up there about six weeks, but had much rain, snow, fog, and clouds, so I could not cover much ground. Gallikar shot two cariboo and six mountain sheep. We saw many of the latter, one day about fifty.

Early in July we packed about fifty miles to the coast in four days, and were marooned, until Mrs. Erie came in her umiak for us. Shortly afterwards I returned here by boat sent for me. The schooner sprung a leak during the winter, from having her caulkings pulled out by the ice. She was abandoned in April, and the party have lived on shore ever since, in a comfortable roomy house built out of the schooner. The wreck is now lying on the beach, with masts gone, and the decking ripped out: rather a woeful sight! The crew all go home by whaler, as well as Dr. Howe. Captain Mikkelsen and I expect to stay on; I for two years, but I do not know what his plans are, since he is now at Herschel Island, buying dogs, and I have not seen him since May. One of the sailors agreed to stay, but gave it up at the last minute, and it may handicap Captain Mikkelsen's proposed ice trip next spring. I expect to work inland with natives, so am not affected by the loss of the sailor, except that more of the necessary work about the place will fall upon us who are left.

There are at least five rivers coming down to the sea from the mountains, that are not indicated upon the map; only one of these had been seen by a white man before this year. The Ookpeelak which I worked upon had never been seen, and I hope to penetrate the others during the winter. The coast from Demarcation Point to Colville River I hope to map with as much accuracy and detail as I can. This is summer work, because the snow obliterates everything but the steep banks. In addition, there are three or four others which are upon the map, from native information, and have never been explored; so I can find plenty to do. I hope to spend June and July doing geological work in the mountains, before navigation opens up on the coast, and then to work there. The past year has been rather unproductive, on account of the settlement of expedition affairs, etc., but I have hopes of making some addition to the map before I get home.

SEPT. 26, 1907.

The sailor who expected to stay has returned to civilization, as I told you in letters sent out by whaler. I also said that no mail had come for me.

The next to the last boat brought it : the one that took off the crew. It was very rough and they could not land our freight, so carried it on to Point Barrow. They sent a whaleboat some miles west, to an opening into the lagoon, and got our party, taking thirteen hours to get them on board. I was left alone, for Mikkelsen was at Herschel Island. He returned about a week later, and we talked things over and he decided to return to civilization, leaving me to the expedition. We received about 20 lbs. of tea from whalers, but the rest is at Point Barrow, as well as the sugar and boat drill. We have only 25 lbs. of sugar left, but I hope to get the sugar and calico and some fine dogs, by sending a native after them, if I can get any one to go. I cannot afford to waste the time, for every moment must be utilized if I wish to finish my programme.

Just now Mikkelsen is away, looking for a native to go out with him to the Yukon River. He started with a native, about noon, two weeks ago, to sail and row thirty odd miles, to a natives' camp, east on the coast. He took no tent and very little food. I feel sure he did not make it the first day, and it blew fifty miles an hour the second day, with snow. Winter has set in, and yesterday young ice covered our lagoon. Unless he struck the natives' camp, he is having a rough time.

Yesterday three families came back from hunting, all hungry ; few cariboo. I have a boy of about sixteen working for me. He has learned the alphabet and can count and spell words up to ten, in two lessons. Mikkelsen hired a native family from Herschel Island to come up and work for us. He should have started a month ago in his whaleboat, but has not showed up yet, and I am giving up hope. If they turn up I'll have them live in one end of the house and I in the other—all one room, but nobody minds that here. If they do not come, Sachawachick and family will move in. He is a fine man, and has done everything for us he could. They'll keep house, while I travel with the boy.

Be sure to get the provisions I listed here next summer. I shall be hungry if they do not come. Besides, several families are depending upon me for assistance, and I can't see them hungry. In addition to what I ordered I shall have to ask for more. Our boats are unfit for work along the coast, too heavy to row (two men), and they sail only with the wind ; too heavy also to haul out upon the beach. Now I must be able to make fast time along the coast, next summer, as I have lost part of this summer, and shall not be able to do much the third, on account of packing up for return. I have ordered (subject to your approval) a cruising canoe from Victor Montague, of Traverse City, cost about $150, I think. [The order came too late for a boat to be sent.]

On looking over my outfit I find some of my drawing instruments are not suitable for the work here, and some were spoiled when abandoning the schooner. Therefore I have ordered from Chicago paper, drawing-boards, scales for a large map, etc. Please honour this, as I can't do my work without it. Paper was damaged in abandoning the ship, drawing-boards were used by cook for bread-boards, etc. I shall work on a much larger scale than I intended, and have to use better instruments.

I have also ordered a pocket magnifier; I lost my other in the mountains. Please send about 20 lbs. assorted nails, eightpenny and smaller. I have to pull old ones out of boxes now, and have to hunt at that, every time I want to put up a shelf. Also two school slates and pencils. If Montague cannot furnish the boat, I must have a whaleboat and sail. Have ordered some more films and photo holders from Chicago. You'll get the bill.

I was very busy getting off my mail last August, and forgot to thank you for the popcorn and maple sugar. The latter will come in opportunely, now that we are soon to be without sugar. The cold affects a watch or chronometer, and I have difficulty in looking at the watch, holding the light and pointing the instrument all at once. By having a sounder to beat seconds, I can hear and count them, thus getting very accurate time upon an instrument protected from the cold. This is especially true when timing occultations, upon which the longitude will depend. I simply cannot do exact work with a watch, for I must get the time to $\frac{1}{10}$ second if possible. There is no accurate longitude upon the coast, though perhaps Lieut. Ray's Expedition got one; anyhow, I need a good position for this place, on which to base my surveys. I have the latitude within 4′, about 40 feet. The longitude, by our ship chronometer, may be two miles off, or more. I have one occultation, which, if successful, may give the longitude within one second, or 500 feet, at this latitude. I am ambitious to locate this spot with all the accuracy possible, in order that it shall be the basis for future surveys. Just think, no one knows where the United States and Canada line is, which depends upon 141 degrees longitude. That is uncertain, within three or four miles, along the coast. I can locate it within at least 500 feet, if the position of the starting point here is known exactly.

I am getting along pretty well in the Eskimo language now, but it is so unlike ours that I find it difficult to express myself. Besides, there is a whaler jargon, which they persist in using. I learned it first, and fall back on it when I cannot express myself correctly. The language is highly inflected, and nearly all nouns and verbs, hardly any adjectives. A noun has perhaps a couple of pages of inflections, and a verb might take up a whole book. Maybe you do not think that these people have a scientific grammar. It is far beyond ours. I can't get over the lack of adjectives and adverbs. Somehow they get it all into the verb. The nearest I can come to saying "I want a good big strong dog" is, "I want him, the dog is—big, he is strong." Last year I was out so much that I had little opportunity of learning. The next two years will see me constantly with them, and I ought to know the language pretty well.

Captain Mikkelsen says the report was sent out by the Mounted Police that we were lost on the ice. He had Stefansson go out overland to see you at your expense. You are best judge of the value of the information. Anyhow, rest easy on my account now, for I shall be with natives all the time, and where they can live by hunting I can get along. As for dogs, we are well off, and, if we get those at Point Barrow, shall have as fine a team as could be wished.

I feel rather cooped up now, for winter is coming, but ice will not be ready for travelling for a week or so yet. It was frozen over yesterday, but the wind chased out the new ice. This keeps up for about two weeks in the lagoon, and indefinitely outside. Last winter, in January, we had two miles of water outside of the island. The natives hunt seal nearly all the time in the cracks. Once in a while there is a quiet winter and no water, and then they are hungry. They did not get many cariboo here this fall. They were abundant in the early summer, but have migrated elsewhere. Several hunters are farther east, where there seemed to be more game, but they have not come in yet. My boy shot two for me, and I have the skins. My last year's furs are in fine shape, and I doubt whether I will need new ones. Two families failed to get any furs at all, and I may have to help them out with woollen goods, of which we have abundance. I am going to send out two good hunters for mountain sheep, as this variety is rare, and in demand in museums.

The phonograph has been the greatest pleasure to all of us, to natives also. At first they didn't seem to care for my classical selections, but at the end grew to like them. The prima donna records, Eames, Melba, etc., are my chief delight.

Sachawachick's boy was very ill, and I diagnosed typhoid, brought in by natives from Point Barrow, where there is sickness, also at Herschel Island. I put him on a Horlick's malted milk and whisky diet, and used a little medicine, and he got well. You see what responsibilities come upon me.

The other natives are grafters, very sharp on a bargain, but "Sacha" gives us what we want, and lets us pay him as we wish. He took a skin off his umiak (canoe) to make us boots for the ice trip, and had to patch the boat up with odd pieces, and old bearskin. He is very different from the rest. In the summer he lays up as many as forty or fifty seal in his ice-house, while the rest hunt only when hungry. We used most of his seal for dog-food, so that he had to hunt all winter to keep in meat. Last winter he supported an old loafer from inland, because the latter fed him once in the mountains when he had broken a leg, and could not hunt.

I mentioned getting a tool chest for him, one with plain, strong tools, for rough work. He is a fine carpenter. When the ship was to be abandoned he came down and superintended, and assisted in the building of the house. He is hereditary chief at Point Barrow, but moved away to keep his boys from sickness, which is so prevalent there.

I am off soon, up a river, with a native boy, for a month's trip. I get the boy for one sack of flour for a month, and keep. He is very willing, and knows the inland.

The natives are great friends. In the past they were pretty sharp on the trade, but now they always leave it to us, knowing that we are generous. I am afraid we are spoiling them, but I can't see people going hungry and selling $120 worth of furs for a sack of flour. Last year a trading ship came to Point Barrow and paid double the usual price for skins, and they talk of coming in here later.

They made a fine kill of cariboo in August, the hunters of the east, when

the skins are prime, and I have bought some fawn skins at a sack of flour apiece. My two new fur atteges (shirts) are fine. This year I shall wear nothing but fur from head to foot. A three pound shirt, fur in next to skin, is all that is necessary for working in any temperature. When standing around, one needs another similar shirt outside, fur out. If it is blowing hard and snow drifting, a calico (white drill) snow-shirt overall, and one can stand a bath in liquid air. The atteges are made with hood, and wide skirt coming about halfway to the knees. When one becomes warm, one takes off the belt, and a lovely cold blast plays up and down under the shirt. They are always made large enough to allow the pulling of one's arms inside should one's hands get cold. I have several times escaped discomfort that way. One mitten blew away last winter when I was on a sled trip, and I saved my hand by pulling my arm in next my skin. If one is caught out in a gale and has to sit it out, the arms are always pulled inside and hands are saved.

On my legs I have a pair of knickerbockers, fur in ; in cold weather, covered with white calico. These weigh about two pounds, and are much warmer than two pairs of heavy calico under-drawers. On my feet, fur stockings and long fur boots, both with fur in, for colder weather. They tie the breeches at the knee. Weight of complete suit for most extreme weather, a little less than twelve pounds, and this is a suit that one can sleep out in if necessary.

On the trip to Herschel, last fall, I looked back upon Franz Joseph Land as full of unnecessary discomfort. Now I look upon the former trip as the toughest experience I have had or am likely to have up here. My new fur tent is set up outside now, and scarcely trembles in a gale that would nearly finish the calico one I had last year. We had to take down the stove-pipe when it blew, and once the plate for the pipe was flapped out of the side of the tent. The new tent weighs 50 lbs. (twelve sticks, 20 lbs. ; fur cover, 20 lbs. ; calico cover, 10 lbs.), but it is a castle when put up. No more cold noses at night. Being absolutely safe, one can undress and get naked into the sleeping bag, and thus avoid carrying in moisture from one's clothes. By covering the floor with skins, this tent is a luxurious abode. When the stove is steaming ahead full speed, one must pull off one's shirt and sit half naked.

Winter is here to-day, about zero Fahr., and the lagoon is frozen over ; young ice seaward. I have been sitting outside, lashing my sled, and scarcely feeling the cold on my hands. I am much tougher than I was last year, and, what is most important, perspire less and can wear more clothes, and be safer in case of accident. My feet perspired freely last year, and my calico stockings would be soaked every night. Wet feet are uncomfortable, if not dangerous. Now I can wear warm fur stockings for two or three days without drying them.

I shall be working inland most of this winter, in the mountains. There the weather is beautiful—clear, calm, and cold, while on the coast it is thick, windy, and penetrating.

Never mind about the chronometer. I have changed my plans so that

I shall not be here at the house much next winter, and I could not take enough observations to make it worth while sending a chronometer.

I want good white flour, good strong black tea, and good calico. We have impressed the natives that we are a superior class of beings because our goods are so much superior to the trash supplied by the trade ships. One poor native got ten sacks of flour full of maggots, this year, and he traded fawn skins for our good flour to get his baby food. I want the best baking powder, for private use, as making yeast bread is too much bother. If I did not order rice, send 100 lbs., as we are out.

A family came back with a sick baby that died before I could do anything for it, if it had been possible. I am the doctor to these people. I dress cuts, cure boils. When in doubt, I always administer a powerful black pill. Never fails to cure! The natives are "on to" them, and always laugh when I give them out. When the baby died, I gave the family a few yards of white calico for a winding-sheet. Afterwards they gave me a fox skin, and cut their only buckskin (for boot soles) in two, as I had none for my kamicks.

We are going to have a big Hula-Hula dance here before Captain Mikkelsen goes. It is really an interesting function. I do not understand the significance of the various dances, but hope to, as I learn the language better. I wish I could bring Sachawachick down to civilization. He is very intelligent and eagerly listens to my explanations of the pictures in the magazines. The exclamation of amazement is "A-ka-ga," and many come from him as we turn the pages over. He was greatly amused over a picture and description of a skunk, and our automobiles and airships fill him with wonder. The "Kabloona savy plenty," according to him.

I have offered a sack of flour for each mountain sheep skin they bring in, and may have forty or fifty to pay for. Lots of cariboo meat is cached inland. I said that no native who lets meat spoil while hunting for skins (as they often do and go hungry later) would receive a bit of food from me. Consequently, every native (eight families now here, one more to come in) assures me that he has cached all his meat. I weigh 185 lbs. with clothes, and am living on cariboo steaks and ducks; we have more dried and canned fruit than I can get rid of; butter for two years, lots of pemmican for field use, plenty of coffee (I don't use it often); but are short on tea, sugar, baking powder, and rice. The flour will be all gone by August.

I have another patient now. Sacha's favourite boy (another) is down with diarrhœa and fever, and I again suspect typhoid. As Sacha has been so good I shall delay my trip into the mountains for a few days until the boy is well, or dead. Sacha was gone for three weeks with Mikkelsen and would have nothing for his service. He does my trading now, and was very much disturbed when I paid a whole sack of flour for a fawn skin. Said I could have got it for much less.

Please send up a lot of chewing gum. At the big dance yesterday all jaws were going full speed, with a cracking like a Gatling gun. Thirty souls (natives and three white men) in our house. All hands danced solos and duets, from babies to the old women. The older they are the more they

seem to get excited. A whole box of candy and a lot of raisins went like wildfire. We topped it off with a big pot of dog pemmican (horse-meat) and dried vegetables. Then gave each woman five yards of painted calico and each man a plug of tobacco. Then the phonograph. At general request I gave them a "Kabloona" to the music of Sousa's, and all hands agreed that it was the finest exposition of the Terpsichorean art ever seen along the coast! Last summer they gave a big dance at the village (now four houses and five tents) and gave Captain Mikkelsen and the doctor mamiks (mittens). I popped some corn, which excited the natives greatly; they thought there must be a devil in it. If you feel like sending up a dozen one-bladed pocket knives of good steel it would make a very acceptable Christmas present for the men and boys next year.

When a white man has plenty of grub the natives are sharp on trades, but they will always share their little with any one who is hungry. I could live on Sacha's grub pile as long as I cared to, in case I should run out. * * * *

ERNEST LEFFINGWELL.

APPENDIX III

Medical Notes on Northern Alaska, by G. P. Howe, M.D., Lawrence, Mass.

The following are some general impressions gathered in the course of a year spent on the north coast of Alaska. The inhabitants of this country consist of Eskimos and a few white floe whalers and traders, mostly married to native women. Whale ships wintering north usually stop at Herschel Island, a place I did not visit.

In order to understand the course of disease amongst these people one must know something of their general scheme of life. In winter a typical Eskimo family lives in a house or igloo, made of logs, or stones covered with sod, and, later, snow. To economize heat this house is so low that the head of a tall man, kneeling, almost reaches the roof; and in size it is no larger than is necessary to contain the family and a few household utensils. The level of the floor is below the ground level outside. A long, low passage—that one must crawl through on one's hands and knees—having two or more doors in it, communicates with the exterior. Light is admitted through the roof by a small window, covered with the peritoneum of the seal. Some air may enter through this, otherwise there is usually no ventilation. If the house is too warm, a door to the outside is opened. The floor is covered with logs, on which the sleeping-skins of the family are laid. Heat is furnished for the most part by blubber lamps, consisting of a shallow dish, often made by hollowing out a soft stone, filled with seal oil, with a wick made of dried moss or calico. Where driftwood is plentiful, as it is all along the North Alaska coast where there are no permanent villages, metal camp stoves have come into use.

The staple food of the coast Eskimo is seal meat, summer and winter, though whale, deer, bear, fish, and ducks are important in their seasons. Though the primitive Eskimo diet was almost entirely animal, at present most reasonably prosperous natives get considerable tea, flour, sugar, and tobacco. In fact, the children suffer considerably if deprived of flour and sugar now.

The best clothing is made from the skins of deer killed in August. At this season the deer has finished shedding one coat and is just starting to grow the next. The typical male costume consists of two shirts, each with hoods attached, made of deerskin, the inner worn with the hair next the body, the outer worn with the hair outside. Over these a light calico snow-shirt is worn to keep the snow from driving into the hair. The trousers and stockings are also of deerskin, worn with the hair in. In winter the boots are deerskin with the hair inside, but in the spring and summer waterproof

sealskin boots are worn. The dress of the women is essentially similar to that of the men, save that the shirts are worn longer, like short skirts. The entire suit of clothes weighs very little more than our winter clothes *minus* the overcoat, and is incredibly warm, owing to its imperviousness to wind and to the non-conducting properties of the warm air held in the fur.

The same clothes are worn summer and winter, save that in summer one shirt is usually sufficient. By the time summer comes some of the hair is worn off the shirt, making it cooler. As soon as the snow begins to melt, the winter igloo begins to leak, and the family move out and live in tents. At present the tents are mostly canvas—two thicknesses—low and dome-shaped. Formerly tents were made of deer or seal skin. The tent sticks are bent Arctic willow or whale ribs. Two thicknesses of the lightest canvas are much warmer than one of the heaviest, on account of the air space between. The tents and winter igloo are kept so warm that formerly when indoors the natives removed their shirts and sat naked to the waist. The missionaries have somewhat discouraged this habit, without, I think, improving the general health of the community.

Tuberculosis is the great plague of the country. It was present, I am told, when white men first came into the country. I saw five cases of Pott's disease, one case of caries of the sternum, which, I believe, was tuberculosis, and a large number of cases of pulmonary phthisis. In summer the pulmonary cases improved markedly, while living out of doors, only to relapse again in winter.

Venereal disease is less common now than formerly in Alaska, as the natives come in somewhat less contact with the crews of the whale ships. I, personally, saw no gonorrhœa or secondary syphilis, and only three cases of tertiary.

Very soon after the settlement of Nome an epidemic of measles swept up the coast with frightful mortality. Many who recovered fell victims to pneumonia and phthisis. This epidemic carried off nearly half the inhabitants of some of the villages.

A disease similar to, if not identical with, influenza is endemic at Point Barrow, and any stranger passing through is almost sure to contract it. The natives recognize the contagious nature of this disease, as one of them told me he should never take his children to Point Barrow lest they get sick.

Human nature is very much the same in the Arctic as elsewhere, and imaginary diseases and neurasthenia are not uncommon. There was one native who, for no apparent reason, decided that he was going to die, so he smashed his drum and sat moping in his tent. I could find nothing the matter, but gave him a placebo of about 1 oz. of castor oil, with excellent results. This same fellow on another occasion saw a picture of a white man's devil, and promptly decided he had one inside him. Forty-five minims of tincture capsicum were efficacious in removing his satanic majesty. The man showed me a place on his stomach where he said the devil came out. An old woman came to me saying that her head was (nayictok) broken. I could find nothing the matter, but gave her a couple of migraine tablets and some methylene blue. The break was entirely mended, and the

woman, who had done no work for a month, went joyfully to making me a skin suit of clothes. The old women, like some old women down here, are fond of describing marvellous diseases and suggesting absurd cures, each trying to outlie the other.

The Eskimo's original idea of disease—in fact, his idea at present—was that a devil got into one. The cure was to drive the devil out. This could be done by frightening him with incantations, consisting largely of dancing, yelling, and beating of drums. A man might cure himself in this way, but it was desirable that his friends should assist. If a native doctor was present he would probably collect as large a fee as possible for presiding at the performance. In any case a large number of volunteers could be obtained by promising a feast. If the yelling, drumming, and dancing failed to help the patient, cutting would be tried. This consisted in cutting a hole in the afflicted part as large as the doctor thought wise or the patient would allow. Whether the devil comes out through this hole or "bad blood" is supposed to escape, I do not know. The skill of the physician is shown by knowing where and how large a hole to cut. If the first cut does not cure, another is made somewhere else. The cut for snow-blindness is usually made above or at the outer side of the eye.

For the prevention of snow-blindness the natives have one really efficient device, consisting of a wooden eye-shade, blackened on the inside, with a narrow slit to look through. This effectively shields the eye both from the glare of the sun above and from the reflected light of the snow below. I saw one case of trachoma in a Point Barrow native.

Formerly, at the time of childbirth, a woman retired to a separate house or tent to have her child. No one entered the house or offered any assistance. Now, frequently, other women are present, and, if there is any trouble, the help of a white man is welcomed. When twins are born, if it seems feasible, both are raised ; if not, one is exposed to die. The natives are sorry to do it, but take it calmly as a matter of course. A woman nurses her child as long as she is able, or till another child is born. This is rather necessary, as native food is not very satisfactory for weaning a young child. It is not an uncommon thing to see children three and four years old nursing. A large infant mortality, due to improper feeding, makes large families the exception. A child is allowed to eat anything its parents do. Abortion is occasionally practised by means of violent abdominal massage, but is not common, as, generally speaking, children are desirable assets.

In cases of frozen hands and feet some crude surgery is practised, consisting usually of amputation after the part is very gangrenous. There is little liability to sepsis in the country, so the results are not as bad as might be expected. So far as I know, they have no proper knowledge of making skin flaps to protect an amputation. Usually the natives show remarkable self-sacrifice and patience in caring for a crippled member of the family, but in times of severe trouble they may abandon him to die with the greatest calmness.

It has been said that cancer does not exist among the Eskimo. So far as I could find out, this is true, not only of cancer but of all classes of tumours

among men. Smallpox, chickenpox, scarlet fever, and mumps have not yet visited this country. There were a few cases of probable typhoid at Point Barrow last winter. They were described as cases of prolonged high fever with hæmorrhages from the bowels. On account of the unsanitary habits of the people it seems probable that there will be more of it later, as the country round is practically a marsh with no drainage in any direction.

In spite of the fact that there is very little danger of serious sepsis, traumatic wounds, even when the peritoneal cavity is opened, usually giving no trouble, pus bacteria must exist in the country. Boils are not uncommon, and I saw three cases of chronic osteomyelitis of the long bones.

A curious disease, known by the local name of "mollycolly," exists among the dogs of the country. Though somewhat similar in its symptoms to rabies, I am very sure it is a separate disease. The etiology is doubtless a micro-organism present in the mouth of the dog affected, since the bite is undoubtedly infectious. The disease is most common in the spring and summer, when the dogs are picking up scraps and digging in the ground, but occurs occasionally at all seasons. It is much more likely to break out near permanent villages than among dogs brought up in the back country or distant parts of the coast. Young dogs from six months to a year and a half old are most susceptible. The incubation period I was unable to determine with any certainty, but it is probably more than ten days. The onset of the disease is shown by restlessness and a causeless desire to pick fights with other dogs. Usually the affected dog loses his appetite, but is apt to chew wood or other unnatural objects. As the disease progresses the dog seems to be in great pain, and death usually ensues in about ten days, due probably to exhaustion. Very rarely a dog recovers. Convulsions occur, but are not characteristic; the dog, however, is not rational. In none of the cases that I saw—about six cases—did the dog make any deliberate attempt to attack men, but all were likely to snap if handled. My principal reason for believing this disease distinct from rabies is that while men, both white and native, have frequently been bitten by dogs in this state, I have never heard of their being affected by it. The natives are no more afraid of the bite of a mollycolly dog than of a healthy one. Foxes and wolves are said to be subject to this disease, and to be able to transmit it to dogs.

I kept records of the hæmoglobin of a party of six white men from September to March, covering the whole period while the sun was away. There was no diminution of hæmoglobin attributable to the absence of sunlight. Similar experiments were tried on the Jackson-Harmsworth expedition to Franz Joseph Land, the Duke of Abruzzi's expedition, and Scott's Antarctic expedition with the same results. In no case was it found that the absence of sunlight caused anæmia.

In winter frostbites are common. The best treatment is to hold the warm hand against the affected part till it is thawed. In no case should rubbing with snow be tried, as then the skin is sure to come off. Later treatment is the same as for an old burn.

Many Arctic travellers have complained of extreme thirst while travelling, and said that eating snow or ice only increases this. If proper precautions

are used snow and ice can be eaten in moderate quantities with great relief. If good ice can be obtained it is better. The ice should be held in the hand till the surface begins to melt, for if it is put into the mouth before this it will stick to the tongue like cold iron. If snow is used it must first be melted in the hand till it is almost slush. By observing these precautions glossitis may be avoided, and one's thirst fairly well satisfied.

In closing, I will say that the Eskimo race in Alaska has greatly diminished in numbers in the past twenty years, in a large part because of disease inevitably introduced by the whites. Whether the race will acquire sufficient immunity to withstand this sort of thing time alone will tell. I think the outlook for the Eskimo in his natural condition is better than that of the North American Indian, because the Eskimo is industrially valuable to the whites in the extreme north. The Eskimo, while useless for steady day labour, is docile and satisfactory as a hunter and trapper. He makes a good sailor on a whale ship, and is practically necessary to the men engaged in floe whaling.

INDEX

ABRUZZI, Duke of
Permanent weights on his expedition, 163; rations, 180—81, 183; mentioned, 454
Adams, Dr. Cyrus A., 3
Adams, Mr., of Nome
Starts trail with the Author, 387 *et seq.*; his arrangement with Joe Indian, 403
Alaska
Theories regarding the existence of land north of, 13—14, 16, 17, 438—40; the gold fever in, 394—96
Alaska Mercantile Company, 387
Alaskan Range, the, 420, 428—29; *illustrations*, 416, 417
Alegok and Anneksine, Eskimo couple, 330
Aleutian Islands, the, 44
Allen, Jim
House of, at Hope Point, 373; starts with the Author for Candle, 374, 376, 378; mentioned, 52, 95
Aller, Carl, 2
Allister, J., 53
Amdrup Expedition, the, 10
Permanent weights taken, 163; food taken, 180—81
America, *S.S.*, the, 1
American Geographical Society, 3, 5, 6
Amundsen, Captain, 77—78
Anderson, Axel, 306, 325—28, 331, 336, 337—39, 343, 344, 353
Anglo-American Polar Expedition
Arrangements for, 1—2; contributors to, 2—9; members of, 9—13; purpose of the, 13—18

BALDWIN-ZIEGLER Expedition, 1, 10, 12, 95, 117, 162
Bang, Chr. A., 2, 5
Banks Land, 17, 92, 294, 438
Barne Expedition, the, rations, 180—81
Barrow Point
The *Duchess of Bedford* at, 71, 88; native houses at, *illus.*, 79; the crew start for, 292; provisions left at, 331, 445; the Author starts for, 332, 334—37; whaling station at, 348—49; "home-made" religions at, 350; Sunday morning at, 350—52; the school, 352—53; the Author leaves for the South, 353—54; mentioned, 7, 13, 14, 16, 17, 53, 55, 84, 357, 358
Barter Island, 89, 90, 223, 441; Eskimo houses on, 139, 141
Bathurst, Cape, 3, 65, 90, 318
Battle Creek Sanatorium, Mich., rations put up by, 45, 48, 110, 119, 121, 123, 127
Bears, 57, 133—34, 230; bear tracks, 260; a bear hunt, 269; the Author brings one down, 271—72; pursuit by the Author and Axel, 339—40.
Beatrice, *S.S.*, the, 8
Beaufort Sea, 2, 5, 90, 91; ice of the, 13—14, 226—27; results of observations, 437—40

Beauvais, Copenhagen, 3
Bedford, the Duchess of, 3, 6, 8, 44
Behring Sea, the, 30, 34
Behring Strait, 42—44, 50
Belcher Point, 55, 62
Bell River, 314
Beluga, *S.S.*, 306, 307, 314
Belvedere, *S.S.*, 85, 87—89, 304—6
Birches, 405
"Blossom" Mission and School, 376—78
Blossom Shoals, the, 60
Bodfish, Captain, 45
Bonanza road-house, 390
Bonanza whaler, 69
Boston City Hospital, 11
Bowhead, *S.S.*, 306
Brawer, Mr., of Point Barrow, 7, 78, 332, 335, 348—50, 352, 353
Brevik, Mr. and Mrs., 45
Brower, Mrs., 353
Buckholz, Captain, 9
Burroughs Wellcome Co., London, 6

Cachés, 319, 335, 338, 340, 343, 353; Our caché, *illus.*, 158
Cagni, Captain, 440
Camden Bay, 13, 15, 441
Campbell, Dr., of St. Lawrence Island, 37, 39
Campbell, Miss, her gift to the Author, 5—6, 365, 378
Campbell, Mr., dry store owner, 5
Campbell, Mr. and Mrs., of Nome, 387
Campbell, Rev. Mr., 5
Candle
  Tramp of the Author to, 374—79; mines at, 374; Christmas at, 379—81; hospitality in, 381; departure of the Author, 383
"Cape York," Eskimo, 280—81, 313—14
Cardova, *illus.*, 429
Cariboo hunting, 100, 102, 280, 281, 327, 339, 441
Carlyle, 352
Carrol, Joe, cook, 13, 15, 69, 108, 133, 137, 294, 300—302
Carson, Mr., 388—90
Carson, Mrs., 389—90
Chelan, Lake, 4
Chicago, 3, 10
Chrease, Mr., 5
Christmas on Flaxman Island, 137—38; on trail, 377—81
Clan, Mr., 7
Clarence, Port, 11, 27, 34, 44, 45, 46, 50
Clifton, Captain, 7, 396, 407, 420, 423
Clifton, Mrs., 7, 407
Clothing, Arctic
  Furs, 120, 128; the Eskimo's, 126, 451—52; furs *contra* wool, 175—78, 443—44; the Author's, for the Alaska tramp, 335; described in Mr. Leffingwell's letters, 447—48
Coal-mining, prospects, 357—58; coal-mines of Corvins, 368
Collingson, Captain, 13, 16; his attempt to sledge over the ice, 15; projects of, 101
Collingson's Point, 101, 323, 441
Colville River, 298, 444; mudflats of the delta, 340—41
Continental Shelf, the
  Theories, 13, 226—27; extent, 216—18, 223, 277; soundings taken, 223, 243, 244—46, 258, 259; colour of the bottom, 244; summary of observations, 437—40
Copenhagen, 2, 137
Copper River, *illus.*, 424
Corbisher, Mr., 407
Corvins, coal-mines of, 368
Cottle, Captain, 85, 87—89, 304—6
Cottle, Mrs., 304
Counsil, 385
Crapok, Eskimo child, 128—29, 134
Cropcana, Eskimo woman, 128, 151—52, 154, 188

Cross Island,
Provisions deposited at, 200, 295; the return to, 276—77; mentioned, 89, 90, 128, 136, 198, 202

Dakota, North, 11
Dawson, 407
"Dead Man's Island," 83
"Death Valley," 384—85
Delta River, 407; *illus.*, 415; storms of the, 422—23
Demarcation Point, 444
Diomede Islands, 43
Diseases among the Eskimos, 317—18, 321—22, 330, 451—55
Ditlevsen, Ejnar
Illus., 9; account of, 10; assists with the navigation, 21, 23, 31; illness of, 24, 27, 28, 34, 42, 44; leaves the *Duchess of Bedford*, 50
"Do Drop In" road-house, 387
Dogs, Sledge,
Purchases on St. Lawrence Island, 37—39, 50—51; a concert at Point Hope, 53—54; Mr. Leffingwell's care of them, 54; a new family on board, 62; a run ashore, 83; disease among them, 83—84, 95, 219—21, 454; "Flora" and her pups, 99—100, 133; "Journiska," 104, 119; a child's bargain, 128—29, 134; Mr. Leffingwell's "Jim" stolen, 135; "Weny" and "Unimack," *illus.*, 139; return alone through a blizzard, 145—46; "Kamalook," *illus.*, 147; the cost of, 147; trouble with "Dad" and "Old Jack," 156; dogs and ponies compared as to pulling, 167—68; their care and driving, 167, *and note*,—72, 239—40, 383—84; "Puyark," *illus.*, 184; names of the dogs taken on the sledge expedition, 187; illness of "Baby," 195; feeding on the ice, 199—200, 231—32, 344—45; "Baldwin" disappears, 202—3; death of "Soreback," 207—8; illness and death of "Uxra," 209—10; illness and death of "Unimack," 220—24; death of "Weny," 235; trick of slipping harness, 237; death of "Sachawachick," 243—44; illness and death of "Kamalook," 245, 246, 248, 258; their fear of the raft, 250; scenting a habitation, 275, 346—47; death of "Mack," 290; death of "Bismarck," 322; old "Dad" at work, 323, 325, 328; dogs thrown overboard by the *S.S. Narwhal*, 348; hardship of a sledge dog's life, 366; good-bye to "Journiska," 382
Douglamana, Eskimo woman, 106, 108, 109, 111, 113—16, 118, 133, 136, 151, 154, 188, 300—302, 321—22, 330, 332
Dreibelbis, Mr., 420
Driggs, Dr., of Point Hope, 52, 373
Drink traffic, the, on Herschel Island, 310—11
Drum, Mount, 428; *illus.*, 425
Duchess of Bedford, the
Preparation for departure, 7—9, 19—20; leaving Esquimalt, 20—21; discovery of a leak, 21—22, 24; aground, 28, 31—32; entering the ice, 56; towed by the *S.S. Belvedere*, 88—89; a fire in the galley, 133; Christmas at Flaxman Island, 137—38; a leak, 148, 153, 154, 158; leaks badly during absence of the sledge expedition, 277—78; abandoned, 280—82; the

work of breaking her up, 283, 285—86 ; the wreck, 337 ; *illustrations*, 7, 8, 20, 77, 88, 116, 132, 149, 150, 160, 284, 286
Ducks, wild, 271
Dunsmuir, Mr., 5
Dutch Harbour, 31, 32—34

East Cape, 43
Edwards, Mr. (mate), 11, 27, 34, 40, 48
Eggs, salted, 52
Ejakok, Eskimo boy, 142—43
Ekajuak, Ned Erie's wife, 141, 145, 277, 281, 326
Ellesmere Land, 438
Elson Bay, 79, 82, 155, 347—48
Enterprise, H.M.S., 101
Erie, H. T., 89
Erie, Ned
Expeditions to the mountains, 118—19, 283, 325, 444 ; an incident, 123 ; food left at the cabin of, 133 ; the Author's bargain with, 130—31, 135 ; his cabin, 139, 150—51, 153, 281, 325, 442—43 ; his fox traps, 140—41 ; his family, 141, 142, 441 ; return of the Author and Fiedler to his cabin, 145 ; his advice, 148 ; welcomes the return of the sledge expedition, 277 ; leaves his family at Flaxman Island, 282
Eskimo legends, 14—16, 128
Eskimo names, 106, *note*
Eskimo, the
Characteristics — Manner of trading, 36—39, 50—51, 376—77 ; ambitions, 76—77 ; hospitality, 117—18, 152, 346—48, 355, 363 ; anxiety to learn, 142, 352—53, 356—57 ; his estimation of a mile, 374
Children—Characteristics, 126—30 ; a Christmas treat, 138
Customs — Native musicians, 287 ; a native dance, 287—90 ; death and burial, 317—18 ; the Hula-Hula, 332—33 ; card-playing, 348, 359, 366 ; custom regarding the white man's food, 359 ; praying for blessings, 359, 365 ; advent of Christmas, 377
Religion—Advent of the white missionary, 75 ; religious tendencies of, 350 ; superstitions, 452—53
Social Conditions—72—73, 451 ; houses on St. Lawrence Island, 72—73, 451 ; evil influence of the visits of the whalers, 73—75, 310—12 ; work of the Revenue Cutters, 75—76 ; tents, 124 ; food, 124—25, 451 ; want of cleanliness, 126—27 ; life in the summer, 287—90 ; interest in the steamers, 304 ; life on Herschel Island, 310—18 ; disease among, 317—18, 321—22, 330, 451—55 ; the natives of Pitt Point, 346—47 ; clothing, 451—52 ; diminution of the race, 455
Woman—Evil influence of the whalers, 73—74, 310—12 ; her life, 111, 327—28 ; the wife's position in the house of a white husband, 143 ; the mother, 453
Eskimo Town, 72
Esquimalt (*Duchess of Bedford* leaves), 20—21
Ester Creek, 416
Evans, Mr., at Candle, 362, 381

Fairbanks
The Author starts for, 408, 412, 414 ; description of, 417 ; fashionable life in, 418 ; founding of, 418—19 ; hospitality in, 419—20 ; mentioned, 7, 407, 412

Feary, Mr. and Mrs., 5
Fellows, F. F., 59, 360
Fiala Expedition, permanent weights taken, 163
Fiedler, Max
Volunteers for sounding, 93; expedition with the Author to Ned Erie's cabin, 139, 141, 143—45; reaches the ship, 145—46; preparations for the sledge trip, 155, 187; welcomes the return of the expedition, 277; work at the pumps, 280; returns home, 292, 294, 299, 306; mentioned, 12, 14, 53
Fish as Eskimo food, 124—25
Fish River, 386
Fitzgerald, Sergeant, on Herschel Island, 315, 318, 319
Flattery, Cape, 21
Flaxman Island
Decided upon for winter quarters, 90, 92, 93, 94, 96; description, 92; geological observations, 98—99; tidal observations, 111—12, 437; storms of, 130, 136—37; the house built by Dr. Howe, 277, 278—80, 281—82, 291, 293; summer on, 284—90; steamers calling, 303—8; natives of, 332; the Author invites the natives to a grand Hula-Hula, 332—33; departure of the Author, 333—37; the Hula-Hula, 449—50.
Food
A month's rations for men and dogs, 110; seal livers, 111; uselessness of vegetarian rations, 114, 119; Eskimo mode of preparing fish, 124—25; the Battle Creek rations, 127; pemmican, 127, 146, 168, 171, 342; bromose, 127—28; arrangements for the sledge trip, 146, 179—84; Horlick's malted milk, 146; food for dogs, 168, 171—72; comparison between the food of different explorers, 180—81; value of pemmican, 180, 183, 248; effect of the cold on pemmican, 231; dogs' dislike for blubber, 248; the Author's provision for the Alaska tramp, 335; Eskimo food, 451
Forest fires, 414—16
Fort Gibbon, 7
Fowley, Captain, 71
Fox River, 386
Fox tracks, 211
Fram, the, 16
Franz Joseph Land, 1, 62, 440, 441, 448
Frostbites, 454
Fur, advantage over wool for clothing, 175—78, 443—44

Gallikar, Eskimo, 119, 142, 444
Gambia River, West Africa, 2
Geary, Mr. and Mrs., of the Blossom Mission, 376—78
Geese, wild, 271
Gibbon, Fort, the trail to, 405—6; the town and telegraph station at, 406—7
Gjöa, the, 77—78
Gold-mines, the, at Nome, 394—96
Golofin, 388
Gordon, Mr., of Fairbanks, 420
Gordon, Tom, of the Cape Smyth whaling station, 70, 348
Grant, Captain, 283
Greely Expedition, food taken, 180—81
Greenland, 10, 62, 438
Grubben, John, 325; his invalid wife, 326, 328; an old house of, 343—44
Gulkana, 426

Hadley, Mr., of the Cape Smyth whaling station, 70, 71

Hagen & Co., Christiania, 3
Halkett, Cape, 335, 343, 353
Hamlet, Captain, of the *Thetis*, 7, 48, 52—53, 63, 72, 78, 83, 84, 87
Hansen, Lieutenant, 78
Hansen, Mr., Danish trader, 388
Harald Dollar, *S.S.*, 58—59, 61, 72, 85
Harris, Dr. R. A., of Washington, 5, 16, 91, 438
Harrison, 15
Harrison's Bay, 91, 340
Harvard College, 10, 11
Harvard Medical School, 10, 11
Heather, *S.S.*, 32
Heinemann, Mr. William, negotiations with the Author, 2—3
Herman, *S.S.*, 306, 318, 319
Herron, Mr., at Candle, 381
Herschel Island
  Royal N.W. Mounted Police, 7; Mr. Leffingwell at, 135; Mr. Stefansson at, 280—81, 314; description, 309—10; the whalers' influence on the natives, 310—12; natives of, 315; catching the white whales, 315—16; catching seals, 316—17; steamers, 318; the Author at, 319, 444, 445; mentioned, 3, 11, 78, 90, 91, 135, 308
Hicky, William
  On board, 12, 13, 53, 78, 437; volunteers for sounding, 93; on the sick list, 94, 95, 99; work on Flaxman Island, 115, 155, 169, 189—90; assists Dr. Howe, 278; work at the pumps, 280; goes with Mr. Stefansson to Herschel Island, 281, 306; the start for Point Barrow, 294, 299
Hinckley, Lieutenant, 85
Hipana, Eskimo
  Illness of, 321—22, 330; accompanies Mr. Leffingwell, 331; with the Author to Point Barrow, 337, 338, 343
Hobson, Mr., of the Cape Smyth whaling station, 70, 71
Hoffman, Captain, 318
Hoffmann, Miss, present from, 138
Hogsworth, Mr., schoolmaster at Point Barrow, 352—53
Holland, Mr., 5
Holm, Mr., joins the Author for Candle, 376, 381
Holmes, Mr., 5
Hope, Point
  Illustrations, 49, 51; dogs bought at, 50—51; Eskimos of, 51—52, 373; the Author sets out for, 368, 373; cost of food at, 374; mentioned, 11, 113, 357
Horlick's malted milk as a food, 6, 146, 181, 183, 447
Hotsprings, the, 407, 411—12
Hovgaard, Captain, Expedition of, 15—16
Howard, Lieutenant, 113
Howe, Dr. George P., M.D.
  Illustrations, 10, 12; account, 10—11; assists with the navigation, 21, 22, 23, 24, 25, 26, 31, 42, 44, 51—52, 56, 57, 61, 69, 71, 85; goes bear hunting, 27; patriotism, 36; departure with the Author eastwards, 99; starts for Barter Island, 109; his opinion of vegetarian rations, 110, 119; his return to the ship, 117, 118; incidents with the Eskimos, 123; expedition to Cross Island, 128, 130; return from Cross Island, 136; decides to join the sledge trip, 148; expedition to Ned's cabin for a dog, 150—51, 153; treatment of an Eskimo woman, 152, 154; attendance on Thuesen, 156; does not accompany the sledge expedition, 185; opinion regarding the dogs' disease, 246; welcomes the

return of the sledge expedition, 277; report on the crew's behaviour, 278; builds a house on shore, 278—82; greets Mr. Stefansson, 280—81; gives a dance to the natives, 282; report on the native camp, 285, 286; a hunting party, 290; disposal of the crew, 292; the start for Point Barrow, 294; attendance on Storkersen, 299—300, 302, 320; return to Flaxman Island, 300; a steamer sighted, 303; visit to Ned's hut, 306; cariboo hunting, 441; goes with Mr. Leffingwell to Erie's cabin, 443; his return home, 444; medical notes on North Alaska, 451—55
Hughes, Miss, gift of, 6
Hula-Hula dance, the, 287—90, 332—33, 449
Hula-Hula River, fording the, 325, 327
Hunting party, a, 290

Ice
Beaufort Sea ice, 13—14; 226—27, 438; pack ice near Wainwright Inlet, 62; permanent, off Cross Island, 90—91; rubble, 192—95, 202, 211—12; 260—61, 264—65; old, 212—13, 214, 218—19, 268; movement of the floes, 240—42, 245, 271; westward drift, 242—43; taking advantage of a floe, 254—56; high pressure-ridges, 261—62; slush ice, 270—71; grounded, off Pitt Point, 345
Icy Cape
The Author starts alone for, 358; hospitality of Mr. Fellows, 360—61; natives of, 361; departure of the Author, 363; mentioned, 55, 59, 358
Icy Point, observations at, 437
Igloorook, Eskimo woman, 304; *illus.*, 76
Igloos, mode of life in, 451—52
Indian, Joe, 403
Indian Point, 40
Indian, the North American, 455
Indians of Loudon, 401
Infant mortality, 453
Investigator, H.M.S., 55
Isaack's Point road-house, 390

"Jabbertown," 52
Jackson-Harmsworth Expedition, 454
Jacobsen, Consul, 5
Jarvis, Lieutenant, U. S. R. C. S., 113
Jarvis, Major, at Herschel Island, 314—15
Jeannette, *S.S.*, 15, 16, 318

Kaltag, 396, 407
Kanara, Eskimo, 128, 129, 134, 147, 151—52
Kara Sea, 15
Kayak, use of the, 167
Kayukok, 408
Keenan, Captain, 15, 16, 90
Keevalina, 365, 375—76
Keewalik River, 383
Kegertavrook, the mission of, 376—77
Kenai Peninsula, 113
Keystone Cañon, 431—32
Kilbuck, Mr. and Mrs., of Wainwright, 356—57
Kiliuak Fjord, natives of, 25—26
King Point, 91
Knoxville, *illus.*, 10
Kodiak Island, the passage to, 21—27; *illus.*, 27; coast of, 29
Kokmoliks, the
Trading of, 101—2, 113; of

Herschel Island, 315; customs of, 323—25
Kokrines, the telegraph station at, 403
Koogoora Kook, 280
Koogoora River, 120, 122, 281, 285, 330
Koopowra, the, 296
Kornings, 403
Kotzebue Sound, 97, 113; natives of, 315
Krajootak, Eskimo child, 106, 116
Kreeseek, Eskimo—expedition with the Author to seek skins, 120—28
Kronoloolo, native, 325

Lancaster Sound, 14, 438
Leads, 178
Leavett, Captain, 135, 318, 331, 442
Leffingwell, Dr., 6, 8, 9, 12, 115
Leffingwell, Ernest de Koven
Partnership with the Author, 1—9; account of, 9—10; gives assistance in navigation, 21, 22, 23, 24, 26, 31, 42; as a shot, 34—36; on board, 44, 51—53, 56, 57, 61, 65, 69, 71, 85, 90, 92; care of the dogs, 83; starts his observations, 96, 98—99; training the dogs for the long "mush," 107, 108; starts for Herschel Island, 109; stopped by open water at Collingson's Point, 118; footwear sent to, 131; return of, from Herschel Island, 133—35; preparations for the sledge trip, 146, 153; visit to Ned's cabin for a dog, 150—51, 153; his command of the Eskimo tongue, 155, 446; his proposal regarding food, 162, 183—84; question of clothing, 177, 216; outfit for the sledge expedition, 179; rations for the sledge trip, 180—82; attack of snow-blindness, 185; outfit of his sledge, 186; the start, 188, 190; the progress over the ice, 192; sights Cross Island, 200; sights a lane of young ice, 204; incidents, 206, 207, 211, 212, 214, 218, 222, 223; trouble with his sledge, 218—20; as cook, 220; finds latitude 71° 53′, 229—30; on thin ice, 235; work of starting a sledge, 240; on the raft, 250—52, 266; taking advantage of the floes, 254—56, 266—68, 272—73; post mortem on "Kamalook," 258; weight of his sledge, 262; whales, 265; a bear hunt, 268—69; goes through the ice, 270; further trouble with his eyes, 274—75; tries the Eskimo credulity, 275—76; death reported, 281; expedition with Ned Erie to the mountains, 283, 444; engagement of "Anderson," 319; his proposal to the Author, 320—21, 331, 437; as a doctor, 321—22, 330, 447, 449; goes to meet the Author returning from the mountains, 329, 331; parts with the Author, 333—37; his promise to Sachawachick, 336; remains behind on Flaxman Island, 381, 387, 435; letters to his father, extracts from, 441—50
Lehman, Mr., 5, 6
Leiser, Messrs. Simon, and Co., 17, 137
Letter-writing among the Eskimos, 357
Lewis, Mr., of Loudon, 401
Lisburne, Cape, 52, 113; the scene approaching, 367—68
Lobinierre, Sir Henry Joli de, 5

Loudon, 399 ; the telegraph station at, 400—401
Lucas sounding machine, the, 178

McAllister, sailor, 87—88
McClure, Captain, 16, 55, 79, 440
McIntoch, Mr., school teacher, 373
Mackenzie River, 11, 98, 294, 314, 319
McPherson, Fort, 314
Magalik, the "Artful Dodger," 282, 304
Maguire, Captain, 155
Makallektok, Eskimo, 188, 336
Manley, Mr.—his hotel at the Hot-springs, 411—12
Markham, Sir Clements, 2, 14—16
Mary and Ann, schooner, 30, 45
Mathiasen, Mr. and Mrs. Carl, contributions, 4
Melozi, 401
Meyer's road-house, 424
Midway Islands, 243 ; the sledge expedition camps at, 204
Mikkelsen Expedition, rations, 180—81
Miles, Eustace, 114
Mining Camps
"Sinking a hole," 408—9 ; formation of, 409—11 ; Ester Creek, 416 ; strike-breakers, 422, 423
Minto Inlet, 16, 89, 90, 91, 92
Missionary, the—his position among the Eskimos, 350—52
Mogs, Captain, ice pilot, 58
Möller, C. C., Drammen, 3
Montague, Victor, of Traverse City, 445, 446
Moon, the, in the Arctic, 363, 366
Mosquitoes, 296
Mount Ray, S.S., 53, 70—71, 81
Mounted Police, work on Herschel Island, 310, 312, 313, 314, 319, 446
Müller, Mr., of Fort Gibbon, 407
"Musher," a, 383

N. A. C. Supply Stores, 406, 409—10, 417
Nagoorok, Eskimo child, 98
Nanegerak, Eskimo woman, 120, 304
Nansen Expedition, the Discoveries, 16, 440, 447 ; his sledge trip, 159 ; his equipment, 161 ; permanent weights on his expedition, 163
Nantes, Mr., 5
Nantes, Mrs., 9
Nanton, Mrs., of Victoria—present from, 137
Nares Expedition, rations, 180—81
Narwhal, S.S., the, 135, 318 ; takes the crew off Flaxman Island, but fails to land provisions, 320—21 ; fails to land the dogs, 348
New Bedford, 15
New Siberian Islands, 15
Noise, Mrs., at Candle, 381—82
Nome
Arrival of the Author, a welcome, 386—87 ; the Sons of the North club-house, 387 ; mentioned, 7, 44, 45, 380, 382
Norton Bay, 390
Norton Sound, 390
Nulato, the trail to, 396—98 ; the telegraph station at, 398
Nunatomiuts, on Herschel Island, 315

"Old Julius," 390
"Old Moses," 390
"Old Woman," the telegraph station at, 392, 394
Onkilons, the, legends of, 15
Oogerooks, 271
Oojooaktok ; trail with the Author from Icy Cape, 361—62, 365, 369, 370, 376
Ookpeelak River, 444
Ooliktoonik, Mr. Stefansson at, 299—300 ; the *caché* at, 335, 340

Osborn, Serah, 14
"Our Home" road-house, 423, 424—26

PARKER, J., 11, 42, 46—48
Parry Archipelago, 14, 16, 438
Pearl Bay, 65, 355
Peary, 438
Peteralegook, Eskimo, and his family, 294—95, 300; *illustrations*, 296, 297
Phonograph, the, among the Eskimos, 317, 333, 447
Pikok, native, 370
Pitt Point
  Grounded ice at, 345—46; native houses near, 346
Plover, H.M.S., 155
Polar Sea, 438
Pole Island, 90, 136, 197, 276
Ponies and dogs compared, 167—68
Porcupine River, 314
Portage, trailing on a, 398—99, 400, 401—2, 404
Porter, Captain, call at Flaxman Island, 307—8
Primus lamp, use of the, 161, 173
Prince of Wales Cape, 40, 43
Prince Patrick's Land, 17
Ptarmigan, 285
Ptarmigan Drop, 431

RABID'S road-house, 422
Raft, the, use of, on the sledge trip, 167, 250—52, 260, 266
Railroads, 386
Ray, Lieutenant, Expedition, 446
Reindeer, domestic, 44—45, 76—77, 354—55, 362
Revenue Cutters, work of the, 75, 85, 87, 113
Road-houses, 386, 387, 388—90, 400, 403, 405, 408, 422, 424, 434
Rothschild, Hon. Walter, 5, 24, 44
Royal Geographical Society, 2—3, 5, 6
Rubble ice, 192—95, 202, 211—12
Ryberg, Mr., at Candle, 381

SACHAWACHICK, Eskimo
  Illus., 96; account of, 112—14; kills three bears, 133—34; popularity of, 136; kindness of, 148, 151—52, 153, 154; tales told by, 155; bids farewell to the sledge expedition, 188, 189—90; assists in the building of the house, 278—80; his joy on the return of the sledge party, 282—83; accompanies the crew to Point Barrow, 292, 294; return to Flaxman Island, 306; illness of Hipana, 321—22; accompanies the Author across the mountains, 322—28; his opinion of Axel, 326—27; his igloo, 329—30; Mr. Leffingwell's promise to, 336; mentioned by Mr. Leffingwell in his letters, 441, 445, 447, 449; mentioned, 106, 107—8, 111, 112, 117, 128
Sadlerochit River, 144, 323, 328, 330
St. Lawrence Island
  Illus., 35; description, 36; natives on, 41
St. Michael's, 406
St. Paul's School, 10
Sakovanuktok River, 294—95, 300, 335, 338, 339
Salamon River, 386
San Francisco, earthquake, 44
Sannak Island, 29
Saviovik River, 338
Scandinavian-American Bank, the, 5
Schools, Eskimo
  Point Barrow, 352—53; Icy Cape, 361; Point Hope, 375
Schröder, Mr., manager of the N.W. trading post, 32

Scott, Captain, Expedition
Permanent weights taken, 163 ; outfit, 172 ; rations, 180—81, 183 ; records, 454
Scott-Keltie, Dr., 2, 3
Seagulls, 272
Seahorse Islands, 65
Sealing, 230, 271, 286, 316—17 ; at Kevuleek, 375
Seattle, Danes in, 5
Sedge grass, use of, 177
Seward Peninsula, the trail to, 384—86
Shaktolik, 390
Sheerwater Bay, 28
Sheldon "musher," 383
Shoodlak, Eskimo boy, his diary, 356—57
Shumagin Islands, 29
"Skies," 166
Sky, an Arctic, 131—33
Sledge Expedition, the
Rations for, 146—47 ; purchase of dogs, 147—48 ; date of starting, 148, 156—58 ; the outfit, 153 ; equipment of the sledges, 159—60, 164—66 ; permanent weights, 159—64 ; means of crossing water, 166—67 ; the sledge dogs—their care and driving, 168 *and note*—72 ; tent and camping outfit, 172—74 ; moisture in the sleeping bag—means of preventing it, 174—75 ; clothing — furs contrasted with wool, 175—78 ; instruments, 178 ; medical outfit, 179 ; food, 179 ; comparison between the food of different explorers, 180 — 82 ; malted milk compared to pemmican 183 — 84 ; rations for the sledge trip, 182 ; outfit taken, 184—87 ; the journey over the pack ice ; 188 — 277 ; rubble ice, 192—95 ; forced to return, 195 ; second start, 196—97 ; considerations favouring return, 256—58 ; subsequent weights of the sledges, 262 ; first native tent sighted, 275—76 ; the arrival home, 276—77 ; Uxra's report, 313—14
Sledge, the
Stability needed, 159—60 ; the art of starting, 240 ; evil of badly-made runners, 364—65 ; wreck of the Author's, before reaching Hope Point, 369 — 70 ; horse sledges at Candle, 379, 387
Sledges and sledge-driving, 164—66
Sleeping bags
Moisture in the, 161—62, 174, 175 ; questionable comforts of, 198
Smith's Bay, 345
Smyth, Cape, 69—70, 348
Snow houses, 443
Snow-blindness
Mr. Leffingwell suffers from, 185, 274—75 ; the author has an attack, 241—42 ; native cures, 453
Sounding machines, 178
Spencer, Dr., 16, 437
Spencer, Port, 44
Spriggs, Mr., Presbyterian missionary, 71, 350, 352
Stage-driving, 414, 420, 424, 428
Stamboul, whaling vessel, 15
Steamers, calling at Flaxman Island, 304 — 6 ; at Herschel Island, 318
Stefansson, Mr. Vilhjalmr
Account, 11 ; at Herschel Island, 91, 135 ; arrival at Flaxman Island, 280—81 ; return to Herschel Island, 281, 441 ; again at Flaxman Island, 284 ; his collection of ethnographical specimens, 286 ; on the disposal of the crew, 292 ; the start for Point Barrow, 294, 299 ; decides to stay

another year, 298 — 99; ethnographical work at Oolik-toonik, 300; calls at Flaxman Island on way to Herschel Island, 306; his return home, 314
Stone, Lieutenant, Expedition, 113
Storkersen, Storker
Illus., 11; account, 12; bear hunting, 27; on board, 46, 48—50, 57, 61; volunteers for sounding, 93—94; *illus.*, 106; work on Flaxman Island, 107; with Mr. Leffingwell on Herschel Island, 109, 134 — 35; work of overhauling, 151; preparations for the sledge trip, 155; repairing the leak, 158; accompanies the sledge expedition, 185, 187; outfit of his sledge, 186; incidents, 206, 207, 211, 212, 214, 223; clothing, 216; accidents to his sledge, 233, 249, 258—59, 264, 266; on thin ice, 235; work of starting a sledge, 240; breaks through the ice, 243; on the raft, 252, 266; taking advantage of a floe, 254 — 56, 266 — 68, 272 — 73; weight of his sledge, 262; a treacherous crossing, 270; device to haul in the dead bear, 272; death reported, 281; a hunting party, 290; signs fresh contract for a year, 292; the start for Point Barrow, 294; gun accident to his foot, 299 — 300, 302, 306 — 7; return to Flaxman Island with the Author, 300; leaves Flaxman Island, 320; observations taken by, 437; goes with Mr. Leffingwell to Herschel Island, 441
Strathcona, Lord, 5
Strike-breakers, 422, 423
"Strikes" gold, the formation of 408—11
Sukareinna, Eskimo woman, 127, 128, 151, 304, 332
Sullivan Creek, 408, 409, 410, 411
Sullivan's road-house, 422
Summit, Lake, 423
Sun, the, in the Arctic, 140
Sweeney, Dan, 306, 325, 326

Taklooksrak, Eskimo, 122, 123, 300
Tangent, Point, 347
Teikill, 426
Teikill road-house, 430
Telephone Creek, 385
Teller, "town of," 45—46
Templeman, Hon. W., 5
Tent and camping outfit for a sledge expedition, 172—74
Tents, need for stability, 160—61; description, 443, 452
Terigloo, Eskimo, 131, 134, 327—28
Thetis Islands, 128, 203
Thetis, the, U. S. R. C., 12, 48, 52, 53, 58, 61, 63, 71, 72, 78, 81, 82, 83, 84, 85, 87
Thompson and Hansen, Messrs., 5
Thompson, Cape, 52, 374
Thompson, Mr., 376
Thuesen, Christopher
Illus. and account, 12; as cook, 46—48, 53, 54—55; work on Flaxman Island, 108; accompanies Dr. Howe to Barter Island, 109, 110; his return, 117, 118, 119; expedition to Cross Island, 130, 136; reports leak in the ship, 148; tent-making, 151; preparations for the sledge trip, 155; illness of, 156; welcomes the return of the sledge expedition, 277; superintends the building of the house, 278; the start for Point Barrow, 294, 299; returns to

Flaxman Island with the Author, 300
Tidal observations, 437
Tilton, Captain, 306, 318, 319, 325
Tjimigok, Eskimo child, 106, 114, 116; illness of, 335—36, 337
Toker, Point, 135
Topsia, Eskimo preacher, 123, 125, 127
Toscanna, sledges at, 430
Trading with Eskimos
Buying of dogs, 37—39, 50—51; necessary articles for the Arctic coast, 51; dangers of early, 101—2; Eskimo methods, 118, 447
Trailing, hardships of, 131
Tromsö, 12
Tuberculosis among the Eskimos, 452
Tucker, Joe—his house at Hope Point, 309, 373
Tullik, Eskimo woman, 151, 302, 304, 332; *illustrations*, 97, 98
Tundra, 394

Ugavajak, Eskimo, *illus.*, 74
Ujarajak, Eskimo, 304, 327—28
Ujarak, Eskimo, lends a dog, 127, 147—48
Umiak, the, advantages over a boat, 100
Unalaklik, the trail to, 391—92
Unalaska, *illus.*, 33
Unealaska, 311
Unimack, a native, *illus.*, 47
Unimack Island, volcanoes of, 34
Unimack Pass, 23, 29, 30
Uxra, Eskimo
Illustrations, 74, 97; accompanies Dr. Howe and the Author, 96—105, 109, 112; his tent, *illus.*, 103; a bargain with, Tullik's objection, 135—36; brings news of Douglamana's illness, 154; assists in the building of the house, 280; meeting with Mr. Stefansson, 281; trading with steamers, 304; his tale regarding the expedition, 313—14; mentioned by Mr. Leffingwell in his letters, 441

Vachan, Mr., 407, 417, 420
Valdez, 407, 418; the trail to, 420—35; *illus.*, 427
Victoria, B. C., 4, 17, 137

Wainwright Inlet, 58—59, 61—62; the Author at, 353—58
Walrus, 57
Waltham Watch Company, 6
Werlish, Commander, U.S.N., 32—34, 44
Werlish, Mrs., 34
Werner, Dr., 322
Weyok, village of—straits of the Author in, 368—71
Whalebone trade, the, 76
Whales, 72, 265; several tons of dog-feed alongside the vessel, 84; at Herschel Island, 309, 315—16
Whaling industry, the
Evil influence of the whalers on the Eskimos, 73—75; some enterprising whalers, 75—76; life at Herschel Island, 309; the white whales of Herschel Island, 315—16; the station at Point Barrow, 348—49; profits made by, 349—50
Whisky, distribution among the Eskimos by whalers, 75—76
Whitiger, Dr., at Candle, 381
William Bailis, SS., 3, 45, 53, 58, 61, 63, 72, 81
Wilson's road-house, 403
Wind storm, a, 369—70
Winnipeg, Canada, 11
Wollaston Land, 16

Wrangel, Baron, Siberian legends, 15
Wrangel, Mr., 428

Yorst road-house, 423
Yukon River, 396—97, 398, 400, 406, 434
Yukon method of harnessing dogs, 168 and *note*

Ziegler Estate Company, 6

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