THE WATKINS MOUNTAINS

By J. L. LONGLAND

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On July 4, 1935, Shackleton's old ship the *Quest*, after hastily detaching the last stragglers from bars and barbers' shops, sailed out of Aberdeen harbour. We were a party of twelve, and of these seven, who formed the British East Greenland Expedition proper, under the leadership of L. R. Wager, are now wintering at Kangerdluksuak, and carrying out the main programme of scientific and exploring work. The other five of us were only to be away for the two summer months, during which it was hoped to put into action a plan jointly conceived by Wager and Augustine Courtauld, who had generously chartered the *Quest* for the party's use, before the ship had to leave for England in early September. The plan was to attempt to explore in a sledging journey the Watkins range in Rasmussen Land, the biggest mountain mass in Greenland, and if possible to climb its culminating point, which is most probably the highest peak in the Arctic. These mountains were almost certainly discovered for the first time by Gino Watkins on September 1, 1930, in a survey flight in a Moth aeroplane from Mikki Fjord, and they were seen subsequently, each time from the air again, by Herr von Gronau and Colonel Lindbergh. Since 1930 several parties had planned to reach them, and after Watkins' death the Danish Government had paid him the tribute of naming the range after him ; so that it seemed to us fitting that the party should contain men who had been with Gino Watkins in Greenland or in mountains elsewhere. To this end a team of six was chosen : Lawrence Wager, his brother H. G. Wager, and Dr. Fountaine, from the wintering party, and Courtauld, Ebbe Munck and myself from those who had to return home in the autumn.

Bad westerly gales and the tide race in the Pentland Firth drove the *Quest* to shelter for two days behind Duncansby Head, where the most difficult rock-climb of the trip was made on one of the slender stacks in the bay, and where we lay on the cliffs and watched the puffins strutting back and forward on their flat ledges, for all the world like little fat business men, hands under coat-tails, dictating letters to unseen secretaries. On the 6th we scuttled across to Langholme by Scapa Flow, and late that night

managed to work through the Pentland, and four days later we were in Reykjavik harbour, most of us a little bruised after the antics of the flat-bottomed *Quest*, which can be checked by pendulum, rolling nearly 40° each way. We were quite surprised to hit Reykjavik in one, as Courtauld and the mate were usually after their sextant readings about 100 miles apart in positions on the chart, though it was only later that we discovered that the ship's compass was being deflected about 15° by the proximity of a metal-shod sledge.

At Reykjavik the party was increased to fourteen by two Danish archæologists, Knuth and Larsen, who were to come with us to dig among the northerly settlements of Eskimos who had died out a century and more ago. The longer days slipped by, the sun still high at 10 at night, and on July 14 the swell and winds of our early passage died down. Our auxiliary sails were hauled in and, with colder sea and a new chill in the air, we expected hourly to sight the outer edge of the Greenland ice belt. The first glimpse was like many long-expected pleasures disappointing, and after being unwillingly haled from our cabins at 2 A.M. by an excited female voice, we blinked sleepily at a few discoloured pieces of ice the size of small patches of seaweed, and felt that any superior fishmonger could have put up a better display. But the next day showed us the full gamut of excitement which navigation in the polar pack can sometimes provide, a day of quick turn and counterturn between ease and haste, tension and relaxation. In the clear northern light we could see the broad, unbroken line of the ice floes ahead, punctuated with big icebergs—Captain Scheldrup already in the crow's-nest in the first hour of almost continuous work aloft for the next 20 hours—and beyond, more than 30 miles distant, a dream coast lifting in front of our bows, in a long line covering a quarter of the horizon until, N. and S., the mountains faded as the coast bent away, a line of snow-marked peaks, with clean, white glaciers dropping to the fjords between. At once came a realization of the drab inadequacy of most arctic photographs on seeing for the first time the glittering ice, the cold brilliance of the sky, and the light browns and ochres of a range comparable from this sea vantage with that of the Alps from Berne, or even the Himalaya from Darjeeling, lifting in a steady curve of excitement from the rounded lower peneplane slopes round Cape Dan to jagged Ingolfsfjeld beyond Kangerdluksuatsiak to the N. An Alpine eye could find a Bietschhorn, an Ailefroide and a neatly reversed Meije, and plan future summers among clean granite peaks of every sort of difficulty.

Later that day, after the first thrill of the bump and tremor of a wooden ship steaming fast through open floes, we had worked well into the belt of pack, and the occasional big, flat-topped icebergs had become a counted ring of forty-two all round us, magnified to many times their actual height in the fantastic mirage : so that inshore appeared a continuous wall of ice cliffs and out to sea were jagged masses, with an extra set of pinnacles superimposed upside down, with clear sky showing between the actual spires and those reflected above them. That evening, Scheldrup taking us boldly through in spite of a ground swell, the ship was caught fast among bigger floes and carried helplessly, by one of the mysterious currents that set from the N., towards a big iceberg, its great mass apparently stationary, as the ice floes swirled past it or were cracked to pieces against its walls. For several rapid hours we worked, first vainly trying to give the *Quest* manœuvring space by dynamiting the ice on either side—only to find, some days later, that we had mistakenly used the dynamite intended to blow a hole into which the real dynamite could then be put! After this disappointing Brock's benefit, half the crew dropped astern on to the ice trying to protect propeller and rudder from the pressure, and Ebbe Munck told us how his captain had lost a rudder just off the coast a year or two before, pointed his ship in the general direction of Iceland, missed it by a handsome 300 miles, and then made a landfall somewhere near the North Cape of Norway. Meanwhile, told to be prepared to abandon ship, we unskilfully shifted the deck cargo until we could get at the hold and grub about among bags of coal for stores and equipment considered suitable for life on an ice floe, in case the *Quest* went to pieces against the big berg, now only a cable's length away. The thought of shipwreck seems to lose most of its terrors when like St. Peter you have only to step out and walk. Meanwhile the bergs on the horizon seemed to be closing in on us in a hostile ring ' like giants at a hunting '—until the inexorable drift carries us safely past, and tension relaxes like a bowstring, and the captain comes stiff-legged down the ladder to share the hot cocoa which the cook, showing the general Arctic disregard of the hours of the clock, serves out at 1 A.M.

Next morning, July 16, we woke to find the ship again steaming quietly towards the coast and the swell dying down ; it was some days later that we learned that the same night had seen the sinking of four out of five sealers on the outer edge of the pack, the fifth collecting their crews in turn and putting back, well loaded, to Iceland. That day we shot the first seals, creeping up on four of them in the early mist as they lay on a big floe. We

needed food for the dogs we were to take on board at Angmaggsalik, and for us seal steaks and liver were a welcome change from tinned meat. Later we had forced a belt of thicker pack, when we heard a sudden shout of 'Eskimos!' from the crow's-nest and we all crowded forward to see a tiny dark figure running across the ice, and then his kayak perched on a floe, having come hunting with a companion a good 4 miles out from a summer encampment near Cape Dan. These first two smiling visitors, proud to greet the first ship of the summer, were hoisted on board, kayaks and all, and surrounded by a ring of questioners asking in halting Eskimo for news of old friends of former expeditions. They afterwards constituted themselves our pilots, and for the next four days stayed on board, strutting about on the bridge for all the world as if they were in sole charge of the ship. As we steamed into the big Angmaggsalik Fjord behind Cape Dan, came shouts and shots answering the cries of 'Umiatsuit!' ('the great big boat') from our two friends, and then out of the mist kayak after kayak, until we had a fleet of seventeen paddling easily alongside, steering miraculously among the floes, and each man continually throwing his harpoon in greeting, close under the stern of the kayak ahead. As we anchored out came the women and children, and the old men as coxswains, from a sheltered bay, rowing their big skin umiak with short bucketing strokes, till we were surrounded by a ring of beaming Mongoloid faces, costumes built with natural artistry from a surprising range of colour contrasts, and a babel of voices, and could share their friendly excitement at seeing the first Europeans to visit the E. coast that summer.

Of the hospitality and novelty of that summer encampment, the dancing to the accordion on board which went on into the small hours, and even of our welcome next day by the Eskimo and Danish inhabitants at the big colony of Angmaggsalik across the fjord, there is not time to tell. As training for our later journey Munck, my wife and I climbed a fine rock peak (3250 ft.) up steep snow and rough scrambling ridges, at the head of the fjord, to find a tell-tale sardine tin with 'France' stamped on it at the top, as in the best Samivel cartoons, and a view reaching from the inland ice cap near Watkins' 1930 base to the disintegrating fjord ice right below our feet.

By July 19 we were off again, heading N. for Kangerdluksuak, our heavy load increased and the remaining deck space ridiculously congested by two families of Eskimos, their umiaks, kayaks and entire possessions for the coming winter—but nevertheless an object lesson for us, with our tons of stores, of the way in which

a wandering race has learnt to travel light. With them came a noisy pack of sledge dogs, some penned right up in the bows, the bitches and their puppies inextricably intertwined in the recesses of the winch gear. We were now in all some sixty living creatures jammed together in a small ship of 90 tons.

For three days we worked close inshore among the islands, making steady progress up the coast, often in narrow channels of green glacier water, except when fog forced us to anchor to a big floe for the night, and we would wake to find the steady, southward drift of the pack had carried us several miles back upon our course. During one enforced halt, eight of us, to give the captain better news of the state of the more distant ice, made the first ascent of the highest point of Leif's Island (2400 ft.), forcing zigzag routes across and up a great terraced cliff that rose straight from the sea above the ship. At that time we were kept reasonably busy preparing equipment, organizing ice-floe sports, or filling the humorously inefficient water tank with interminable bucket chains from the pools of fresh water on the floes.

On July 22 we found good water again along the open coast beyond Leif's Island, and in the evening, after passing Kangerdluksuatsiak, anchored in Lake Fjord where Gino Watkins was drowned. Here came a few hours' interlude while some of us under the captain's direction netted thirty great silver char in the river below the lake, and others visited and salvaged equipment from the deserted base hut of the 1932 expedition. Courtauld took the two archæologists to prospect in the N. arm of the fjord, and himself went off to find the memorial cross on the headland still intact, though scratched nearly to the top with the clawmarks of a polar bear that had made a strange reversion on this treeless shore to forgotten, arboreal habits. As I sat at midnight by the long, desolate green lake, dull dirty mountains showing beyond the low col at its head, the scene seemed to express a curious, silent sympathy for the extinction of the bright spirit of Gino Watkins.

July 23 found us passing along a most inhospitable coast, with no fjords for anchorage, and no beaches under the great cliffs dropping straight into the sea, with occasional waterfalls spraying clear away from the rock. In the following days we lost sight of land in the sea fog, days of clammy cold and the rigging iced, while in the heavier pack the ship pursued lanes of water that carried us diagonally away from the coast. For the next week we were caught among the large floes, some of them 3 or 4 miles across without a break, that drift down from the polar basin. On the evening of the 25th the fog lifted and showed the ship a

dozen miles offshore, opposite Aggas Island, with the black cone of Cape Edward Holm distantly visible to the N., guarding the entrance to Kangerdluksuak Fjord. In between lay a very different stretch of coast, great glaciers and snowfields gently sloping to the sea replacing the beachless cliffs we had passed. There followed a period of infinitesimal progress, with the little ship pushing and wriggling, or tugging against a hawser secured on the ice against the pull of the winch, and slowly nosing the huge inanimate floes apart. A week's advance seemed to be counted in feet, a day's almost in inches; and yet we were more fortunate than Captain Ejnar Mikkelsen, caught in worse pack to our N. for a whole two months, and never destined to reach the coast at all. They were days of anxiety for those of us who saw our chance of reaching the Watkins Mountains slipping stilly away from us; but we had at least books and sunshine and occasional shooting and ski-running on the floes, while the Eskimos and the dogs chafed more and more at the waste of the bright, active daylight of the short arctic summer. Finally, on July 29 came a clear sunset, and in the level light suddenly appeared a row of shining shapes beyond the blacker coastal peaks to the N., with snow ridges and snow domes reaching over all. These were big mountains and, from their position, almost certainly the mountains of our journey, a golden delight in the setting sun.

With this our luck seemed to turn, and on the 31st we worked towards the shore in a sudden twisting lane of water. The wind blew freshly off the glaciers, gradually driving the bigger pack out to sea, and we worked along the coast again, past Deception Island and Aputitek, round Cape Edward Holm, to find what seemed the nursery of all the icebergs in the world nestling behind it. On August 4 we were snugly anchored close beside Wager's winter quarters in Kangerdluksuak Fjord. Here we put ashore the cramped dogs and the Eskimos, both glad to find habitable land under their feet again. Larsen and Knuth, our two archæologists, also left us here to live in one of the huts built by Captain Mikkelsen and work at the remains left by a bold colony of Eskimos who had pushed all the way up this difficult coast in their little boats from Angmaggsalik, only to die out more than a century ago.

The same evening the rest of us sailed out of the fjord in heavy rain to begin the chief campaign of our summer expedition, hoping by next morning, the pack being almost invisible out to sea, to be a long way to Wiedemann Fjord, the starting-point of our sledging journey to the Watkins Range. But during the night an easterly gale blew up and the pack closed in on the coast, the

ship herself, the captain told us, being all but nipped between two great floes, that closed hard together like the jostling Symplegades just as we had slipped through. After that he was forced to turn and run S. for shelter, and we woke on August 5 to find ourselves in the narrow green channel of Irminger Fjord, nearly 70 miles short of our intended goal. With the E. wind continuing, the prevailing bad condition of the ice, and the lateness of the season after our delay in the polar pack, it was clear that a rapid recasting of plans was necessary. Even so I was at first shocked, being unaccustomed to the way in which the ice must dictate general policy in the Arctic, at Wager's calm suggestion that we had better try to reach our mountains from where we were. But he proved admirably right in the event, as, if we had persisted in trying to reach Wiedemann Fjord, we might never have arrived, or if we had, then too late for a real attempt on our mountains. Besides, Wager had a more detailed knowledge both of the stereoscopic photographs taken by the Danish Air Survey under Rasmussen in 1933, and also of the map which Michael Spender and the Danish Geodetic Institute had constructed from them with such meticulous accuracy. Still it seemed hard to abandon the Kronborg Glacier route, that great open highway of approach, which after so many hours of stereoscopy and map poring we seemed to know as well as the Rongbuk Glacier, and it was only after a morning's fresh map work that I felt I could agree with Wager that there was at least a sporting chance of making a cross-country route of about 110 miles from Irminger Fjord, where the *Quest* lay at anchor, to the foot of the Watkins Mountains. It should be stated clearly that our task in reaching this new range was enormously simplified by the map and the vivid stereoscopic views—that, in fact, we were free from the greatest difficulty of exploring untrodden mountain country, and that without this help it is very doubtful if we could have got near enough to attack our peak in the short time at our disposal.

Rapid changes of plan need rapid execution, and it was still early that morning when the two Wagers set off in rain and low cloud to explore a lateral glacier (afterwards named Scheldrup Glacier after the captain of the *Quest*), which appeared to run from Irminger Fjord up towards Sorgenfrie Glacier. By this latter glacier in turn the eye of faith could see a line of connection across an intervening range and so down to the huge King Christian IV Glacier, which we knew to run past the S.W. base of our mountains. For the rest of us it was a busy day of preparations, the women cutting and sewing skins for the skis, the others getting out the two Nansen sledges and checking ration boxes and our drastically

lightened personal equipment. And that evening, when Wager had returned to report that Scheldrup Glacier seemed practicable for sledges, once a long portage over moraines had been made, the *Quest* went round to the other branch of the fjord, steaming to a bold anchorage right under the cliff of the glacier snout.

Next day Wager, Courtauld and I made a more prolonged reconnaissance, still hampered by low cloud, to the point where the Scheldrup Glacier joined the Sorgenfrie Glacier. We could see, in occasional glimpses, that the connection between the two was not going to be easy, as the lower part of the Sorgenfrie Glacier was the most tremendous series of fissured and broken icefalls that I have yet seen. But we decided it was worth persisting with the route, as map and photographs showed that a long détour might be made towards a point some 20 miles further up the Sorgenfrie Glacier where its surface ought to be more friendly to sledges. Meanwhile the other members of the party and the willing ship's crew had been hard at work carrying sledges and rations for a three weeks' journey over the multiple moraines of the Scheldrup Glacier to a point where it looked as if sledging on the bare hummocky ice might begin.

Next morning, August 7, almost the whole ship's company turned out to escort the climbing party up the 2 miles of glacier to the sledges. Here we bade farewell to our wives and the captain, and the two sledges set off smartly up undulating glacier, not expecting to see the *Quest* again for nearly a month. Four of the crew came with us for the first 6 miles, helping with the sledges until the glacier began to flatten out, and making the pulling so light that it was no preparation for the harder days that lay ahead. The first march was only about 8 miles, and we camped near the point reached by our reconnaissance; a party of nine in four tents, the six final climbers very usefully reinforced by a supporting team of three : Dear, Wager's second geologist ; Chambers, the winter expedition's quartermaster; and Høegh, the handyman of the Norwegian crew. Wager and I went on to a minor summit bright with saxifrage and a beautiful white heath, and were able to prove finally, in the clearer weather, that to descend at once on to the great Sorgenfrie Glacier (which did not connect directly with the Scheldrup Glacier as we had thought from the map) was hopeless. So we set our mark at a big, black pyramid of a peak, nearly 15 miles further up, and worked out from our viewpoint, the map and the relevant photographs a détour of about 25 miles which would bring us on to the Sorgenfrie Glacier well above the pyramid. We returned to find the camp looking very neat, sledges unloaded, and our three squat brown tents contrasting

with the higher green and white 3-man tent of the supporting party. Soon Munck and I in our tent were anxiously examining our unfamiliar scale of sledging rations, and solemnly measuring out for each man a quarter of a pound of pemmican, a handful of dried Julienne, two little triangles of cheese, two biscuits, two penny bars of chocolate and five lumps of sugar, besides the cocoa which as a luxury we knew we should be discarding when the supporting party left us. Finally butter, appearing ubiquitously in all our dishes, was dropped into the liquids, spread on the solids, or simply (when we were fitter and braver) consumed in spoonfuls from the tin, till the required four ounces a day were safely inside each stomach. Next morning, after a night of rain, our 4 A.M. breakfast would have seemed to cultured palates depressingly similar, with porridge as a thicker substitute for the cocoa, and the lumps of pemmican eaten dry. It is a tribute to the thought and experience which Courtauld had put into the rations that, even when we were fighting fit (which at present after the long, idle days on shipboard we were certainly not), the $1\frac{3}{4}$ lbs. of food, per man per day, were completely adequate.

The next three days impressed on us the seamier side of man haulage, and in some of us a premature disillusionment with its efficiency as a method of mountain travel; it was not until improved training and the wearing of skis coincided with better snow that we began to realize what great distances could be covered speedily and easily, and what increased reserves of food and comforts a sledging party enjoys as compared with men carrying everything on their backs. Between Camps I and II was a rise of 2000 ft., up soft and steadily worsening snow, and for the last lift to the pass where we camped we had to take up the sledges separately, with the nine of us tugging on each. That day we seemed to think in terms of the five minutes' rest at the end of each hour, and we were thankful to camp after only 10 hours' going close to big crevasses below the top. From here Wager and Courtauld went on to reconnoitre the next day's route. Next morning gave us another variety of unpleasant snow, breakable crust giving under our boots with a vicious crunch, subsidence and wrench to the emerging foot. But the broad metal-shod runners of the sledges ran over the surface well enough, and on the steeper drops from the pass we were able to use the momentum of the sledge, jump hazardously on board and toboggan proudly into the snow valley. On this last stretch the second sledge unluckily broke a trailing ski point—a serious mishap, as we had incredibly foolishly set out without a single spare tip or a proper repairing outfit! We paid for our descent with a steep 600-ft.

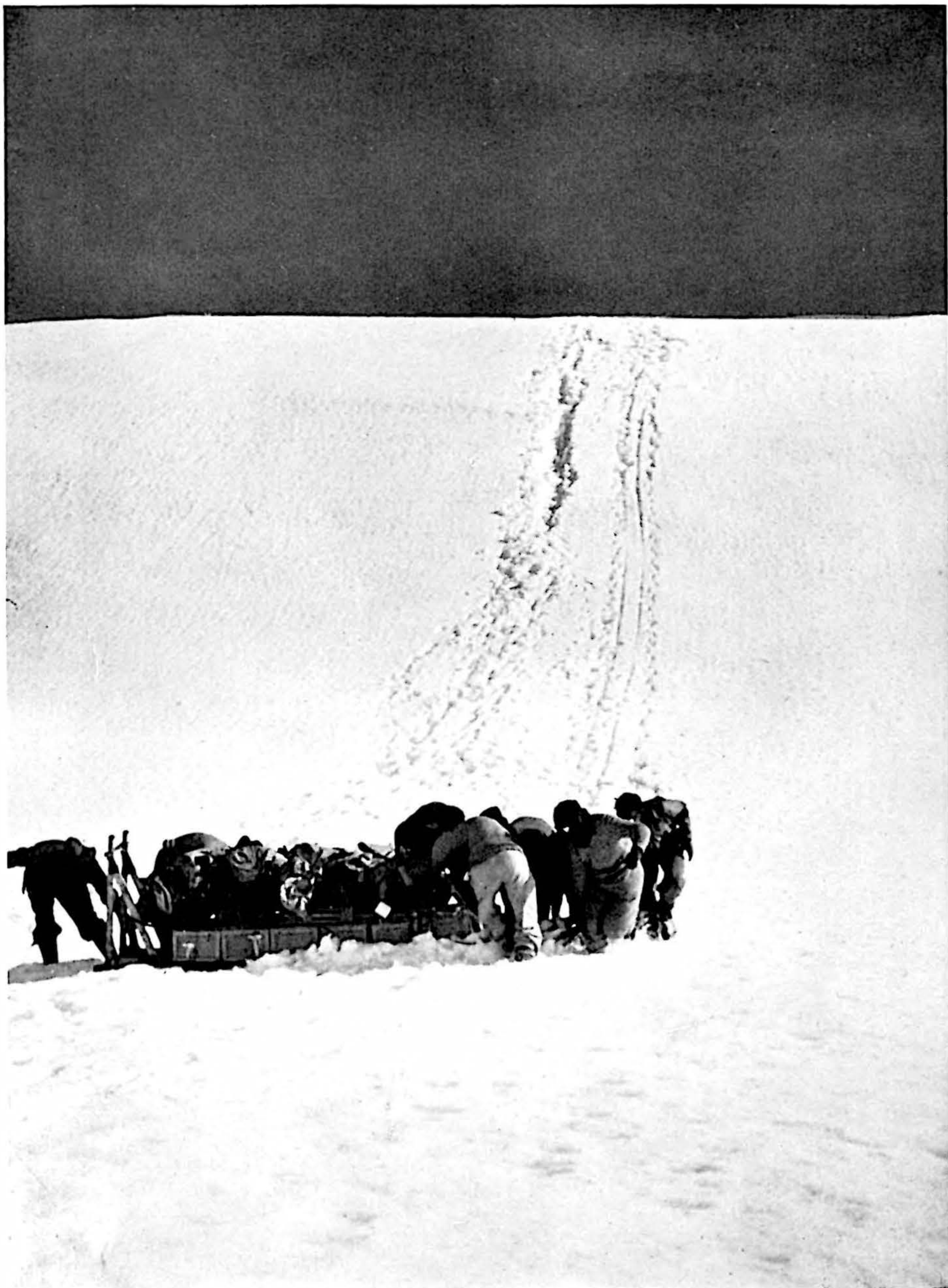
Expedition Photo.]

(1) Peak (3250 ft.) climbed by Mrs. Longland, Munck and Longland; *Quest* in Angmaggsalik Harbour in foreground.

[*To face p.* 48.

Expedition Photo.]

(2) Ice flowers, disintegrating pack, and icebergs S. of Kangerdluksuak.



Expedition Photo.]

(3) TURNING THE SLEDGES AFTER A STEEP DESCENT BETWEEN CAMPS II AND III.

Expedition Photo.]

(4) THE WATKINS MOUNTAINS SEEN FROM THE TOP OF ICE FALL PASS TO THE S.W. KING CHRISTIAN IV GLACIER IN MIDDLE DISTANCE. (Arrow on margin points in direction of highest point of range.)

Expedition Photo.]

(5) View S.W. from summit of Watkins Range, showing Screen Range in foreground, King Christian IV Glacier and Ice Fall Pass (marked with arrow).

Expedition Photo.]

(6) VIEW N.W. FROM SUMMIT OF WATKINS RANGE, SHOWING LICHEN PEAK IN FOREGROUND, UPPER REACHES OF KING CHRISTIAN IV GLACIER, AND THE LINE OF THE ICE CAP ON THE HORIZON.

Expedition Photo.]

(7) Highest peak in Watkins Range, seen from Lichen Peak. The ridge on the R. is that climbed by the party.

Expedition Photo.]

(8) VIEW N.E. FROM SUMMIT OF WATKINS RANGE, SHOWING MOUNTAIN GROUP TOWARDS SCORESBY SOUND, WITH MIKKELSEN'S FJELD, THE HIGH SNOW PEAK ON THE RIGHT.

[*To face p.* 49.

rise immediately afterwards, sledges hauled singly again, and on top were confronted with an even steeper drop, ending in 200 ft. of snow lying at what seemed an improbable angle. This was descended amusingly with rope brakes on the runners, the whole party holding back for dear life on a long rope belayed over rammed ice axes to check the swoop of the 500-lbs. sledge towards the glacier below. Even on the gentler slopes at the foot of this gradient one sledge escaped, brushing aside its ineffectual gaolers, and careered on by itself like a Giant Racer, luckily without upset or damage. Another long haul uphill, and another skidding traverse of a descent, the last of this switchback day, landed us at a little rock island in the ocean of snow. Here was a grateful change for feet soaked after plodding through sopping snow, and water from a sun-warmed rock pool instead of teeth-chilling glacier lakes and, best of all, pleasant gravel patches on which to put our tents. Here the good Høegh set to work carving a block of wood to repair the broken ski tip, and he did his work so well that the ski carried Courtauld all the way out and back. Even a rainy night did not spoil the memory of Camp III, and we made our cheerful late start at 9 A.M. on August 10. We were now level with our black pyramid and could see the pass connecting with the upper Sorgenfrie Glacier 6 or 7 miles past it. A long glacier sloped easily up towards this pass, but the snow was heavy again, and we soon had six men breaking a track and pulling the first sledge, while the second followed relatively easily in their boot marks with a crew of only three. I found myself wondering this day whether there were not more rational ways of exploring these mountains than this eternal pulling of sledges up inclines of snow like granulated sugar. The last gentle, undulating rise to the pass on a sun-ruined surface was the hardest work of the whole journey, and it was all the nine of us could do to drag the first sledge to the height of land. But miracles sometimes favour the laborious, and when we had descended to fetch the second sledge, a forlornly abandoned speck on the far glacier below, the sun had dropped low, and our footprints and runner tracks were frozen hard, and the sledge floated up behind us as if the load were feather-beds and not solid boxes of rations. We camped on the ridge by the pass more than 4000 ft. above the sea, with the thermometer showing 8° of frost already at 8 P.M. To hearten us for the next day the new mountains, 40 miles away in direct line, suddenly broke clear of lumped and sulky clouds in front of us, and showed their real height and supremacy over our coastal peaks at last. Behind our backs, through a glacier gap, rose the sharp points of the Kangerdluksuak Range, all steep, indigo rock

and violet snow shadows in the evening light. It was cheering, too, to be able to dump a full ration box at the camp against our return, a sign that we were well on our way. I fell to sleep that night after a pipe and an hour of W. B. Yeats' poems, with the line

'That dolphin-torn, that gong-tormented sea'

in all its present incongruity still running in my head. Some elation still persisted even at 5 next morning, when we found good hard snow leading down, and six of us could put on skis, while the sledges coasted down with the three unlucky infantrymen triumphantly riding on top. And at the end of the slope we were at last safely on the big Sorgenfrie Glacier, our détour completed. We found, too, that we could pull the smoothly gliding sledges on our skis along the level and even up the slight undulating snow hummocks, a presage of the easier days ahead. Soon we were at the foot of what proved to be the last icefall on the Sorgenfrie Glacier, and a short exploration discovered a useful corridor of snow leading up through large-bridged crevasses. Near the top of the icefall the snow grew softer, and the bridges shakier, and as we did not want to spend the rest of the day salvaging sledge loads from the bottomless pit, we camped on the flattened lower lip of a big crevasse, while Wager and Fountaine climbed a snow dome and reported splendid, level going on the upper glacier beyond the immediate complications surrounding our camp.

Meanwhile the rest of us made a drastic inventory of our food and personal equipment, and set aside ration boxes, spare clothing, extra fuel and the last cherished luxuries, for the supporting party to take home in the morning. Courtauld seemed to take a perverse delight in jettisoning things which he had bought at great expense some months before! So ended the first stage of our journey, for next day, August 12, our three willing supporters, who were to get all the hard work without any of the excitement of achieving a summit, did their last good service to us. For they helped us back-carry through the zone of bad crevasses our stores and equipment and the better of the two sledges—the worse we basely left to them, as it had developed an irrepressible desire to cut outside edges to the left and proved ludicrously unmanageable when they descended steep slopes on their return.

It had been five days of hard going and small mileages, and, with only some 35 miles out of what afterwards proved more than 100 miles of sledging behind us, the final team of six were not particularly confident that we should be able to break through the mountain-belt separating us from King Christian IV Glacier,

or, if we did, that we should reach our peak in time to make an attempt before the fortnight's provisions that we took on with us ran too low. For most of us it had been a good introduction to the variety and technique of a man-hauled sledge journey, and we were now stronger and more accustomed to the topsy-turvy life which saw us pulling sometimes through the night and sometimes through the day, according as snow surfaces were the less unpleasant.

But now with higher altitudes we found better snow, and moved very fast up the Sorgenfrie Glacier in the morning mist of August 12, crossing crevasses before we were fully aware we had reached them. A little later we all put on skis and could move faster still, and, steering at the rear end of the sledge and hardly doing any honest work at all, I felt like exclaiming with Little Klaus in Hans Andersen's story, ' Gee-up! my five fine Horses.' As we passed up the enormously broad glacier we could see Black Cap Peak, just below the far side of which we had camped two days before, receding encouragingly further, and bit by bit our expected pass over to King Christian IV Glacier began to open out. It was by far the most effortless day's sledging that we had yet enjoyed, with lovely views back over the now low-lying coastal peaks and in front towards a group of 3000-metre pyramidal peaks, horizontally banded with basalt like our new mountains, and to the S.W. a group of steep, rock peaks on the other side of Kangerdluksuak itself. In the afternoon, at about 6000 ft., we began to hit little drifts of clogging powder snow, drifts which in winter form horrible ridges and furrows 6 ft. high, and we camped at the top of the first lift to our pass. We started again just before 2 A.M., heartened by the thought that we had covered 15 miles the day before, twice as far as any previous march. It was hard pulling among the drifts, and we plodded on dull and sleepy until some awkward crevasses began to appear in the great glacier to our left, indicating that it was flowing steeply *over* the pass leading down to King Christian IV Glacier. So three of us went on to investigate, topping the rise to find ourselves above a big drop with the whole brave new world spread before us. Far below was a level glacier basin merging with the lake-studded surface of the main glacier—a superb expanse of flat snow, nearly 15 miles wide and hemmed by fine basalt walls, perhaps the largest true glacier in the world, and beyond and very high above these walls, the snowy summits of the Watkins Group.

But the slopes below us called for more immediate attention—a hanging valley of ice cliffs and hot-plates, dropping 2000 ft. in

less than 2 miles, and hardly hinted by our map, since it must have been hidden from the aeroplane taking the survey photographs by high surrounding mountains.

We had to get down somehow, if possible with our sledge (if not upon it), and towards the S. side appeared a gentler slope, on which the deep, soft snow made it easier to hold back the sledge, while its abundance helped to bridge the huge crevasses. By 9 A.M. we were down the upper part of the pass, and a further reconnaissance of the route was clearly necessary. Wager, Courtauld and Fountaine ski-ed off to a snow dome, 7300 ft. above sea-level, for survey and observation. They were able to check the accuracy of the map by resections from the Watkins Mountains, our surrounding peaks, and high points in the coastal range, and also to take a latitude. Wager was so anxious to get all this done that I rather suspected him of hoping to leave the theodolite behind after this. Meanwhile Hal Wager, Munck and I, in grilling heat, started to work a way down the great network of snow-masked cube crevasses and ice blocks. It took 4 hours of rather more agitated bog-hopping than I care for, and hundreds of yards of axe-prodding in deep, incoherent snow, particularly in the central trough, with holes and crevasses at all angles and degrees of size and concealment. At times, before we reached the easier levels we felt lost in a demented Hampton Court maze. The job done, we perspired moistly back to Camp VII, set on a terrace looking out across all the world, and sat down to pray for a frost hard enough to make our shaky passage firm for a loaded sledge.

The Greenland gods seem kind to summer wanderers ; a hard frost made easy work early next morning over our treacherous snow bridges, the only peril proving to be what might not unfairly be called a motoring accident, when the off-hind wheeler fell through a crevasse and had to duck sharply to avoid being decapitated by the heavy-running sledge. As we reached the floor of the level glacier bay and looked back at our Ice Fall Pass, it seemed a most improbable descent for a big sledge. But now it was all good running to the immense levels of King Christian IV Glacier and, if on the steeper glaciers our inexperienced ski team looked like a covey of frightened little wavering partridges, we were none the less moving fast and two men could easily handle the sledge, while the others ski-ed very independently and more or less alongside. By a large blue lake we had our first real halt, with an absurd, picture-postcard view up a side glacier to a vast buttressed peak that looked as if it might have been dumped here from the Sella Group. The first of these frozen lakes we laboriously

avoided by a long détour, but as we grew more familiar we pulled the sledge unsteadily on our skis right across them, and thanked the fortune that had converted into good ice enormous glacier sumps which must have been open water surrounded by acres of slush in July. As we turned round Dormouse Point into the main glacier, Wager found on the rocky point traces of coal and some beautiful leaf fossils—a sycamore or acacia and what looked like a laurel leaf, 'proving that large deciduous trees once flourished in this frozen region where night frosts now occur even in summer.' We must have been pulling easily at something like five miles an hour, and we only stopped at 2.30 P.M., after 12 hours' going, because one side of the sledge had been strained in the icefall descent and needed relashing. So Camp VIII was pitched in mid-glacier, more than 20 miles' run from Ice Fall Pass.

A sleepy 1 A.M. start on August 15, steady going on crusted snow towards the foot of our mountain, and very gradually we could feel certain we were nearer to the other side of our immense glacier. As we slowly moved past buttress after buttress in the curtain wall of basalt screening the higher tops, I was reminded of the agreeable sleepy boredom of a cross-country railway journey, with unknown stations occasionally slipping past. But when the sun rose, heralded by a fine, red pillar of light from horizon nearly to zenith, all the crystals and spicules of ice glowed a sudden yellow. As we looked ahead over humps and hollows there came a vivid reminder of a field of buttercups, though it was cold still, bitter cold. By 9 A.M. we were past the end of the screening range and could see the Corridor Glacier till now hidden behind it. Soon after 10 a stiff pull took us to the foot of a rock bluff dividing the big glacier, now turning toward the visible whale-back of the Inland Ice, from the icefields running round to the N.E. of our peak and eventually connecting with the Kronborg Glacier up which we had originally planned to travel. Here we made our Base Camp on the shores of a lake, feeling fortunate to be able to stop sledge-pulling after only 9 days' march, and more than 100 miles away from our start in Irminger Fjord.

The weather had changed, and clouds covered the high peaks, but we could see we were at the foot of a glacier that appeared to drop easily northwards from the summit plateau, so we prepared to start next morning, taking two tents and five days' reduced rations for each man, besides skis, paraffin, primus and the scientific equipment for a survey from the top. A cold wind was slipping down off the Ice Cap, and we could see bad weather among the

coastal peaks, but we had plenty of food and the determination to lay siege to our peak if necessary. The Wagers went off to geologize and botanize at the foot of our basalt cliff, returning with seven species of flowering plants, including a beautiful yellow Iceland Poppy, on which a fat but adventurous caterpillar was slumbering at 6000 ft., separated from the coast by 50 miles of mountains and glaciers !

The tale of the climb to the summit is an anticlimax, and it seemed only an interlude in fifteen days of fascinating mountain travel. We made a late 4.30 A.M. start on August 16, and were justified by the gradual cessation of the *Föhn* wind, and the sight of the summit standing out clearly in the bright morning air. I was reminded of a similarly postponed start after a bad night, before climbing the Grépon on a perfect day in 1929 with Geoffrey Young, and drew happy auguries from the parallel. We moved slowly under our heavy loads up the gently sloping glacier, soon putting on skins, which proved so useful that we were able, except for an occasionally steep slope, to keep on our skis and save laborious plodding in deep snow, until within 750 ft. of the summit. We were a comical party, judged by good ski-running standards, one of us having put on skis for the first time ten days before, and only two of us with any experience of Alpine ski-ing, but that did not matter much on the way up at least, and they felt familiar to our feet after the days of sledge-pulling. We halted first on a plateau at 7300 ft., and with glasses worked out a line through big crevasses, to turn on the N.E. the tumbled icefall dropping from the summit plateau. A series of deep but well-bridged crevasses led us to a steep, convex slope of perfect snow, where we dragged our skis behind us—scraping steps towards a steep bridge across the last schrund below the plateau. Snow so steep in Alpine sunlight would have been a nerve-pricking job, but neither on the ascent nor during next day's descent in blistering heat did we find the snow had any tendency to avalanche. Summer climbing in the Arctic, with perfect snow and nearly 24 hours of daylight, seems immune from the disadvantages that make the climber's life so unpleasant in other ranges.

We arrived at midday on the sloping summit plateau (9500 ft.), and could thankfully pitch a tent and bundle into it everything except a little food and the absurd scientific paraphernalia—a de Saussure-like mixture of aneroids, cameras, boiling-point thermometers, and 3-inch theodolite—that we were painstakingly lugging towards the top. After an hour we were off again, contouring round towards that S.E. ridge that we had examined in the air photographs and on the last few days of marching. We

passed between our own peak and a rocky satellite to the W., which a surveying party climbed next day and found to be about 11,500 ft. high, and by 4 P.M. had discarded our skis at a point immediately below the steep snow face S. of the summit. Wager tried a line directly up the bulging curve towards the top, but soon struck hard ice, as tough to cut into as that which guarded the upper dome of Mount Forel,[1] and as we had over-confidently left our ice pitons and crampons behind at Base Camp, I led the other half of the party rapidly across on a level traverse to the S.E. ridge. A choked schrund and a whale-back of hard snow led to the crest of a blunt snow ridge, with fine views over towards our originally planned Wiedemann Fjord approach and the glacier system towards which it led. I shouted across to Wager—he was soon on my heels—while I passed a solitary outcrop of firm basalt and hacked up a few feet of tough blue ice, to reach a powdery edge of snow, one boot in blue shadow and one in the sunlight, and so emerged easily upon the summit at 5.25 P.M.—13 hours and over 7000 ft. from our Base Camp.

There followed an hour and a half of the most remarkable activity I have ever been unfortunate enough to witness on the top of a high mountain. Fountaine buried his head among three rucksacks, trying gallantly to get the boiling-point thermometer apparatus to work, and the spent contents of two full match-boxes gradually accumulated round him. Eventually, just before we left the summit he succeeded in inserting the whole apparatus and his head as well into a single bag, producing rapid and surprisingly congruent results from all three thermometers while establishing the height as about 12,250 ft. Afterwards he naturally complained that he had never seen less view from a mountain top. Meanwhile Courtauld stooped with chilly fingers over the eyepiece of the theodolite, and succeeded not only in establishing that our peak was higher than all the great mountains surrounding us, but also in getting a complete round of angles to link up with his work above Camp VII and elsewhere. Ebbe Munck bashfully produced a pocket handkerchief of a Danish flag, and the white cross on the red ground floated proudly above the highest point in the Danish Kingdom.

For the rest of us, when not logging observations, there were photographs to take, and a view stretching from the pack at sea and the coastal mountains well S. of Kangerdluksuak to the great complex of high mountains, Mikkelsen's Fjeld the highest, stretching northwards from us almost to Scoresby Sound. Westwards was the great dome of the central Ice Cap, flowing round and almost

[1] *A.J.* 44. 185–8.

over the top of the nunatak-like peaks at the head of our vast King Christian IV Glacier. A view sharpened into relief by the long black shadows of the low sun. An hour and three-quarters went very quickly, and it was only the creeping numbness caused by 27° of frost that finally drove us down at 7.15 P.M., happy in the thought that our beautiful snow summit would soon look as fresh and inviolate again as if we had never disturbed it with our brief and fortunate visit.

The descent to our flying camp was a dream of perfect ski-running on powder snow, with the deepest indigo shadows lurking behind every ridge and snow hummock, so tangible-seeming that you felt you could scoop up ladlefuls of liquid colour. And we crowded late that night, all six into a tiny tent, with a pemmican pot to pass from hand to hand, which gave the palate, since snow had to be dropped in to cool it, a unique sensation of alternating mouthfuls of boiling hot and ice-cold soup.

Of the journey back—only four days of delightfully easy sledging and increasing mileages, with one day spent in climbing one of the 8000-ft. peaks in the Curtain Range for surveying—there is no time to speak. We cut out the Ice Fall Pass and forced a new col across to the Sorgenfrie Glacier and to Camp IV in two days from our old Camp VIII. From Camp IV a 30-mile sledge pull, the latter part over the dry Scheldrup Glacier, which had become a wilderness of ice hummocks during our fortnight's absence, brought us to Irminger Fjord in a single day. Our luck held right to the last, for the *Quest*, although not expecting us to arrive back in much under a month, had got through the work of unloading all Wager's winter stores at Kangerdluksuak so expeditiously (thanks to the heroic work of our wives and our long-suffering supporting party, who returned from the frying-pan into the fire) that she sailed into anchorage below our glacier snout exactly half an hour before we arrived—a beautiful piece of timing.

We had had a fortunate and easy journey, and the time of year had come to our help in giving us snow on which we could cover great distances with little effort. I could have found no more pleasant introduction to Arctic climbing, and no better guides to its unique charms, or leaders for a happy party, than Courtauld and Wager. Without Courtauld's generosity and the work he had put in on equipment and organization the journey would have been impossible—equally so without Wager's inspired mountaineering capacity for picking a line across new country, and his ability as a leader whom one could always trust and admire. Another party, better ski-runners and stronger mountaineers, might easily improve our times and double our achievements.

But for me at least it was a happy revelation of what East Greenland can offer, and it was very regretfully that we sailed away from the winter quarters in Kangerdluksuak Fjord and, profiting by the last of many gifts from the Greenland gods, followed a lane of open water right out through the 50-mile belt of pack, and emerged in the first days of September into the fog and cold of the North Atlantic.

[The reader is referred to the map of RASMUSSEN LAND illustrating Mr. Courtauld's paper in a forthcoming number of the *Geographical Journal*; the same will be reproduced at the end of this volume.—*Editor*.]

KNUD RASMUSSEN LAND

CHRISTIAN IV GL.

WATKINS MTS

12200

11590

7000

Windy Gap

Black Cap

Sorgenfri Gl.

KANGERDLUGSSUAK

Amdrup Fj.

Skærgaard Peninsula

Miki Fj.

Cape Irminger

Ryberg Fjord

Nansen Fjord

Wiedemann Fjord

Cape Edward Holm

DENMARK STRAIT

69°

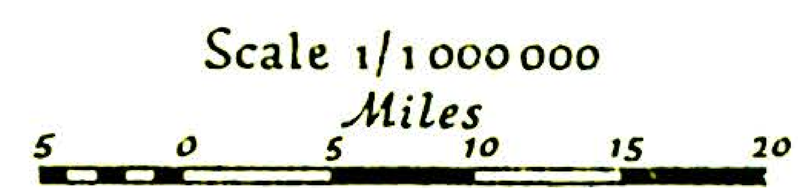
32°

30°

28°

30'

Topography from a preliminary map of the Danish Geodetic Institute by permission of the Director



Route - - - - - • Camp

Heights in feet

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