

A REPORT FROM THE LEADER OF THE MIDDLE EAST COMMAND EXPEDITION TO SOCOTRA (1967)

By Major P. G. Boxhall, F.R.G.S. (Associate B.S.E.S.)

For ten months of the year this island in the Arabian Sea is cut off by monsoon winds and seas and now, daily, we expect to feel the approaching signs of S.W. winds and see rain filled mist coming in from the Hajhir mountains to the south of us. If the monsoon does come, our Navy and Military surveyors, botanists and entomologists will find their work nearly impossible and for this reason we race against time. Fortunately our work along the northern coastline is virtually complete and now we are concentrating on the inaccessible and virtually unexplored hinterland.

Military surveyors have already traversed the western areas, pushing down the hot, boulder strewn wadis to reach the undulating and uninteresting limestone peaks and there, on exposed summits, they have set up their tellurometers and theodolites. They have also crossed and re-crossed the eastern region, so different in contrast, where being protected from the high winds by wind-breaks of rock and from the hot sun by hessian or canvas screens, they have looked down on grass plateaus where dwarf cows graze and the hills are thick with the red-flowering, grotesque *Adenium* trees, forests of Dragon's Blood trees, oranges, pomegranates and wild growing cotton. Now they are moving rapidly along the featureless south coast, the 'Nawgeed', where sand and shallow wadi beds stretch nearly to the island's extremities. When this is done they will, the monsoon permitting, be taken across to the neighbouring rocky islands of Samha and Darsa which, together, are known as 'The Brothers'.

The botanists, geologists, ethnologists and the doctor too, have been working nearer Base Camp but are no more accessible to it. Even crossing the 4 mile wide Hadiboh Plain is tiring enough, for there is a maze of croton trees, headhigh and thickly packed, but then one must wind one's way up the volcanic rock, which our geologist thinks is

60 million years old, before tackling the upper limestone regions. Passing through Kishn and Adho Dimello which, although place names are unpopulated areas, one might easily imagine oneself in the Cotswolds. Green pasturage is now plentiful, water flows and the dwarf Socotri cows look well content. Cattle tracks criss-cross the hills and built into the rocks are low-lying caves in which the Bedu live, and with them, it appears, their goats and bushy-tailed sheep. Yet, by day, there are few signs of habitation: the blackness of the ceilings, the presence of a tin cooking pot and the crumpled parchment of a goatskin water carrier are the few signs. The Bedu are out with their livestock and one hears them shouting to one another across the hill tops, in discordant, high pitched voices. When one goes up to talk with them, they are very friendly, wanting always to know, first of all, where one has come from and where one is going. In appearance they differ markedly from the Arab and African stocks on the coasts. Their black hair is very short, sometimes completely shorn. Mostly they have long, thin, clean shaven faces with straight noses and their eye lashes are particularly long. Their teeth are very white and well formed but some have protruding teeth. They are slight in build, the span across the ribs measuring not more than a hand's width and their arms and legs are matchstick-like. Their feet are long and narrow and have thick, leathery soles. Their possessions are few. A drab length of cotton around the waist and sometimes another slung over the shoulder, a money belt, some 'medicine' beads around the neck and, perhaps, a silver band above the elbow made from Maria Teresa Dollars melted down. These are their few personal adornments. A few carry pipes of metayne wood or bone to smoke the green Socotri tobacco, and some have a set of two iron knives carried in a goatskin scabbard. The large knife is used for cutting up meat and for cutting date fronds, the small one for shaving the head. As well, on the outside of the scabbard, an iron needle is often found, this being used to stitch up goatskins for water and for repairing clothes.

The Bedu keep very much to themselves, descending once in a while to the towns of Kallansiya, Qadhub or the island's capital at Hadibu to sell goats or sheep and to purchase dates and maize. They do not, it seems, intermarry with the Arab or African and there is scarcely any communication with them, as the main Bedu settlements are to be found in the inaccessible area of Jabal Keseslah behind the Haghbir mountains. But this lack of communication has not always existed for one of the major interesting discoveries we have made in this area is the presence of a 6 foot wide camel road, lined either side by rocks and boulders, which unexpectedly leads right down to the coast at Ras Taab. It is not impossible that this is the very route which took the incense on the first stage of its long journey up the western coast of Arabia, through Petra and beyond. Equally old, perhaps, are the low stone wells which run in straight lines across and down the hills. The Bedu say they do not know what they are for; some even say that the Portuguese, who occupied part of the north coast between 1507 and 1512, built them. More likely an explanation is that in olden times the Bedu families or tribes reserved for themselves limits to their grazing areas which today they do not do, since the walls are breached to allow livestock to proceed freely wherever they wish.

Some ten miles below, while the botanists, geologists and entomologists make their collections and record their observations, other important but less spectacular work proceeds. We are now well into a comprehensive collection of place names and geographical features. Ambitious though this may sound, we have the unique advantage of having with us Dr. T. Johnstone of the School of Oriental and African Studies who is believed to be one of two Europeans who understand the spoken, but unwritten language of Socotra. With his knowledge and the assistance of three informants, each of whom knows a particular area of this 1,400 square mile island, we hope to complete an accurate glossary, correcting and, as necessary, adding to the details recorded on Lieutenant Wellsted's chart of 1835. Professor Bayley Balfour's map of 1880, and the Directorate of Survey's maps of 1960 and 1966.

A number of other diverse and interesting tasks are planned for our last month here. A R.N. ship is due soon to take the Beach Survey Team round to the South Coast, the Military Surveyors to Samha and Darsa islands and some of the scientists to the little known island of Abd-al-Kuri, 60 miles to the south west. With the arrival of the ship we also expect to have the services of a Royal Air Force opthalmic surgeon. Already, from as much as 40 miles away, 17 patients are walking in to the island's capital at Hadiboh. We hope, as a consequence, that 12 of them will regain their sight. Then, after the departure of the ship, a 10 day excursion is planned to the barren western regions with the intentions of retracing Wellsted's route of 1935 and for settling the enigmatic questions of what species of gazelle exists on the island and whether it is African or Arabian in origin.

MIDDLE EAST COMMAND EXPEDITION TO SOCOTRA ISLAND, 1967

Patron: The Rt. Hon. The Lord Shackleton, P.C., O.B.E.
(also Patron B.S.E.S.)

Sponsor: Admiral Sir Michael Le Fanu, K.C.B., D.S.C.

Leader: Major P. G. Boxhall, F.R.G.S., Int. Corps. (Associate B.S.E.S.)

An Account of the Expedition by C. R. Fraser-Jenkins
(B.S.E.S. 1966)

The island of Socotra lies almost midway between South Arabia and the horn of Africa and combines these two elements along with a pure Socotri flavour—a unique mixture to fascinate the Scientist, Ethnologist and Archaeologist alike. No Europeans live there so that it is left almost completely wild and unspoilt; in fact in the war, instructions were issued advising crippled ships not to land on its supposedly hostile and mysterious shores.

It was this unusual island that became the site of a Middle East Command Expedition from March to June of 1967—an expedition that proved to be a great success from all points of view. The expedition seemed to be the last chance of visiting the island and was timed neatly before the situation in Aden became impossible. Great credit for this and thanks from the expedition members are most certainly due to Admiral Sir Michael Le Fanu, K.C.B., D.S.C., the Commander-in-Chief of the Middle East Command for arranging everything so well at a difficult time, and all respect, in particular, to Lady Le Fanu for her bravery in accompanying her husband on a visit to the island in April, when the expedition was in full swing.

The expedition had many aims, both military and scientific, and under the excellent leadership of Major P. G. Boxhall, F.R.G.S., an Associate Member of the B.S.E.S., not one of these was neglected, varied though they were, in fact we all fitted in together very well and carried out our work as we wanted to.

For my own part, this was the first time I had been outside Europe and I had quite a shock when I stepped out of the aeroplane at Aden into the heat and glare, especially as it was sleeting 24 hours earlier at Lyneham. Starting on 12th March, the expedition members from Britain spent an essential 6 days in Aden—acclimatising, buying films and making the many last minute preparations for the trip and even beginning to collect plants, etc. when we went up Jebel Shamsan and inland to Abyan and near the Yemen border. We stayed for the duration in the luxurious Federal Regular Army Officers' Mess and later we often tortured ourselves on Socotra and in particular, on Abd-el-Kuri with the memory of the ice cold fresh lime and lemon juice that we had there! On the 18th March we flew to Riyan near Mukalla, east of Aden, and from there to Socotra in a Beverley aircraft flying in low along the length of the island and seeing for the first time the almost mythical cucumber trees.

It was with great delight that we found the Base Camp already put up for us when we arrived and we realised just how much the advance party had done, putting up tents and clearing paths, etc. when we had been enjoying ourselves in Aden. From this camp, which was between Suk and Hadibo on the North coast, Socotra appeared to be much greener than Aden—in fact it was a staggering sight to see a vast amphitheatre of rugged and beautiful mountains enclosing a scooped out plain about 10 miles across which was delightfully green. Some of the Western end of the island however was just as dry as Aden and quite devoid of greenery—the reason for this abrupt change is because of the position of the main mountains on the island, the volcanic Haggiars and the limestone Reigad, which form a series of ridges up to 5,000 ft. high in the Northern and Eastern parts of the island and catch the rain from the North-East winter monsoon leaving the rest in 'rain shadow' and much drier. Our camp had the advantages of being near the airstrip and yet within easy reach of the Haggiars, it was also possible to drive by Land Rover to Suk or Hadibo across the Hadibo plain and even to the base of

the Reigad overlooking Hadibo, the main village; in fact we soon cleared a road to Suk so that we could more easily fetch our water from the wells there in one journey rather than with several camel loads—especially as on more than one occasion a camel was driven into a fury by the empty cans banging together and lolloped off in the direction of the Haggiers!

Once we had all moved in and set up our personal tents work began with the unpacking of myriads of boxes of stores for the camp and equipment for the individual field parties—generators, electric lights, tape recorders, compositions (for we took all our own food with us), extra tents, plant presses, a tide pole, fridges—everything that made the base camp a thriving community with a purpose to achieve; small wonder that the aircraft were so full and that Flt. Lt. Bailey was quite exhausted after organising a state of chaos into a working camp. It was a relief to 'hit the sack' that night—though sleeping bags on this expedition served as mattresses on folding camp beds and it was only up in the Haggiers that it was necessary to get into them.

For the first few days the scientific parties started local field work, getting the hang of the place while the survey parties planned out their campaigns under the lead of Lt. Cdr. R. Lloyd-Williams, the second in command, in charge of the naval beach survey party and Major R. Emery in charge of the army surveyors—in all 20 people, usually seen carrying the peculiarly shaped wood measures, etc. that made up their equipment. A strange sight indeed when in the field—but even stranger I suppose was the group of two botanists and two entomologists that I belonged to; as a whole we went around as a foursome—one bent double, his plant press on his back hobnobbing with the grasses; another pressing on ahead with a steadily increasing pile of Socotran flora and exhorting the first to come here and press it rapidly before it wilted; and always rushing madly around them were two ragged characters, one tall and thin and the other short and fat, making eager swipes at thin air with their butterfly nets. Occasionally holes dug in the

ground or minor landslides would herald the approach of the geologist, invariably discovered arguing with his bearers about the weight of his collection!

This first week was of great importance to everyone in getting used to their task and familiarising themselves with what they would be finding. For the 'enti-bots' as we were named, the first plant presses were filled with some of the more common material and we began to get to know the flora and fauna and discriminate between species more readily. We also got used to the tactics of the Socotri and their local headman, the trades-unionist Muquaddem Ali; pleasant enough as a person, but impossible to argue with short of delivering orders. By the end of the week we were allowing for delays with camels, etc. as a matter of course and just beginning to stamp on some of the excessive prices people asked—though often without much success. Thus, true to form a Sambuq arrived hours late to take us to Kallansiya, a village on the coast on the Western end of the island in a drier area than around Hadibo. We set off in this extraordinary boat in the morning, loaded with mountains of luggage—15 of us with 5 Arab crew making it extremely crowded. After two days of sailing and motor-ing, past cliffs and pearl fishers and seeing many interesting sea-birds and dolphins, etc. we arrived and made a camp on the beach near Kallansiya on a strip of blinding white sand; most of the night was spent removing numbers of big land crabs that ensconced themselves under our camp beds or even crawled over our legs! Mr. Ken Guichard working for the Natural History Museum and myself spent two days intensively collecting insects at Kallansiya, on this first trip away from the Base Camp and though there were 4 days spent in travelling to and from the place, it was well worth it as this was our only trip to the Western part of the island. We arrived back at Base Camp on 30th March having camped the night before near Goba, in an interesting sand dune area, after fouling up the propellor in what was probably the island's only nylon fishing net. It was a great relief to be back and relaxed with our minor ailments seen to.

The medical officer on the expedition was Sqn. Leader Pallister, helped by Dr. Seargeant, whose husband Prof. Seargeant was carrying out Arabic studies on the expedition. The two of them did a wonderful job and were not only responsible for keeping us in good order, but also did their best with the Socotri—an almost impossible task as almost all of them had T.B. or malaria among other things and didn't seem to care much either way; we were very thankful that we had all the injections we did before starting. Dr. Johnstone from the school of Oriental and African studies often helped Sqn. Leader Pallister as an interpreter and in exchange 'borrowed' some of the patients, who had come from all over the island and recorded them speaking and singing in order to build up a vocabulary of the unknown Socotri language.

The day after our arrival at Base Camp a storm hit us from the North—it flooded the desert at Selala on the mainland for the first time for many years and also flooded our Base Camp and blew down tents, etc. in the middle of the night creating chaos—we were lucky not to have been still on the Sambuq. This storm was really a blessing in disguise because it made so many plants remain green or flower rather than drying up as usual at this time of year until the winter rains and it managed to stave off the effect of the dry South West summer monsoon that was just beginning when we left. I feel sure that it was partly because of this that we managed to find so many interesting insects and plants.

The next trip of the 'enti-bots' was a ten day stay at Jebel Hammadara, a limestone area about 20 miles to the east of the camp which I myself did not visit; while this area was being examined I made a collection of series of the insects at Base Camp and around and about the Hadibo plain, including the base of the Haggiers and Jebel Howari, the mountain nearest to our camp. It was during this period that Cpl. Palmer was badly injured by falling into the propeller of a Gemini dinghy on the South Coast and Major Boxhall crossed the island from Base Camp to Fahr in 24 hours to take drugs etc. to him—an outstanding feat for

which Cpl. Paskell and Major Emery who were also involved got Queen's Commendations for bravery. Cpl. Palmer was picked up by a helicopter from the 'Galatia' and taken to hospital. On 9th April, preceded by the camels and Mr. John Lavranos, from the South African Botanic Gardens, the Hammadara party came back and until the weekend of the 14th, we went on single day collecting trips to the base of the Haggiers.

On the 14th, Admiral Sir Michael Le Fanu, our sponsor, flew in to visit us with his wife and with him were several newspaper men and Mrs. Doe and her son, the wife of Mr. Brian Doe, the Director of Antiquities from Aden who was carrying out Archaeological investigations and examining the so called Greek Amphitheatres noted by Wellstead on a much earlier expedition. The Admiral had varied events laid on for him from African dances and meetings with the Sultan to even Russian spy ships and one of the events that featured in the newspapers was the parade of the 4 Hadrami Bedouin Legionnaires for him. We were indeed sorry to see him and his wife depart after the weekend, but made up for it in our group by going up to the Haggier mountains for ten days.

The four of us set out in the morning with our baggage and equipment on camels and reached the top at a pass called Adho Dimallu by evening, seeing the whole of the southern part of the island below us on one side, down to the 2 mile wide sand plain called Nawgeed and on the other the Hadibo plain laid out below like a map. We had passed on the way an area called Qishn where Professor Balfour had camped in the late 19th Century. The contrast in the vegetation was amazing—green grass, Dragons Blood trees, Myrrh and Frankincense growing by a very pleasant stream with several ferns and the new sound of Cicadas all around—instead of the dry sandy plain with endless scrubby trees of Croton Socotrana or slightly higher up the occasional thick trunked cucumber tree and elephantine Adenium's. The heavy dew too, at dusk caught us all unawares and soaked our sleeping equipment. In fact the mountains were much cooler, lusher and more pleasant altogether and both

flora and fauna had completely changed, though while the former had increased, the latter had decreased; as is usually the case in high mountains. The high proportion of endemic species, only found on the island, was also very noticeable, emphasising the place's insularity and isolation—such species as *Cocculus balfouri*, *Nirarathamnos*, or the huge blue black wasp, *Salius extraneus*—an avid spider hunter. The Bedouin live mainly in the Haggiers and they soon came to natter and argue around the fire with our servant Ali, or to eye us with surprise when we dressed or sang—they were even more interested and amazed when we spent the day trying to catch a few of the elusive *Charaxis* butterflies or the elusive 'cabbage' white Pierid that flew up the hill-sides so rapidly. We always went out for day excursions and came back to our three small tents in the evening; it was probably in the Haggiers that we made our best collections—fortified by goat curry (or Gin!). The Bedouin kept their cattle on the grass flanks of the mountains and we could often hear their strange and beautiful cries echoed by other herders as they drove them between one piece of grass and another below the ancient Nestorian christian stone huts and walls. The children did much of this herding and often wore face masks which we discovered were to keep out flies from their mouths as they were yelling and yodelling.

A few days after we arrived back at the Base Camp, we set out on our last collecting excursions on the island—to Ras Hazira Mequaddrihun or the Col between the volcanic Haggiers and the limestone Reigad mountains, which turned out to be an even more luxurious region than Adho Dimallu well clothed with trees, including huge *Sterculias*, Dragon's Blood and the delicate flowering tree *Dirachma Socotrana*. In one place we came across a limestone rock face covered with the extraordinary Quathub tree, *Dorstenia gigas*, growing straight out of the bare rock where the goats couldn't eat it—it was a balloon shaped tree at most up to about 10 or 15 ft. high with just a few branches at the top; for some reason this was one of the few plants that

didn't survive my transplantation to a greenhouse, but rotted before I got it back.

On 5th June, having packed up as much as possible at Base Camp, the scientific and military parties went aboard the minesweeper *Appleton* laid on for us by the Royal Navy; which had brought among others, an eye surgeon who performed a vast number of successful cataract operations on the Socotri. After a short visit to the brothers 'Senha' and 'Darsay' which incidentally was the first landing of Europeans, we were dropped off at the island of Abd-el-Kuri about 80 miles West and slightly South of Socotra, while the surveyors went back to Socotra's South coast. Abd-el-Kuri was much smaller and narrower than Socotra and gave a first impression of being an inhospitable dry stony desert, uncomfortably hot and lacking in any shade—an impression that lasted throughout our stay there. Except for the main mountain, Jebel Saleh, there was little in the way of flora and fauna and the natives seemed to be unusually apathetic, not even making much use of the wrecked cargo ship on the South Coast and living exclusively on fish. Jebel Saleh itself yielded many interesting things, many of them endemic to Abd-el-Kuri, such as the famed succulent spurge, *Euphorbia abd-el-kuri* only found on one shoulder of the Jebel, but there in large numbers we also found *E. balsamifera* and several good insects including an *Empusa*, praying mantis and a colourful *Schintharista* grasshopper. We also found what looked like a nightjar; but there were more of Socotra's gorgeous glossy starlings, sun-birds or ground finches and what had looked like a perched black vulture turned out to be a goat on investigation! We thankfully left the island when the minesweeper returned after 4 days, but were very glad to have been there as there was plenty of interest despite its barrenness.

Early in the morning of 10th June we called in again on Socotra to pick up all our baggage and collections and to say goodbye to those staying on until a slightly later date and by lunch time we had finally left the island behind and were heading for Mukalla on the mainland of South Arabia.

The next evening we were in Aden and two days later we had dispersed on our various ways; the rest of the expedition finished on 20th June.

Postscript: The Expedition's book 'Dragon's Blood Island' is to be published by Hutchinson's this year and will be illustrated by colour and monochrome plates at a cost of about 35/-.

THE YUKON ALPINE CENTENNIAL EXPEDITION 1967

By Lord Hunt, C.B.E., D.S.O. (Hon. Member B.S.E.S.)

The Alpine Club of Canada traditionally runs summer camps in different parts of the Rockies and other mountain ranges in Western Canada, in which as many as a hundred climbers and walkers take part. The centennial year provided the opportunity for the Club to mark this special event in a unique way and the Yukon Alpine Centennial Expedition (Y.A.C.E.) was certainly unique in its size, its scope and the ambitious aspirations of its organizers. It stands alone indeed, as a triumph of careful planning, for which the credit is mainly attributable to the Club's Eastern Vice-President, David Fisher.

The St. Elias mountains which were chosen for the project, were ideal for the purpose. They are the highest land mass in Canada, with Mount Logan, over 19,800 feet, second only to McKinley on the North American continent. They are remote and, although exploration began in the 1880s—a notable expedition was that of the Duke of Abruzzi in 1897—and despite the fact that groups visited the area almost annually since the early '50s, hundreds of peaks and many glaciers remain untouched and unnamed; with few exceptions the summits of 12,000 feet and under are still unclimbed. Outstanding among the pioneers is Dr. Walter Wood, a former President of the American A.C., and now the Director of Icefield Ranges Research Project conducted by the Arctic Institute; he is well nicknamed the Grand Old Man of St. Elias.

Located north of latitude 61° North, the range is heavily glaciated, being partly covered by ice cap. Access to the western valleys and glaciers is from the shores of the Bay of Alaska, to the eastern side, the Alaskan Highway. The distances, the rivers and the difficulty of some of the glaciers is such that a traverse from either direction to climb or explore on the far side would be a lengthy and difficult expedition. Air communications are beginning to reduce the attendant problems of transporting and maintaining

parties in the field, but bad weather—as we were forcibly reminded—has to be reckoned with, especially on the coastal flanks. All in all, climbing in the St. Elias mountains retains the special flavour of a pioneering exploit. It is all the more to the credit of the A.C.C. that the Y.A.C.E., so boldly conceived, was so brilliantly accomplished.

The programme had three overlapping parts. The first was the climbing of a 15,000 foot peak on the southern end of the Yukon-Alaskan border by a joint group of Canadian and American climbers. This was successfully achieved in July, the mountain being appropriately named Good Neighbour Peak (15,720 ft.). The second phase began in the first week of July, with thirteen 4-man teams of Canadian climbers being flown by helicopter to three high bases on the south side of a hitherto unexplored range now called the 'Centennial Range' in the centre of the mountain massif, to attempt the ascent of its principal summits, most of them 12-13,000 feet in height. The peaks were named after the Provinces and Territories of Canada, with the highest having the distinction of becoming Centennial Peak. Considering that no previous ground reconnaissance had been made of this range; that the weather was very bad almost throughout the following fortnight; and that the peaks were by no means easy, it is a matter of astonishment that all but two of them—Manitoba and Saskatchewan—were climbed by the third week in July and the whole expedition of 52 climbers evacuated by air, without a single casualty. Centennial Peak resisted three attempts, falling at the last just before the final helicopter lift.

The third phase began on 15th/16th July, when 100 climbers were moved to a base camp at 5,500 feet beside the Steele Glacier, from a staging camp on Lake Kluane, beside the Alaskan Highway. This mammoth undertaking was accomplished by a combination of coach, truck and finally two Bell (2-passenger) helicopters; the latter flew non-stop shuttle sorties over the last 40 miles, and the last climbers arrived in the early hours each morning, with the aid of the daylight which makes reading still possible at midnight in mid-July. This large group stayed 13 days in

the mountains and was succeeded by a second group at the end of the month, for a further fortnight. Thus between mid-June and mid-August nearly 300 people, climbers, walkers and permanent staff at the base camp were involved in Y.A.C.E.

My own experience was limited to the first general camp, in the activities of which my wife, Joy, and I took part between 16th and 28th July. It is a truism that Canada is a big country. We left Toronto on the evening of 14th July, but it was not till late on 15th, after a succession of scheduled air flights to Whitehorse, and a 150 mile coach journey along the Highway, that we reached the staging camp. There was plenty of interest along the route, however. Edmonton, the bustling, thrusting and garish capital of Alberta, which has grown from a few trading huts beside the Saskatchewan river 130 years ago, to the home of 250,000 people today. Whitehorse, still retaining its shanty pioneering atmosphere from the intoxicating times of the Gold Rush of 1898; a few of the quaint old stern-wheelers are still shored up beside the Yukon river, and the museum is crammed with relics. Dawson City, 300 miles up river, Bonanza Creek, the Klondyke; the sourdoughs and tender-foots seem still to tramp the trail.

We were in a second group of 50 to move up to the first General Camp. Stopping off at Mile 1054 we were delighted to renew acquaintance with Dr. Charles Houston of the 1953 K2 Expedition. Barrie Bishop of Ama Dablam and Everest fame was also engaged there on the Icefield Ranges Research Project, but was away on Mount Logan.

Next day we travelled a further 50 miles up the Highway and then westwards into the forest, to the helicopter terminal. We were lucky to get an early lift over the last lap of 40 miles; it was a perfect day and as we crossed the great muddy Donjek river we began to appreciate the huge scale of these mountains. The snout of the Steele glacier was immediately ahead, and the summits of Mount Wood (15,885 ft.) and Macaulay rose grandly to the west. We were finally set down beside the glacier some four miles east of the camp, and were glad to be able to savour the

approach on foot. The Steele is a glaciological phenomenon. Its snout ceased to move forward two years ago and with the continuing advance of the main ice stream, it is now in a state of 'surge', or chaotic upheaval as the pressure from above causes the ice to rise up like an erupting cake. The sides of the glacier rose 150-200 feet above the lateral moraine in the vicinity of Base Camp and, such is the turbulence of the surface, that it would be a very lengthy and hazardous journey to cross its two mile width.

We reached Base in the early afternoon, our eyes dazzled by the shining pyramid of Mount Steele (16,664 ft.), its eastern flank falling nearly 7,000 feet to the head of the glacier; it assumed the proportions of a small army camp, with large mess marquee, living, office and store tents, and areas for married, male and female climbers, and the Centennial, Canadian and Club flags fluttering in the breeze. If allowance is made for the unusual degree of social intercourse engendered by this system, it must be admitted that life at Base, at intervals in the following 12 days, was an interesting and enjoyable experience. The messing arrangements were outstandingly good, and there were many congenial and friendly people, hailing not only from different parts of Canada and the United States, but of recent origin from various European countries. Three guides, members of a Rocky Mountains professional guides' association, were among the group.

With such large numbers it was essential to organize the climbing, and this would undoubtedly seem irksome to many Western European climbers. Apart from the big peaks, such as Steele, Wood, Macaulay and Logan, there were numerous lower summits between 10-12,000 feet nearer by, some of them accessible from Base and only 3-4 of them already climbed. Climbers placed their names on the lists posted each day, giving a first and second choice for peaks or glacier reconnaissances which, for want of names, were given numbers and letters respectively. A climbing committee, to which I was invited, decided the leadership, composition and destination of the various groups; each evening an eager crowd gathered at the notice board to see what

their personal allocations were to be. Strange though this arrangement seemed to me at the beginning, it worked fairly well. It meant, of course, that the less experienced people sometimes had rather more of their fill of new situations and their technical solutions, while the most experienced undertook the role of instructors and guides. In these circumstances, it was scarcely possible to compose a uniformly strong party to attempt the more challenging peaks and routes.

In any case, the weather placed a severe restriction on ambitions. During the whole period of the first General Camp, only two days—the arrival day and one other—were completely clear. Low cloud, high temperatures, rain and snow combined to make climbing conditions exceptionally bad and somewhat hazardous; the new snow was unable to bind onto the steep slopes and many avalanches fell. Moreover, the high peaks required the establishment of remote camps at about 10,000 feet by helicopter airlift. With poor visibility, low cloud and rapidly changing weather conditions, this was a most difficult and unpredictable task. While we were there, two separate groups, in turn, spent four days and nights beneath Mount Steele, prevented by weather both from climbing the mountain and from being evacuated. A third group managed to climb Mount Walsh (over 14,700 feet) in really bad conditions, but was then marooned in their high camp for a similar period. My wife and I were members of a second Mount Walsh party which, for the same reason, was unable to fly up the glacier at the last minute; in the event, we were thankful of it.

On the nearer, most attractive peaks south of Base Camp the Meet had some successes, despite the weather. A number of summits were climbed several times and by different routes; all but three of these were first ascents. We were able to find ways through some tricky icefalls of two side glaciers in the course of these climbs. It would be tedious to describe particular climbs; they were predominantly snow and ice in character, with some very steep slopes and hard technical problems to negotiate. The rock,

mostly disintegrating granite, was appalling and, on some of the climbs, very dangerous. This is a feature common to other mountains in the polar regions.

As to our personal fortunes, we made three ascents, one of these being the first ascent of Peak 3 by a particularly good and varied route in company with Fritz Wiessner,* his son Andy, Colin Godfrey, a post-graduate student of Harvard and Ernst Rheinhold, a senior lecturer of Edmonton University. This involved us in a day of 18 hours, including some fine crampon work on steep ice, a hazardous rock pitch to gain access to the N.E. ridge, a rickety half-mile of rock ridge and an elegant mile of curving snow ridge, before we set foot on the small, squat summit at 1.00 p.m. On another peak we made several attempts on two separate days, which ended in honourable failure about 200 feet below the summit. The mountain is guarded to an exceptional degree by its battlements of seracs, gaping schrunds and crevasses.

During the last four days the weather became so bad that very little climbing was possible. Anxiety mounted on account of the marooned parties and the communications with the outer world; everything depended on the tenuous link provided by two small helicopters. We found some interest in studying the wild life. The big white Dall sheep were seen, often in large flocks, not far from camp. Someone sighted a grizzly bear. Smaller mammals (ground squirrels, lemmings, weasels, pikahs, etc.) became fearless and sometimes positively importunate.

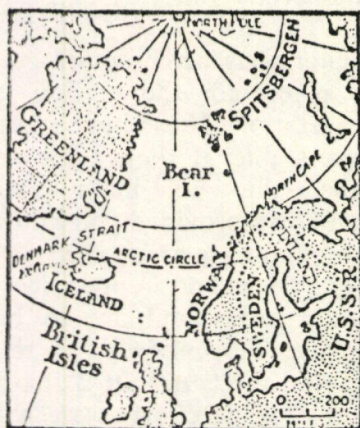
So bad did the situation become that the whole programme for evacuating the first group of 100 climbers and replacing them by the second group, had to be postponed by at least 24 hours. The Alaskan Highway was cut in a number of places by flood water and landslides, the telephone lines to Whitehorse were broken and a crisis loomed near.

*A member of the ill-fated German expedition to Nanga Parbat in 1934, and of the American expedition to K2 in 1939.

As I was tied to a programme of youth activities in Ontario, we were the first to leave as the crisis receded. We flew out on 29th July and were driven fast along the Highway to Whitehorse, only to see the plane on the scheduled flight to Edmonton take off as we approached the city. So ended a memorable fortnight in the far North-West. Despite, and even because of its setbacks and misfortunes, it was a wonderful experience. We saw some splendid new mountains. We acquired a considerable respect for the North American climbers; what is more important, we found many new friends.

A VISIT TO SPITSBERGEN

By A. F. Rogers, M.D. (Council B.S.E.S.)



From London it takes ten days or thereabouts to reach your destination in Spitsbergen, depending on the degree of luxury in which you start and finish your journey—a journey which is in three parts. First you must get to Tromsö in Northern Norway, either by air, or creeping up the magnificent Norwegian coast by steamer, dodging behind countless islands, past magic names like Trondheim and Bödö, and some with grim

memories like Lofoten and Narvik. Each night is shorter, and before you reach Tromsö it is light all night, and, north of the Arctic Circle, you are in the Land of the Midnight Sun.

From Tromsö, having paid homage to the statue of Amundsen you take a coal ship or the single small passenger ship that rolls north every twelve days in the summer, across the Arctic Ocean to Longyearbyen—the coal mining settlement that is the capital of Spitsbergen. About half way a stop is usually made at the request of the ship's cook off Bear Island to fish by hand line. Four of us landed about two hundred large cod in an hour and a half. After the astonishment of the first five minutes it was just cold hard work. The radar screen showed Bear Island but as usual it was shrouded in mist and we caught only one brief glimpse of a rocky shore.

The weather cleared as Spitsbergen rose on the horizon next day, and we came into Longyearbyen fascinated by the stark barren land. The only vegetation is at sea level, and then only a few inches in height and pretty sparse. There are no trees or even shrubs. The land is bare and as a result the geological features of the land and all the rock

strata are immediately visible—that is up to the snow line. The mountains rise to over a thousand metres in height from a narrow coastal ledge of pebble and stone, with a few raised beaches and there are numerous valleys and great fiords.

From the craggy mountains enormous scree slopes run down to the beaches in many places for the erosion is accentuated by the absence of vegetation. These huge steep slopes of loose stones are barely stable at their angle of rest—as you attempt to cross them the whole mass starts moving. They are great fun to run down provided you know how to stop—which you do by running across, then up, leaving the stone avalanche behind. Some end in precipices, however, and are exceedingly dangerous and are to be avoided at all costs. In some places the only way to the higher regions is up a scree slope and they are infuriating if you are in a hurry. A good deal of your effort is wasted because the surface continually slides down while you are struggling up. Once you have reached the top the views are magnificent, range upon range of ice covered mountains, the central ice cap, the glaciers and fiords below, and the tiny dot of your camp, all visible with startling clarity in air so clear you can see peaks 50 miles away.

There are four main islands closely grouped together, of which West Spitsbergen is much the biggest. The larger islands have permanent ice caps and are heavily glaciated—indeed it is a glaciologists' paradise, practically every stage of glaciation can be studied in detail here. However, Spitsbergen has been getting warmer for the last forty or fifty years and the average January temperature has risen from about 18° C by about 10 degrees. As a result there has been some reduction of the ice cover which is most obvious in the retreat of various glacier fronts. The climate has become warmer and then colder again repeatedly in comparatively recent geological times, and of course at one time there was a warm climate and a luxuriant plant growth which formed the coal beds that are now being mined.

Owing to the Gulf Stream the seas around are usually ice free in summer and autumn, and the heavy snow

coverage melts in the late spring. The ground thaws on the surface but is permanently frozen immediately below.

There is a road of sorts in Longyearbyen itself from the wooden wharf to the houses and the coal mine—but nothing else—so the third stage of your journey, getting to the part of Spitsbergen you want to stay in, can be difficult, and depends on finding and hiring a suitable boat.

As Spitsbergen is far above the Arctic Circle—only 700 miles from the North Pole, the sun rises and sets only in the spring and autumn. As spring advances the sun sets for shorter and shorter times, sunset runs into dawn and daylight becomes continuous as the sun remains above the horizon 24 hours a day. Similarly in autumn the sun is above the horizon for shorter and shorter periods at mid-day, and from October to February darkness is continuous.

These Norwegian islands are cut off from the rest of the world by rough seas and great distances and the land is bare and inhospitable. Spitsbergen was discovered in 1596 by William Barents, a Dutch explorer, who died when his ship was beset in the ice, and whose men regained Lapland in two open boats after a winter 'in great cold, poverty, misery and grief'. In the next century when England planned to colonise Spitsbergen, one Governor Elect was lost, and condemned convicts preferred to hang at Tyburn rather than live in Spitsbergen. Nowadays coal is mined by Norway and by Russia, and over 3,000 people live there—almost all of them in the coal mining centres, and a very few trappers in the rest of the 24,000 square miles. The tourist brochure advertising the steamer trip from Tromsø warns the passenger that there are no hotels and that he cannot stay ashore. The Norwegian Government of course gives permission for expeditions, but it is easy to see why the Governor likes to know how many people have to be accounted for at the end of each season when the last boat leaves before the months of cold, and snow and darkness.

I spent a whole summer there, in roughly the centre of West Spitsbergen, about 30 miles up fiord from Longyearbyen. The complete peace was deeply satisfying and the squabbles of the 'civilised' world seemed peevish and unimportant and we rapidly forgot them as we had no radio.

Despite the sparse vegetation bird life abounds, and nests are everywhere underfoot. Ptarmigan, fulmars, eider, puffin, guillemot, snow bunting and Arctic tern are found everywhere along the coast. There were two Great Northern Divers on the pool by our base camp every day and an Arctic fox scavenged our gash pile regularly whenever we were quiet for a few hours.

There are a few walruses surviving on the East coast and of course Polar bears are common as soon as the pack ice comes in in February, though they mostly leave by summer. However, a camp in the next valley from ours was wrecked by a bear, fortunately while the members were climbing the local mountain. None of us had any weapon apart from ice axes, and there were some earnest discussions of the possibilities.

Musk oxen have been introduced into the central valleys and are reported to be breeding, as are reindeer. A few husky dogs roam wild from time to time and may have accounted for the prints we saw on the ice cap that were far too large for a fox.

When we could get time off we went exploring, some of us on the ice cap, some off in our small boat, others to study the birds on our doorstep. I always enjoyed a walk along the beach. You might find *anything*. I have never seen drift wood collect anywhere as it does in some of these remote fiords. If you searched long enough you could find just about anything wooden you cared to name. Mostly tree trunks, felled timber, and logs, but planks of every shape and size and all kinds of sawn timber were there. Whole staircases, doors, ships' rails, spars, gratings, boxes—anything if you looked long enough, and in places piled a couple of feet high.

We organised regular parties to saw up wood for the voracious stove called Nellie that warmed our hut.

Beware the stoves of the Spitsbergen huts. There are tiny refuge huts at intervals of a few miles, mostly cleverly placed, all around the very long coast line. They are used by trappers in the winter, but can be useful in the summer as the weather can change dramatically. Every hut has a

stove, but they are mostly broken, even useless. The wonderful efficiency of modern camping equipment make them superfluous if you are well equipped, but it's fun to try and get them going.

Back at base birds were everywhere on the ground, and agitated parents either lured you away by feigning injury, fluttering pitifully just out of reach, or dive bombed you. The Arctic terns were worst and gave one incautious newcomer two scalp wounds within half an hour of arrival. We were forced, reluctantly to destroy one nest between our hut and our water supply having given up trying to hold a stick overhead and carry two buckets of water at the same time. The mosquitoes were also a pest around this pool—somehow surviving the appalling winter, and normally feeding on birds (presumably—although they made good use of us!)—and acting themselves as a minor food source for birds.

A large and active glacier entered the top of the fiord a mile or so from our camp, and small ice floes frequently floated down past us. Regularly every few hours there was a thunderous roar as a huge mass of ice broke off the glacier snout, crashing into the sea and causing a considerable wave to sweep along. We visited the glacier front very cautiously in our small boat, timing our visit between the minor calvings of the glacier, and investigating a tiny rock island, revealed by the retreat of the glacier snout that has occurred in the last decade or so. The rock of this island was polished smooth in a long hump by the previous flow over it of countless millions of tons of ice, and we measured it and photographed it and exclaimed at the gougings and the honings that wrote the story of the long ages of pressure, while a young seal swam round us in timid curiosity. One of our party swore he could attract seals by making a noise like a mother seal. It was an interesting experiment with an indeterminate result, for we suddenly decided that the glacier was about to calve again. As the wave from the glacier front normally totally submerged the island we made brisk efforts to start the engine, continuing with increasing urgency for ten or fifteen minutes. No-one knew

what was wrong, but the engine suddenly started, we all piled in and we were off at full speed. Five minutes later an enormous mass of ice broke away but we were far off by then, and watched it with scientific detachment.

Crossing a glacier can be quite an adventure. The ice is exceedingly rough in some parts, making transport very difficult. Some parts are very easy, some impassable, for example where the rock underneath the glacier drops away suddenly the ice follows the contour of the rocks beneath and forms an ice fall. Where the change in contour is less, the ice, which is only slightly flexible, cracks into crevasses which open like the leaves of a book and close again as the ice river bends back again. One great crevasse we found was full of icicles—thousands and thousands of them, and we threw a block of ice in to gauge its depth. To our delight the icicles all made different musical notes as they broke—really loud plonks and twangs like a crazy xylophone player, and a very happy half hour resulted.

In summer on the more level parts of these glaciers, melt-water streams appear and cut gulleys which may test your ingenuity if your path lies across them. However, you can usually get round them easily by following them down stream. Sooner or later these streams always dive into fascinating holes, and disappear with much thunder and spray into the depths of the glacier, to reappear miles away under the snout.

If a glacier is moving actively, you may hear the ice creaking and groaning beneath you as you lie in your sleeping bag, and on a really vigorous one, there is a continual cannonade from below.

A great many explorers have used Spitsbergen as a base for attempts to reach the North Pole. In 1926 Commander Byrd of the U.S. Navy flew over the North Pole in a Ford Trimotor aircraft and two days later, from the same place, Kings Bay in West Spitsbergen, Nobile, Amundsen, and Ellsworth flew the airship *Norge* over the North Pole and on to Alaska. In 1928 General Nobile left Kings Bay again in the airship *Italia*, and crashed on the return journey from the Pole. One man died at once and another six were dragged off in the gondola. The nine survivors thrown out

on the ice, were eventually rescued, after immense International efforts, by a Russian ice breaker. Meanwhile, the famous conqueror of the South Pole, the Norwegian explorer Amundsen had been lost in an aircraft flying from Spitsbergen to search for the Italia, and tragedy was heaped on tragedy.

The greatest mystery connected with Spitsbergen is surely the story of the Swedish balloonist Andrée, who with two companions attempted to fly over the North Pole in a balloon steered by drag ropes and sails. They left the North West of Spitsbergen on July 11th 1897 and lost their drag ropes at the launch. Nobody knows why they did not at once bring the balloon down, as it was now impossible to steer it. They even released a carrier pigeon later on saying all was well. They came down three days later and were fortunate enough to reach White Island which is not far to the East of Spitsbergen. They should have been able to get back from here, but they died mysteriously with plenty of food and equipment on this same island. Their bones and diaries were discovered by a passing ship 33 years later and one can only guess at what happened. Was it poisoning by fumes from their stove? or parasitic disease from eating Polar bear meat?

Spitsbergen still offers an arrogant challenge to the adventurous. You can pit your wits against Nature and test yourself. You can win quite easily if all goes well, but beware of any accident.

The tiniest mishap can tilt the see-saw of events so that they become overwhelming, and there is an infinity of time for the combination of chance events to come out against you. Once you have been there, its curious stark beauty will haunt you. The total indifference of the natural scene cannot be forgotten once realised, and you will always want to go back again.

Our departure was spectacular and luxurious as the Governor's Yacht collected us from the beach exactly on time. Within a few days we were back in Norway, clean and shaven and revelling in fresh fruit and vegetables. Trees had a new beauty for us, and as we returned Southward the familiar rhythm of night and day returned.

For four centuries Spitsbergen was the hunting ground, and the graveyard too, of adventurous pioneers seeking mineral wealth, and only recently became officially a part of Norway. A treaty arranging this was signed by Britain, France, Sweden, Denmark, Holland, Norway, Italy, Japan, America, and later by the Russians also, and became effective in 1925. Each signatory has the right to exploit the natural resources of the island, and it is notable that Russia has mined coal there for many years and complete harmony has existed between Norway and Russia—a most heartening achievement in today's troubled political climate.