

CHAPTER II

KANGCHENJUNGA: ITS NATURE AND HISTORY

Roughly speaking, there are two types of mountains. There is the mountain which forms a point projecting from a range, ridge, or glacier system, and there is the mountain which stands apart from other ridges or ranges, and possesses its own glacier system. A good example of the former type is afforded by the peaks of the Bernese Oberland. Magnificent though they are individually, especially when seen from Mürren or the Wengern Alp, they are in reality but elevated points above an interlinking system of snowy plateaux and glaciers. Another good example is the great Himalayan peak, K 2. Though in many respects one of the most wonderful peaks in the world, it is, properly speaking, but a solitary spire of rock and ice rising above the glaciers and snow-fields of the Karakoram Range.

Of independent mountains, there is no finer example than Kangchenjunga. It is a mountain great enough to possess its own glaciers radiating from its several summits, and though surrounded by many vassal peaks, which add their quota to the ice rivers radiating from the main massif, the glaciers which flow far down to the fringe of the tropical forests cloaking the lower valleys are the undisputed possession of the Monarch. Of the world's first half dozen peaks, Kangchenjunga is the only one that displays its glories to the world at large. Only those who can afford

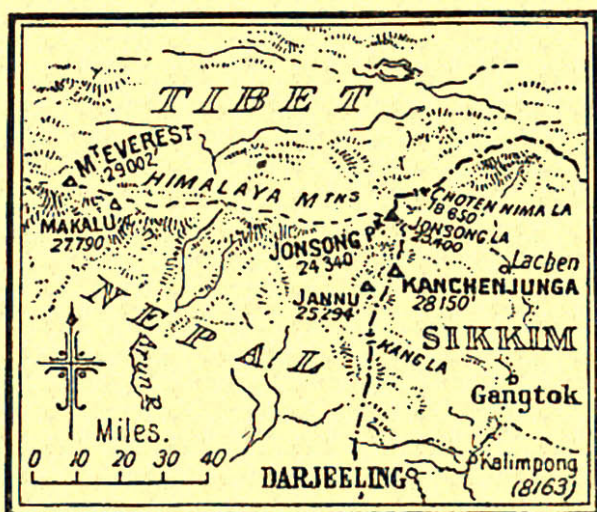
the time and expense necessary to penetrate the remote fastnesses from which they spring can view the glories of Everest or the Karakorams, but Kangchenjunga is to be seen by anyone who cares to visit the hill town of Darjeeling, or climb one of the lower foot-hills. Thus man is able to turn his tired eyes towards the snows, and reflect that there are still worlds unconquered towards which he can gaze for inspiration and hope.

Whether or not Kangchenjunga is the second or the third highest mountain in the world is not yet certain, for its height is approximately equal to that of K 2, and it is still a matter of argument as to which should take pride of place. As determined by the Survey of India K 2 is 28,250 feet high, 194 feet higher than Kangchenjunga. These heights have been estimated by the most accurate trigonometrical processes possible. So many slight errors are, however, liable to creep into the most elaborate calculations that they can be regarded as approximate only. Sir Thomas Holditch, one of the greatest of survey authorities, held that there are bound to be errors owing to refraction. For instance, the rays of the sun passing through rarified air over snow-covered areas are liable to cause an error of refraction. Another difficulty is the attractive forces exercised by such a great mountain range as the Himalayas. It is well known that in the vicinity of the range there is a slight dip in the surface of water. It can hardly be doubted, therefore, that instrumental levels are affected.

With these factors taken into account, the heights of the three highest peaks in the world were worked out by Colonel S. G. Burrard, Superintendent of the Trigonometrical Survey of India, who arrived at the following :

Mount Everest, 29,141 feet ; Kangchenjunga, 28,225 feet ; K 2, 28,191 feet. Thus Kangchenjunga is made 34 feet higher than K 2. This slight difference is scarcely worthy of note and taking into account fluctuations of height due to seasonal snowfall on the summits, it may be assumed that there is a dead heat for second place.

Kangchenjunga is situated to the north-east of Nepal, an



By courtesy of *The Times*

independent state, and to the north-west of Sikkim, a state under British mandate. Its main ridges which run from N.N.E. to S.S.W. form a natural boundary between these two states, as well as a watershed to several important rivers. Twelve miles north of Kangchenjunga is the Tibetan frontier. This runs along what is strictly speaking the main watershed of the Himalayas, which separates the arid plateaux of Thibet on the north from the more fertile and rain washed country on the south. On this

watershed, however, there are no elevations to rival Kangchenjunga, so that the mountain and its satellite peaks form a huge mountain massif pushed southwards from the main Himalayan Range.

Generally speaking, the more isolated a mountain or mountain group, the greater are its fluctuations of climate. Kangchenjunga is large enough not only to make its own weather, but to catch the full force of ready-made weather in addition. Only low foot-hills separate it from the Plain of Bengal, and these are not high enough to afford it protection from the south-west monsoon. The result of this is an annual precipitation of snow that is probably greater than that of any other peak in the Himalayas. Because of this Kangchenjunga boasts some of the most magnificent snow and ice scenery in the world.

Kangchenjunga not only breaks the force of the monsoon, but protects the main watershed to the north from its onslaught to a great extent. The result of this is an extraordinary variation of scenery and climate within a small area. The dry, almost dusty hills at the head of the Lhonak Valley, the Dodang Nyima range, and the plateaux of Thibet beyond are in striking contrast to the valleys radiating southwards from Kangchenjunga, for here is a dry reddish brown country with a snow level appreciably higher and glaciers considerably smaller than those of Kangchenjunga, and its immediate neighbours.

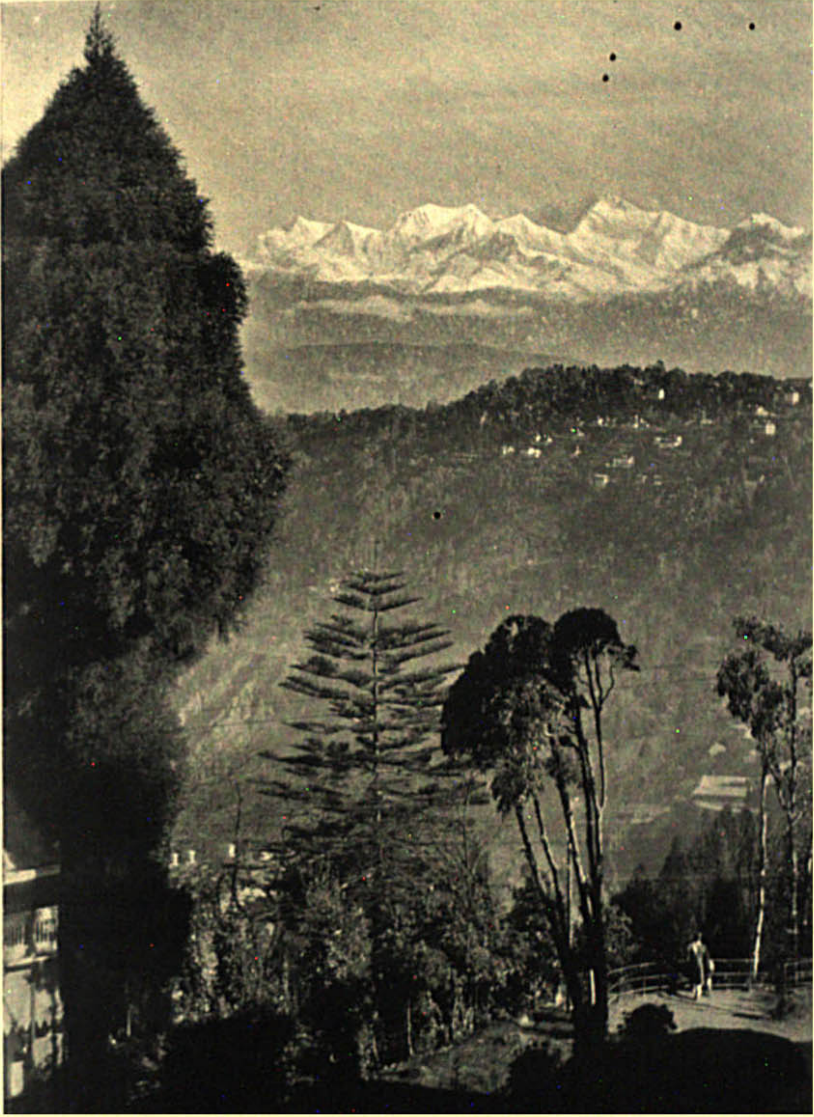
The huge annual precipitation of snow on Kangchenjunga is, from the mountaineer's point of view, a disadvantage, for it plasters itself on the mountain, and fills every hollow with clinging masses of ice. Owing to this quantity of snow, that is ever building up, plus the tug of gravity,

these icy masses move downwards to join the main glaciers which they feed. Frequently, they are perched high up on the mountainside, and are unable to flow down the steep, rock precipices beneath, so they break off in chunks hundreds of feet thick, which fall thousands of feet to the glaciers beneath in terrible ice avalanches. These ice avalanches are Kangchenjunga's deadliest weapon.

There is probably no other mountain where the mountaineer is exposed to greater dangers than he is on Kangchenjunga, for not only has he ice avalanches to contend with, but uncertain weather as well, weather incalculable both in cause and effect.

With such a mountain before their eyes, it is perhaps small wonder that the peoples inhabiting the valleys round Kangchenjunga have become impregnated with the grandeur and mystery of the great mountain. To them its five summits are the "Five Treasures of the Snow," and on them rests the throne of an all powerful god. Their prosperity, and even their lives, depend on the good humour of this god, for he is able to blast their crops with his storms, or destroy their villages with his floods and avalanches. There are even dark tales of human sacrifices to this powerful deity handed down from the remote past.

Roughly speaking, there are four main lines of approach to Kangchenjunga, up the valley of the Tamar River in Nepal, passing Khunza and Kangbachen, up the Yalung Valley in Nepal, up the valley of the Teesta River in Sikkim, and up the Talung Valley also in Sikkim. Between the Yalung and Talung Valleys there is also the Rangit River, which has its sources in the glaciers of Kabru, 24,002 feet, one of Kangchenjunga's outpost peaks to the



KANGCHENJUNGA AT DAWN FROM DARJEELING

south. But compared to the first two, this is but a subsidiary valley, and does not form a main line of approach.

The first European to undertake serious exploration in the neighbourhood of Kangchenjunga was the famous botanist and explorer, Sir Joseph Hooker. Eighty years ago the valleys round Kangchenjunga were unknown and unexplored.¹ Dense, trackless jungle covered them, through which trails had to be cut, whilst transportation was very difficult. In 1848, Hooker traversed the Tamar Valley, and visited the Walung and Yangma Passes which lead from North-eastern Nepal into Thibet, north of Mount Nango. He then passed through Kangbachen and back to Darjeeling, via the Yalung Valley and the Singalila Ridge. In January, 1849, he reached Dzongri via the Rathong Valley, but was unable to go farther owing to snow. In April he ascended the Teesta Valley to Lachen, and made several attempts to climb Lamgebo Peak, 19,250 feet. Thence, he ascended the Poki River, and after bridging it near its junction with the Tumrachen River, tried to reach the Zemu Glacier. Failing to do this, he explored the Lachen and Lachung Valleys, and made attempts on Kangchenjau and the Pauhunri, 22,700 feet and 23,180 feet respectively.

Unsuccessful though these attempts were, they deserve something more than passing notice. At this date mountaineering had scarcely begun even in the Alps, and it was not until sixteen years later that the Matterhorn was climbed, yet here was an explorer attempting peaks 8,000 feet higher than the Zermatt giant. As it was, Hooker

¹ Mr. Douglas Freshfield in his book, *Round Kangchenjunga*, included an interesting chapter on the early history of Kangchenjunga. The subject was also dealt with more recently in Vol. II of the *Himalayan Journal* by Lieutenant-Colonel H. W. Tobin.

ascended to the Cholamo Lake at the head of the Lachen Valley, whence he ascended a small peak, and crossed the Dongkya La, 18,130 feet, into the head of the Lachung Valley.

Hooker, and Dr. Campbell, Superintendent of Darjeeling, who accompanied him, were seized and imprisoned at Tumlong on their way back to Darjeeling, at the orders of Namgay, Prime Minister of Sikkim, and it was some time before they were released. As retribution for this outrage, a portion of Sikkim, south of the Great Rangit Valley, was annexed by the British Government. This district had once belonged to Nepal, but after the Gurkha war of 1817, it was restored to the Sikkim Government, who in the same year ceded to us Darjeeling. It is now covered in valuable tea plantations.

Hooker made a small scale map of Sikkim to illustrate his wanderings, but this remained untouched until 1861, when Lieutenant Carter made a reconnaissance survey between Darjeeling and Tumlong during the march of Colonel Gawler's force. It was not until 1878 that the survey of Sikkim was resumed by Captain H. J. Harman, R.E., of the Survey of India. Harman made several journeys, which included an attempt to reach the Monastery of Tulung, but he was forced to return owing to the hostility of the inhabitants. He tried to reach the foot of Kangchenjunga, but his health suffered in the tropical valleys, and he was forced to return. Colonel H. C. V. Tanner undertook the continuance of the survey. It is thought that he was responsible for the survey training of the three Indian surveyors, "Pandits," signing themselves S. C. D., U. G., and R. N., who performed such valuable

work in this district. The actual triangulation was undertaken by Tanner and his assistant, Robert, whilst the "Pandits" added topographical details.

In 1879, S. C. D. (Babu Sarat Chandra Das), the best known of the "Pandits," crossed the Kang La, 16,373 feet, from Sikkim into Nepal, passed up the valley of Kangbachen, traversed the Jonsong La, 20,200 feet, and the Choten Nyima La to Tashi Lhunpo in Thibet. This is certainly one of the boldest journeys on record in that part of the world, and the crossing of the Jonsong La, a high glacier pass, was a great feat. Two years later, in 1881, he crossed the Nango La, north of Kangbachen, and continued to Lhasa. In 1883, another bold journey was undertaken by a native, Lama Ugyen Gyatso of Pemayangtse Monastery, who travelled to Lhasa by the Teesta and Lachung Valleys, and over the Dongkya La, making valuable sketches *en route*.

In October to December of the same year, the survey of the more accessible parts of Sikkim was completed by Robert and his assistant, Rinzin Namgyal (Rinsing of Mr. Freshfield's *Round Kangchenjunga*) who explored the Talung Valley to the Tulung Monastery. In October, 1884, he crossed the Kang La into Nepal, explored the Yalung Glacier, and followed Sarat Chandra Das's route over the Jonsong La. But instead of crossing the Choten Nyima La, he descended the Lhonak Valley to its junction with the Lachen Valley, returning to Darjeeling on January 31, 1885.

I mentioned these preliminary explorations in the neighbourhood of Kangchenjunga if only to show how little was known but a short time ago of the approaches to

the mountain. Had this preliminary exploration work not been carried out, and the way cleared for future mountaineers, one of the most beautiful and interesting climbing districts in the world might still be accessible only with great difficulty. It would be as well, therefore, for future parties, who may attempt Kangchenjunga, to remember that no route on the mountain can be considered as a *preserve* for any one party.

What may be called the first purely mountaineering party made its appearance in 1883, in which year Mr. W. W. Graham began his ascents in Sikkim. He first visited Dzungri at the beginning of April, and climbed a peak of about 18,000 feet on the Singalila Ridge. After a week he was forced to return to Darjeeling on April 12. Later in October, he ascended Jubonu, 19,350 feet, a peak in the Kabru Range that he gave as about 20,000 feet, and a peak west of the Kang La, which he gave as 19,000 feet. Finally came his climb of Kabru, 24,002 feet, the summit of which he claimed to have reached. This ascent has been the subject of much controversy, and whether or not he actually climbed Kabru is still doubtful. Possibly, he may have mistaken it for the Forked Peak.

Graham made one interesting remark: he said that May was the avalanche month. Furthermore, it should be noted that nearly all the big climbs in Sikkim have been done during or after the monsoon.

The most valuable mountain exploration ever carried out in the Sikkim Himalayas was that of Mr. Freshfield's party in 1899. Leaving Darjeeling on September 5, the party ascended the Teesta Valley and Zemu Glacier, crossed into the head of the Lhonak Valley, and traversed

the Jonsong La. Owing to a heavy snow-fall, they were greatly hampered in their plans, and descended to Kangbachen without having attempted Kangchenjunga or one of its neighbours as had been their original intention. But though unable to do any climbing, Mr. Freshfield made many valuable speculations and observations as to the possibility of peaks, whilst Signor Vittoria Sella, who accompanied him, took many beautiful and instructive photographs.

Mr. Freshfield was the first mountaineer ever to examine the great western face of Kangchenjunga, rising from the Kangchenjunga Glacier. Speaking of this glacier he writes : " It has its origin in a snow-plateau, or rather terrace, lying under the highest peak at an elevation of about 27,000 feet, that is only some 1,200 feet below the top, the final rock-ridges leading to which look very accessible. Below this terrace, however, stretches a most formidable horseshoe of precipices, or what at least the ordinary traveller would describe as precipices. Since, however, this glacier affords what is in my opinion the only direct route to Kangchenjunga, which is not impracticable, I must qualify the word." He goes on to say, " But—and it is a ' but ' I desire to emphasise—the routes I can discern by careful study of my companions' photographs are more or less exposed to the worst, because the least avoidable by human skill, of all mountain risks. Steep places will have to be surmounted by a series of slopes, in which the crevasses and séracs have been filled or beaten down by avalanches from hanging ice-cliffs above, and when the peril of this staircase has been run, a way must be found along a shelf similarly exposed."

Aftet passing through Khunza, Mr. Freshfield crossed the Mirgin La and the Kang La to Dzongri and Darjeeling. He describes his experiences in his classic book *Round Kangchenjunga*, a book which is unfortunately out of print.¹ During this expedition, one of Mr. Freshfield's companions, Professor E. Garwood, constructed a map of Kangchenjunga and its environs, which still remains of great value. It is, indeed, an extraordinarily accurate work, considering the difficult conditions under which it was made.

Between the years 1889 and 1902, the late Mr. Claude White, Political Officer in Sikkim, made various explorations, of which he has unfortunately left but few details. He was the first to investigate the gorges between the Pandim and Simvu Mountains, and in 1890 crossed the Guicha La, and ascended the Talung and Teesta Valleys. He ascended the Zemu Glacier to about 17,500 feet, and crossed the Tangchang La and the The La into the Lhonak Valley.

Of all mountaineering pioneers in the Kangchenjunga district, and for that matter in the Himalayas, Dr. A. M. Kellas's name will stand pre-eminent. He was perhaps the first mountaineer to regard the Himalayas in the same way that the modern mountaineer regards the Alps—as a playground. Topographical and scientific considerations, while being important to him, were nevertheless of secondary importance as compared to mountaineering, yet, in the course of a number of purely climbing expeditions into North-eastern and North-western Sikkim, he

¹*Round Kangchenjunga* was published in 1903 by Edward Arnold, but owing to a disastrous fire, all copies in stock were subsequently burnt.

could not fail to acquire much valuable topographical knowledge which will be of much value to mountaineers in the future when Sikkim has been opened up, as it is bound to be one day, as the "Playground" of the Himalayas.

Kellas's climbs are too many to mention in detail, but among the many peaks and passes of 20,000 to 23,000 feet that he ascended or attempted in the immediate neighbourhood of Kangchenjunga, must be mentioned the Nepal Gap, 21,000 feet, separating the Zemu and Kangchenjunga glaciers, which he attempted four times from the former glacier, nearly reaching the crest of the pass; Simvu, 22,360 feet, which he attempted three times with European guides in 1907, but failed, owing to bad weather and snow conditions, to reach the summit; the Simvu Saddle, 17,700 feet, and the Zemu Gap, 19,300 feet, which he ascended from the Zemu Glacier in May, 1910; the Langpo Peak, 22,800 feet, ascended in September, 1909; the Sentinel Peak, 21,240 (or 21,700 feet), east of the Choten Nyima La, ascended in May, 1910, and the Jonsong Peak, 24,344 feet, on which he was beaten by bad weather after ascending in December, 1909, to 21,000 feet on the North-west Ridge.

Kellas's last expedition prior to his death on the first Everest Expedition was made in 1921, when he conquered Narsingh, 19,130 feet. His mountaineering has had far-reaching effects. He was the first systematically to employ and train Sherpa and Bhutia porters. On one occasion only, in 1907, was he accompanied by Europeans, at other times natives climbed with him. That he was able from such raw material as untrained natives to train men who

subsequently worked and climbed so splendidly on Everest and Kangchenjunga expeditions shows how great a mountaineer he was. As one who has humbly followed in his footsteps on the Jonsong Peak, I can safely say that from the technical point of view of route-finding and mountaineering Dr. Kellas will stand out as the greatest pioneer of Himalayan mountaineering. Apart from climbing, he contributed to various scientific journals valuable papers on the physiological and physical aspects of high mountaineering. If in place of his occasional scanty notes and articles, he had written a detailed account of his climbs, posterity and the literature of mountaineering would have been the richer.

One more ascent must be mentioned before turning to the attempts on Kangchenjunga itself, and that was the attempt made in October, 1907, by two Norwegians, Messrs. C. W. Rubenson and Monrad Aas on Kabru, 24,002 feet. They tackled the mountain via the Kabru Glacier, which is broken into a great ice-fall, and had to cut their way for five days through a complicated maze of ice pinnacles and crevasses. These difficulties came to an end at about 21,500 feet, and they camped on the plateau above the ice-fall between the two peaks, which is so plainly visible from Darjeeling. From there they attempted to reach the eastern summit. Their first attempt was beaten by lack of time due to a late start. They advanced their camp to 22,000 feet on October 20, and tried again. Owing to intense cold they were not able to start until 8.30 a.m. At 6 p.m. they were only about 200 feet below the summit, although separated from it by a considerable distance horizontally. Here they were exposed to the full

force of the terrible west wind, against which advance was almost impossible. At sundown the cold became so intense, that to save themselves from frostbite they were forced to retreat.

The descent was marred by a bad slip on the part of Rubenson, who was last man down. Monrad Aas held him on the rope, but the shock was so great that four of its five strands actually parted. When at last they reached camp, Monrad Aas's feet were frostbitten.

Thus ended a most plucky attempt, especially plucky in view of the fact that Rubenson had never been on a mountain prior to the expedition. The party, though failing to reach the top, made the valuable discovery that it was possible for men to spend a considerable time (in this case twelve days) at an altitude above 20,000 feet, and there to eat well and sleep well and generally keep fit and acclimatise without noticeable physical deterioration.

The Previous Attempts on Kangchenjunga

With the exploration of the lower valleys and peaks round Kangchenjunga it was only a matter of time before an attempt was made on the mountain. The first attempt was made in August, 1905, by a party consisting of three Swiss, Dr. Jacot-Guillarmod, M. Reymond, and Lieutenant Pache, who put themselves under the leadership of an Englishman, Mr. Aleister Crowley, who had been one of the companions of Dr. Jacot-Guillarmod during an expedition to the Karakoram in 1892. To help with commissariat arrangements, an Italian hotel-keeper from Darjeeling named De Righi was added to the expedition.

Leaving Darjeeling, the expedition proceeded by the Singalila Ridge and the Chumbab La Pass to the Yalung Valley, and having ascended the Yalung Glacier, attacked the south-western face of Kangchenjunga. This face is exceedingly steep, and consists for the most part of granite precipices. At one point, however, there is a snowy shelf, conspicuous from Darjeeling, which leads up to the ridge, falling in a westerly direction from the third highest summit of Kangchenjunga. This appears to be the only breach in the great curtain of precipices hemming in the head of the Yalung Glacier. Even supposing this face to be climbed, it would still be necessary for the mountaineer to traverse a long distance from the third highest summit to the highest summit, a distance which, in the opinion of all who have seen the intervening ridge and noted its exposure to the west wind, is too great. The snowy shelf looks, and probably is, desperately dangerous owing to falling stones and avalanches, and its dangers must be considerably increased by its southern and consequently warm aspect.

The party established a camp at 20,343 feet, and some of them appeared to have climbed 1,000 feet higher. Disaster overtook them on September 1. On that day the party was assembled at mid-day at the highest camp. In the afternoon Dr. Guillardod, Lieutenant Pache, and De Righi with three porters decided to descend to a lower camp, leaving Crowley and Reymond at the higher. The danger of descending steep snow slopes in the heat of the day should have been obvious, and Crowley states that he warned them of the danger that they were incurring by doing so. While traversing a snow slope, two of the porters

who were in the middle, slipped, dragging with them Pache and the third porter who were behind, and Guillarmod and De Righi who were in front. This slip in itself might not have proved fatal, had it not started a large avalanche of snow. Guillarmod and De Righi escaped with a severe shaking, but their four companions, Pache and the three porters, were buried and suffocated by the avalanche.

The cries of the survivors soon summoned Reymond, who, apparently, found no difficulty in descending alone from the upper camp. Crowley remained in his tent, and on the same evening wrote a letter printed in *The Pioneer* on September 11, 1905, from which the following is an extract: "As it was I could do nothing more than send out Reymond on the forlorn hope. Not that I was over anxious in the circumstances to render help. A mountain 'accident' of this sort is one of the things for which I have no sympathy whatever. . . . To-morrow I hope to go down and find out how things stand." In another letter, written three days later, and published on September 15, he explains that it would have taken him ten minutes to dress, and that he had told Reymond to call him if more help was wanted, which he did not do.

The first search for the bodies was in vain, and they were not found until three days later (after Crowley had left the party) buried under ten feet of snow. Thus ended a truly lamentable affair.

From such an expedition it is not easy to draw conclusions as to the dangers and difficulties of an ascent of Kangchenjunga from the Yalung Glacier. Yet, these dangers, even so far as they are revealed by telescope at Darjeeling, are great, and though the Yalung Glacier is

well worth investigating both from the point of view of the magnificent scenery at its head and other routes up the great peaks bounding it, there would seem little justification for a further attempt on Kangchenjunga from it.

Kangchenjunga remained untouched until eleven years after the war. British mountaineers had devoted their energies to overcoming Everest, and it was left to other nations to attempt Kangchenjunga. The Everest expeditions produced far-reaching effects. They showed that men could stand, without extraneous aid in the form of oxygen, an altitude as great as 28,000 feet. The lessons learned in transport organisation and climbing equipment were invaluable, and perhaps what is most important of all, they proved that high Himalayan climbing depends on having the right mentality as well as the right physique.

The second attempt on Kangchenjunga was made, like the first, from the Yalung Glacier, and like the first, it ended in tragedy. Early in May, 1929, an American, Mr. E. F. Farmer, of New York, left Darjeeling. He was accompanied by native porters, his sirdar being Lobsang, whose work was to be so invaluable to our expedition. Farmer's climbing experience was limited to the Rockies, and he had never before visited the Himalayas. He told no one of his plans, and having obtained a pass to enable him to go into Sikkim, and signing an undertaking that he would enter neither Thibet nor Nepal, he left on May 6, with reliable Sherpa and Bhutia porters. He did not return. The porters' story, which has been carefully probed and tested in every particular, is as follows :

He first of all visited the Guicha La ; then crossed the Kang La into Nepal. In order not to arouse suspicion, he

avoided the little village of Tseram in the Yalung Valley by traversing the rhododendron-clad slopes on the eastern side of the valley. He camped on the same site as the late Mr. Harold Raeburn and Mr. C. G. Crawford, who prospected this district in 1920.¹ Farmer's party found graves which must have been those of the victims of the first attempt on Kangchenjunga.

On May 26, Farmer and three ex-Everest porters started up towards the Talung Saddle. Farmer was warmly clad and wearing crampons, but the porters were poorly shod, and had no crampons. In view of this Lobsang advised turning back, and it was agreed to do this at noon. Climbing became difficult, and the porters found it impossible to proceed in their poor quality boots. Accordingly, Farmer ordered them to halt, while he continued a little higher for photographic purposes. The porters did their best to dissuade him, but, apparently, oblivious of all risk, he climbed up and up, through drifting mists. Now and again when the mists cleared he appeared, and the porters waved to him to descend. At 5 p.m. he was still seen to be climbing, then the mist came down and he was seen no more. The porters remained where they had halted until dusk, then they descended to the camp, and waited in vain for his return. They signalled at intervals during the night with an electric torch and Meta fuel, but to no

¹ Mr. Raeburn made two visits to the southern walls of Kangchenjunga. The first, on which he was accompanied by Lieutenant-Colonel H. W. Tobin, was made in order to investigate the south-east outlying peaks of Kangchenjunga and possible routes up the south-east face of Kangchenjunga itself, and to explore the Talung Glacier. Later Raeburn and Crawford ascended the Yalung Glacier and examined the Talung Saddle, which lies on the ridge between Kabru and Kangchenjunga, separating the Yalung and Talung Glaciers. According to Raeburn, it looked "vicious in the extreme, defended everywhere by overhanging masses of ice." Failing in this object, they descended to Upper Tseram, were able to cross the ridge just south of Little Kabru, and thus descended the Rathong Valley.

purpose. The next morning they climbed up to a point from which his route was visible, and caught a glimpse of him soon after dawn far up on a steep snow slope. He seemed to be moving jerkily, with arms outstretched. Of course, this may have been imagination on the part of the porters, but if true, it may well have been due to snow blindness. They kept up their vigil throughout the day, and it was not until the morning of May 28 that hunger forced them down to Tseram.

In order that any suspicion ~~as to~~ foul play should be eliminated from the score of possible contingencies, the narrative of each porter was taken down and checked. Investigation and minute cross-examination convinced those that enquired into this sad disaster that the whole truth was told, and that no blame whatever attached to the porters, whose conduct had been of an unimpeachable character throughout.

Kangchenjunga had scored heavily. Two attempts had been repulsed with merciless severity, but it must be confessed that the attempts were of so weak a nature that the great mountain had no need to call in its real weapons of defence, storm and altitude. Serene and untroubled, it had not even attempted to kill its attackers; it had let them kill themselves. But its complacency was to be rudely shaken in the autumn of the same year, 1929, in which Farmer met his death.

In view of the fact that no published account has appeared in this country of this attempt which was made by Munich mountaineers, I make no apology for giving a detailed description of one of the most brilliantly resourceful and courageous attempts in mountaineering history, an

attempt which has been described by the Editor of the *Alpine Journal* as "a feat without parallel, perhaps, in all the annals of mountaineering."

As all mountaineers know, Munich is the home of one of the most enterprising schools of young mountaineers there is. The men who attempted Kangchenjunga were the pick of this school. The leader was Dr. Paul Bauer and his companions were Herren E. Allwein, one of the conquerors of Mount Kaufmann in the Pamirs, Peter Aufschneider, E. Beigel, Julius Brenner, W. Fendt, Karl von Kraus, Joachim Leupold, and Alexander Thoenes. The expedition on arriving at Darjeeling were helped in their transport arrangements by Colonel Tobin, the Darjeeling Secretary of the Himalayan Club, and Mr. E. O. Shebbeare, Transport Officer of the 1924 Everest Expedition. So well planned were their transport arrangements, that three days after their arrival, the first half of the expedition was able to leave Darjeeling. The second half followed two days later, together with Colonel Tobin. Eighty-six porters were employed. Eight days later they reached Lachen, and ten days later, August 18, established their Base Camp (Camp Three¹) on Green Lake Plain at a height of 14,126 feet.

Exploration of the north-east side of Kangchenjunga was immediately begun. One party ascended to the Simvu Saddle, whence an attempt, beaten by bad weather, was made on the Simvu Peak, 22,760 feet. The other party explored the possibilities of reaching the East Ridge of Kangchenjunga. As the terrific precipices leading upwards

¹ Permanent camps were established from Yaktang at the end of the Zemu Valley and numbered from that point.

to the lowest point in the North Ridge between Kangchenjunga and the Twins were quite hopeless, they decided to attack a spur, or ridge which leads up to the North Ridge, and joins it at the point where a conspicuous snowy terrace runs across the north-west face of Kangchenjunga about 1,500 feet below the summit. This ridge is heavily armoured in ice and its knife-like crest is broken up into towers and spires of pure ice. Great masses hang precariously from it and huge precipices fall on either side to the glacier, down which thunder great avalanches. No such formidable route had ever been tackled by any other party on any other peak in the world.

Owing to the weather, the snowfall, the great variations of temperature, and the quality of the ice, these ice ridges of Kangchenjunga are completely different from those encountered in the Alps. Mr. Freshfield had seen this ridge too, and there is an excellent photograph in *Round Kangchenjunga*, but he did not mention it as a possible route to the summit of Kangchenjunga, and small wonder. All one can say is that though the technique of icemanship may not have advanced far since pre-war days, the will of man to conquer the greater summits of the Himalayas has developed beyond all expectation. The Munich attempt on Kangchenjunga proves this.

Actually, the ice ridge has one advantage over the main ridges, and in particular the North Ridge of Kangchenjunga: it is sheltered from the prevailing western winds which blow with such paralysing force. If the upper part of this ice ridge could be gained, the party thought that they would have a chance of reaching the summit. But to do so, many and terrible difficulties had to be

overcome. Yet, as Dr. Bauer wrote, "With mountaineers, it is the one remaining possibility of access to Kangchenjunga."

On August 24 and 25 the party had assembled at the Base Camp, and were ready to make the attempt. The porters had proved themselves worthy of the confidence that was to be reposed in them, and the party had become well acclimatised to altitude. The only drawback was the weather, which was stormy. But considering that the monsoon season had not yet finished, that was only to be expected.

The first difficulty was a 700 feet high ice-fall which had to be surmounted in order to reach the base of the ice ridge. From Camp Six, 18,696 feet, the party endeavoured to storm the 2,800 feet wall leading to the crest of the ice ridge. The way proved very dangerous; falling boulders a cubic yard in size swept the route, compelling a sharp look-out. They had nearly attained the crest of the ridge when bad weather necessitated return. The following day a stronger party, four Germans and three porters equipped with bivouac necessities and food, returned to the attack in better weather. The slopes leading to the ridge were ribbed with ice flutings common to the Himalayas, between which rose sharp, serrated, and cornice crowned edges of rock. The party was spread-eagled one above the other on the smooth ice slopes without security, and the fall of one would have meant disaster to all. Also, there was a grave danger of stone falls. Once more they were forced to retreat.

On the following day, Allwein and Thoenes reached the ridge by climbing a steep ice gully. This gully was so

difficult, however, that it was a question whether porters could be got up it. Indeed, so great were the difficulties proving, that it was nearly decided then and there to abandon the attack in favour of the East Ridge from the Zemu Gap, but this ridge is so long, and the obstacles so many, that there seems little chance of reaching the summit of Kangchenjunga by it. Incidentally, it does not even lead directly to the highest summit, but to the second highest summit, 27,820 feet, between which and the highest summit stretches a formidable ridge. But before abandoning the ice ridge, one more attempt was decided upon. Camp was pitched 900 feet higher up the wall. The following day dawned sulkily, and the weather was none too good, yet it was decided to make one last effort to hew a breach in the snow bosses, and force a way to the crest of the ice ridge.

The difficulties were immense. They slowly hacked away at the ice curtain ; everything that could be utilised as a help to the sorely-tried party was employed and even icicles as thick as a man's arm were used to hitch a rope round. Height was gained ; hope replaced despair ; the party turned back rejoicing at the thought that they had discovered the necessary ice-technique for making a formidable slope possible for laden porters.

But Kangchenjunga prepared to resist the onslaught. A snowfall compelled a retreat to Camp Six. Another attempt to reach the ridge was made, but another snowfall occurred, and avalanches drove the party down again. Camp Seven was rendered unsafe by these avalanches, and all the equipment had to be carried down through deep new snow to Camp Six.

On September 13, the weather cleared, and the assault was renewed. Two days of strenuous step-cutting brought the party to the crest of the ridge. A scene of incomparable splendour opened out before their eyes. "Nearly vertically below lay the Twins Glacier, while slopes of 60 degrees led downwards, on the farther side, to the Zemu Glacier. Icy and shining pinnacles led upwards for 6,500 feet. In a wide cirque above us towered the ice slopes of the Tent Peak, the Twins, Kangchenjunga, Simvu, above the two mighty glacier basins. Avalanches thundered in continuous icy cascades down these faces. Behind us swept endless glacier shapes into the dim and cloudy distance."¹

Three great towers interposed, barring their advance. For two days they toiled and struggled in conquering them. Beyond these towers the ice ridge rose in a precipitous step. They had hoped to reach a snowy ledge on the step, and establish Camp Eight, but they were overtaken by night before they had reached this level. "Bivouac material and provisions were dumped where we stood. The porters belayed to a well-buried axe watched us with astonishment scooping out a place for the camp in a cornice on the dizzy ridge. Then Aufschnaiter and Kraus descended with them to Camp Seven, while Beigel and Dr. Bauer settled down in our tiny tent. The spot was not altogether trustworthy since in one place, where the axe had been deeply driven, we could look down through a hole on to the Twins Glacier. We slept well, but at dawn great care was necessary in distributing our stiffened limbs properly while wriggling gingerly out of the insecurely pitched tent.

¹From Dr. Paul Bauer's account in the *Alpine Journal*, translated into English by Lieutenant-Colonel E. L. Strutt, the Editor.

Hardly had the sun begun to thaw us than we started on the first gendarme hacking out layer after layer of ice from its flanks, till we could force a way past it on the left and attain a névé slope at an angle of fully 70 degrees. Two hours later this also lay below and we had cut a good deep zigzag track through it connecting each icy boss with the next. A hundred feet below us lay the little tent, above us rose more ice pinnacles. A little ice crevice, enlarged by us into a chimney, brought us some twenty feet higher up the steepest part of the névé, much hampered here by many cornices. By the early afternoon we stood at length at the base of the last pinnacle, separating us from the first platform in the spur. We saw the 'shock troops,' Nos. 2 and 3 parties, approaching from below with their porters; quickly we levelled out a space on the terrace for our friends' camp, and then turned downwards as the spur now lay in shadow. Soon it grew so cold that danger of frost-bite became threatening. We met the other contingent, Allwein and Thoenes, with the porters Chettan and Lewa, just as they attained the terrace."

Above Camp Eight there were more pinnacles, or perhaps it would be more correct to say perpendicular steps or pitches in the ridge. These had to be stormed by the crest. The first was not so difficult. An overhanging crack filled with powdery snow led diagonally upwards to the left. The second pinnacle was harder. A short, nearly vertical ice runnel had to be negotiated, followed by a traverse to the left of it. A steep ascent to the right brought them to the crest. The next pinnacle hung over the ridge like an enormous mushroom some 120 feet high. "On the Twins side rose a wall formed of wind-blown powdery snow

above the overhanging bulge. It was dreadful work crawling up on the treacherous powdery mass poised above the nearly perpendicular Twins Glacier slope."

The pinnacle above this gave them the longest work of all. Allwein's report reads as follows : " On reaching the fourth tower on September 23, we were at first completely at a loss, the crest appeared vertical or even overhanging, so was the slope falling towards the Twins Glacier, and so indeed was the left flank as well. Yet on this latter flank depended our only hopes, for a tiny ledge led upwards in the face crowned with a huge cornice furnished with a deep recess hollowed out of the ice in its centre. Higher up the ledge soon ended under impossible ice overhangs, leaving no other alternative but from the said recess to burrow a shaft perpendicularly upwards through the wide, stretching cornice. We worked away the whole day at this tunnel, but on returning to camp at 4 p.m. the work lay still unfinished."

On the following days they were able to improve this route, until finally this originally difficult and dangerous pinnacle became the easiest of all.

Such hard work as this has never before been accomplished at such an altitude. Its technique opens out an entirely new method of overcoming these terrific Himalayan ice ridges, though only time will show whether routes of this difficulty will ever lead to victory on the greater peaks of the Himalayas.

On September 25, they traversed along the edge of a dizzy snow rib corniced on both sides to the bottom of a long-dreaded 200 feet gap. So soft was the snow and so narrow the rib, which was not more than two feet wide, that no proper route could be made, and they could only

beg the porters to follow exactly in their footsteps. Beyond the gap rose another great tower. The lower part of this was comparatively easy, but necessitated very hard work. Above rose a steep snow runnel, on which it was a severe struggle clearing away the soft snow and cutting steps in the underlying firm ice. The party forgathered on a little shoulder half way up. A hundred feet of more difficult work led to the foot of a wall of fearful steepness, crowned by a huge cornice. The base of this was masked by masses of rock and snow, and it was difficult to fashion reliable footholds from which the cornice could be flogged down, but at last a way was forced, through the eaves of over-hanging snow, and the party stood on the crest of the ridge.

The great tower had been conquered ; slowly, but surely, the gallant party were winning their way up this terrific ice ridge. The fight was a fair one until Kangchenjunga called in its ally, the weather. Snow began to fall nearly every day, and on the following morning after the conquest of the tower, lay fully a foot deep. The most difficult part of the route had been done, but it had cost two valuable weeks. Fresh obstacles were always cropping up ; disappointments had been many, and until the conquest of the gap and the great tower was accomplished, it had seemed problematical whether progress was possible at all. Now, however, the party were sufficiently far advanced to push hard for the summit.

In lieu of tents, ice caves were carved in the solid ice at Camps Eight and Nine, large enough to hold six to eight persons. The entrance to these was as small as possible, and the temperature inside rarely sank below 26° to 28°F., whilst outside it was usually about 14°F. by day and 10° to

25° below zero Fahrenheit by night. Future Everest expeditions would do well to investigate the technique of ice cave making. Ice caves properly constructed below and on the North Col of Everest would most likely prove more efficient than tents. Above the North Col only tents could be used, for the climbing lies entirely over rocks.

Above Camp Nine, 21,646 feet, the difficulties dwindled. Two easier ice towers were soon stormed. Snow slab avalanches broke away under the leader, but it was always possible to secure him so that he could not slip far. One snow slope entailed caution, but once firm steps had been made it became safe. Camp Ten, 22,288 feet, was pitched on easy and open snow. Here, as below, an ice cave was scooped out. Preparations were made for the final assault, communication was established between all camps, and food and equipment sent up with the utmost speed.

Theoretically, October should bring settled weather, practically, the weather was doubtful, it was not exactly stormy, but aggravated by continual snow flurries. On October 3, Allwein and Kraus set out to reconnoitre and track out the route above Camp Ten for the next stage on the following day. The snow was not good, and they often sank in knee-deep, but they were able in an hour to ascend about 350 feet, which was very fair going. They turned back at about 24,272 feet. As a result of their exploration, they considered that no more difficulties were to be expected, but that owing to the soft, powdery snow, two more camps would have to be pitched. Was this optimism justified in the light of previous Himalayan experience? I think not.

This was the highest point reached. That night hopes

ran high in the ice cave. What they had hardly dared to expect, the summit, seemed to lie within their grasp.

October 14 dawned evilly. The sky was cloud covered ; a cold wind was blowing and light snow falling. The snow thickened ; by 8 a.m. it was coming down hard. Plans had to be altered, and preparations for a siege made. Kraus and Thoenes with two porters, Lewa and Chettan, left, and descended in order to save food, and help with the transport. The snow continued ; by the evening of October 15 things looked black. " We began to realise with heavy hearts that the ascent of Kangchenjunga was now hardly possible. Only a deliberate abandonment of our hitherto ' safety-first ' tactics for a desperate assault might result in success. This would entail a complete break-up of our lines of communication and result in ' every man for himself.' The ' summit ' party could no longer, as hitherto, be supported by a reserve party ready to ' leap-frog ' in case of necessity. Even with instant improvement of the weather it would take days for a relief party to fight its way through from below to our support."

As the weather appeared too bad for an attempt on the summit, they decided at least to make an attempt to reach the North Ridge and gaze down the unknown north-west side of the mountain. Even this proved impossible. After two hours' hard work they had risen not more than 250 feet. The wind-blown, crusted slopes of snow continually collapsed beneath them, letting them sink in thigh-deep. Abandoning their loads, they struggled upwards for an hour and a half. They reached a height of about 24,000 feet and then decided to retreat.

As they sat again by their ice cave, they were startled

by the extraordinary appearance of the sky to the 'south'. A huge cloud bank over 30,000 feet high was forming, whilst above it the sky was of an extraordinary sea-green colour, "a most threatening and terrible sight."¹

The following day they awoke to find the cave entrance completely blocked with snow. The snowfall continued, and many times during the day they had to sweep the entrance clear. By nightfall no less than seven feet of snow had fallen, and it was still snowing. "A cataclysm of nature seemed to foreshadow our doom." There was now no thought of advance. Communications had been cut off, they did not know what was happening below, and those below did not know what was the fate of those above. It was a terrible position to be in. To stay meant starvation. "The Storm God was still piling snow on us, yet, on the following morning, trusting to our powers and experience, we determined to 'Wrestle one more fall.' The descent appeared humanly impossible, but an attempt had to be made."

So deep was the snow that they fought their way down leaving behind a furrow a man's height in depth. A slightly *ascending* bit not 150 feet high took them over two hours. The porters behaved magnificently, though laden with some eighty pounds each. They had frequently to be jerked from the holes into which they sank, but they continued to struggle gallantly on.

Steeper slopes peeled off in avalanches as the leader,

¹ In *Round Kangchenjunga*, p. 114, Mr. Freshfield describes a similar strange atmospheric appearance, which heralded the great storm of September, 1899, during which no less than 27 inches of rain fell in 28 hours in Darjeeling, occasioning considerable loss of life and damage to property. See also my own description in my book *Climbs and Ski Runs*, p. 70, of the green ray sunrise which preceded a terrible storm on the Schreckhorn.

tightly held on a rope, stepped on them. The most dangerous slope had fortunately already avalanched. They descended in the actual groove made by the avalanche, thus saving a good two hours. Disaster nearly overtook them when another slope with Allwein and two porters on it avalanched, and only a desperate effort on the part of Dr. Bauer saved them. So great an effort was it for all concerned, that for ten minutes or more they lay motionless and exhausted before they could resume the fight.

On their arrival at Camp Nine they had to clear the ice cave entrance from beneath seven feet of snow. They lay there all night, recovering their strength for the tussle with the most difficult portion of the descent.

The next day things went wrong. The porters, not unnaturally, were nervous. To face such difficulties with heavy loads was impossible. They were brought back to the cave, and the Europeans without packs set out to clear footsteps in the newly fallen snow, and thus make possible the traverse of the great ice towers.

The following day, a good half of the loads were jettisoned, and thrown down the 5,000 feet precipice to the Twins Glacier. Thus relieved, the party could renew the struggle.

For once wayward Fortune smiled on them—the weather became fine. They gazed down, but could see no sign of any living beings either on the ice ridge or on the Zemu Glacier. It was not until two days later that they learned that all the ice ridge party were still alive.

Each of the two communication parties had had a great struggle in retreating. The exhausted porters continually fell, and avalanches poured down. Beigel and Aufschneider

had suffered the worst. Between Camps Nine and Eight they were swept off their feet by small avalanches. Once the leader slipped when traversing slightly below the crest of a ridge; in another instant all must have been pulled off, and hurled down the precipices, but the party were saved by the presence of mind of the second man, who had time to leap into space on the reverse side of the ridge, and thus held his companions on the rope. This mishap resulted in the loss of both rucksacks, provisions and bivouac material, and a miserable night had to be spent on the ridge under a cornice without shelter of any kind. As a result Beigel was severely frostbitten in the feet.

At last with joy the upper party reached Camp Six. Communications had been severed from below. It took four days to plough down through snow many feet deep to the Base Camp. Everyone carried as great a load as possible. The sahibs broke the trail, sinking in below their knees. The porters followed, while last of the exhausted procession came Beigel, carried on a rough stretcher made from two tent poles, "silent and uttering no complaint." Even at the snout of the Zemu Glacier another weather catastrophe overtook the worn-out party. For three days it snowed and rained, and the snow covered bamboos and rhododendrons proved almost impassable. Poor Beigel, who had been carried, had perforce to walk. The mountainsides were alive with landslides; mud-shoots did their best to annihilate the party. "Dishevelled, dead-beat, our nerves worn out with the wild struggle against nature, with unkempt beards and covered with mud, we trod with heavy feet into the brilliantly lit dining room of the Lachen bungalow."

Thus ended one of the most gallant mountaineering enterprises ever carried out.

In one respect only is criticism justified. When they reached their highest camp at an altitude of 24,000 feet, they considered that they had overcome the worst difficulties. Such, however, is far from the case. These difficulties had scarcely begun. Altitude and its effects only begin to be serious over 24,000 feet, and being on the sheltered side of the mountain they had not yet begun to experience the terrible west wind which sweeps the upper part of the North Ridge with such merciless severity, and last, but not least, is the final pyramid, of which the climbing difficulties are certainly greater than those of the final pyramid of Everest. Colonel E. F. Norton, in an interesting letter in the *Himalayan Journal* analysing the respective difficulties of Kangchenjunga and Everest, lays stress on the time factor. He writes :—

“ *Exclusive of false starts* it took the party just under a month from the foot of the ridge (17,060 feet) to Camp Ten at 23,290 feet. This includes the establishment of Camp Ten for six sahibs and four porters equipped ‘ for the fight for the eight thousanders.’ (The meaning of this expression is not quite clear to me. 8,000 metres equals 26,600 odd feet, equals 1,500 feet below the summit, so I am not certain if they were equipped for the whole distance to the top.) This represented a climb of 6,230 feet.

“ Compare Mount Everest ; in 1924 we estimated to establish a similar party (equipped to lay out one more camp and reach the top) at Camp Five (25,000 feet) in 15 days from the Base Camp (16,500 feet). This represented a climb of 8,500 feet.

“We failed ; but that this was not an unreasonable estimate is proved by the fact that we established Camp Five in 1922 (including a four-day reconnaissance of the East Rongbuk Glacier—up and back again) with four sahibs in 19 days from first leaving the base camp, largely over an unknown route.

“Camp Five on Mount Everest was 4,000 feet from the top—an easy rock climb.

“Camp Ten on Kangchenjunga was 5,000 feet from the top, and judging from what Mr. Bauer says, the condition of the snow even at this height necessitated ‘stamping a track.’

“Now the difficulties imposed by altitude only begin to be really serious from about 24,000 or 25,000 feet onwards, both as regards condition of the snow and rarity of the air.

“Next consider the time available on Kangchenjunga.

“Mr. Bauer’s party started presumably in the tail of the monsoon (August 26), and got badly caught high up on the mountain by the first winter snowfall on October 3—after five and a half weeks. A party trying it in the spring can hardly kick off from the foot of the mountain until April 15 on account of the spring cold ; the monsoon is due to arrive by May 21 (I am writing from memory)—again five and a half weeks.

“On Everest we reckoned on a season of from four to six weeks, i.e. from May 1 to the arrival of the monsoon on the north face of the mountain—any time between June 1 and 15. The penalty for being caught high on Everest in soft new snow is the danger of avalanches on only about 1,500 feet of descent from the North Col.

On Kangchenjunga there must be thousands of feet of such dangers—as Mr. Bauer found.

“Events may well prove me wrong: but on the face of it, Kangchenjunga appears to me a more formidable and more dangerous proposition than Mount Everest.”

One cannot but concur with this admirable analysis. Time will always be the most important factor in any attempt on Kangchenjunga. Five and a half weeks is the maximum period during which weather and conditions suitable for climbing can be expected. It is significant also to notice that at their highest camp the Bavarians had begun to experience the west wind.

I mention these facts in no carping spirit, but merely to point out the difficulties to be expected. Given sufficient time, and weather of the right type, there is a remote probability that Kangchenjunga can be climbed by present day methods. But does a sufficiently long enough spell of good weather *ever* occur on the mountain? Can men acclimatise sufficiently to climb even moderately difficult rocks, and the upper rocks may be more than moderately difficult, between 27,000 and 28,000 feet?

There is no need to analyse further possible routes on Kangchenjunga. Every side has now been explored, photographed and mapped, and further reconnaissance is unnecessary. The mountain may require methods to overcome it which are at present not known to mountaineers, but even supposing medical science discovers means artificially to acclimatise the body so that as much work can be put out at 28,000 feet as at a much lower altitude, Kangchenjunga will still remain something more than a formidable antagonist.