THE WEATHER OF KANGCHENJUNGA

"Mountains make their own weather." No better example of this truism is afforded by the weather which is made by Kangchenjunga. As has been pointed out elsewhere in this book, the mountaineer has only two short seasons in which to attack Kangchenjunga, before and after the monsoon. Both are short seasons, and neither of them can be called a summer season in an Alpine sense, they are merely two springs. Both are pitifully short, and the total time available for attacking Kangchenjunga is no longer than four or five weeks, and even this is liable to be interrupted by local bad weather.

Standing as Kangchenjunga does, an isolated mountain group rising straight out of deep, humid, tropical valleys, local bad weather is only to be expected. Weather data is only to be gathered by experience, and so few parties have visited Kangchenjunga that it is not possible yet to say definitely whether it is better to attempt the mountain before or after the monsoon.

Wind will always be the greatest enemy of those who attempt it before the monsoon. I do not remember a day on which snow was not being blown off the mountain by westerly winds. The Munich Expedition experienced but little wind, but they were on the sheltered side of the mountain, and the wind blows almost invariably between south and west, and west and north. On the other hand,

every day after the monsoon is bringing the winter nearer. The Munich party, who were overtaken by a snowfall of seven feet towards the end of their attempt of Kangchenjunga in October, considered that they were exceptionally unlucky, but others who know the mountain considered them exceptionally lucky not to have had it before ! We had no heavy snowfalls but we experienced plenty of wind. That is the problem future expeditions will have to solve—whether they are prepared to endure winds before the monsoon, or risk a heavy snowfall after the monsoon.

Passing through the lower tropical valleys we had, to begin with, heavy rainstorms in early April. As we approached the Base Camp we came out of this area, or level of rain, and experienced only small snowstorms, depositing but a few inches of snow at a time. It would appear that at a certain level, about 15,000 feet, the dry westerly winds prevent the rain clouds in the lower valleys from rising higher. Above this level, local snowstorms are liable to occur, but they are definitely local, and the area covered by them is small, whereas the area covered by a rainstorm in the lower valleys may be very great. But sometimes the bad weather which pours up the local valleys is so intense that it is able to force its vanguard of storm clouds up the glaciers of Kangchenjunga. This is particularly noticeable in the case of two of the main bad weather avenues which we saw, the Kangchenjunga Glacier and the Zemu Glacier, but it is probable that there is even worse weather at the heads of the Yalung and Talung glaciers which stretch from the south side of the mountain.

When ascending towards the Jonsong La it was interesting to note the bad weather seething up from Khunza. It

was able to deposit snow on our Base Camp, but the clouds were unable to penetrate farther up the glaciers owing to the strong Thibetan winds pouring over the ranges to the north-west, and in particular over the Jonsong La.

The difference of climate experienced within a few miles when ascending from the Base Camp to the Jonsong La was striking. As we turned the corner of Pangperma we left the moisture laden airs for drier airs, and that this was so was shown by the glaciers themselves. Only once on Kangchenjunga did we hear thunder, and that was when climbing the North-west Ridge. It came from the south, in the direction of the Yalung Valley, and it was far below us. Whether thunder-storms ever attack the upper part of Kangchenjunga is doubtful. It is probable that they never rise to a greater altitude than about 20,000 feet, although we remarked cumuli nimbus clouds, the summits of which were well above 25,000 feet.

From the Jonsong Peak it was interesting to watch the monsoon clouds flooding up the Teesta and Arun valleys in an attempt to outflank and surround us. But they never got far over the main watershed of the Himalayas into Thibet before they were dissolved by the dry winds, although sometimes the plateaux of Thibet generated their own little clouds and storms.

What is the cause of the relentless north-west wind which makes climbing so unpleasant in this part of the world? I think it is simply the colder air of the Thibetan plateaux circulating into the warmer valleys south of the watershed. On the Jonsong Peak the strongest winds were at night, and they usually dropped by 9 a.m. This is possibly

due to the fact that at night there is a greater variation of temperature between the lower valleys south of the watershed and the Thibetan plateaux than during the daytime. At night the temperature may drop to thirty or forty degrees below zero Fahrenheit, a total drop of possibly sixty or seventy degrees Fahrenheit. In the tropical valleys there is nothing like such a great temperature range, and by temperature range it must be understood that I mean the temperature of the air. Thus the circulation caused by the cold air rushing in to fill in spaces left by the rising of the hot air (and also compensating for its shrinkage when the temperature falls in the evening) is far more violent.

So dry was the head of the Lhonak Valley, that we scarcely expected it to get the monsoon, but it did, although much later than Kangchenjunga and the south. Dr. Kellas has proved that it is possible to climb on the peaks of Northern Sikkim during the monsoon.

The lowest temperatures we had were not on Kangchenjunga, but on the Jonsong Peak. It was a pity that we had no maximum and minimum thermometer. No party should go into the Himalayas without one, for interesting data should be obtained if its readings are studied on a mountain group such as Kangchenjunga. Another useful instrument would be a wet and dry bulb thermometer. With these two simple pieces of apparatus, combined with a boiling point thermometer and an aneroid, some valuable observations of weather could be made.