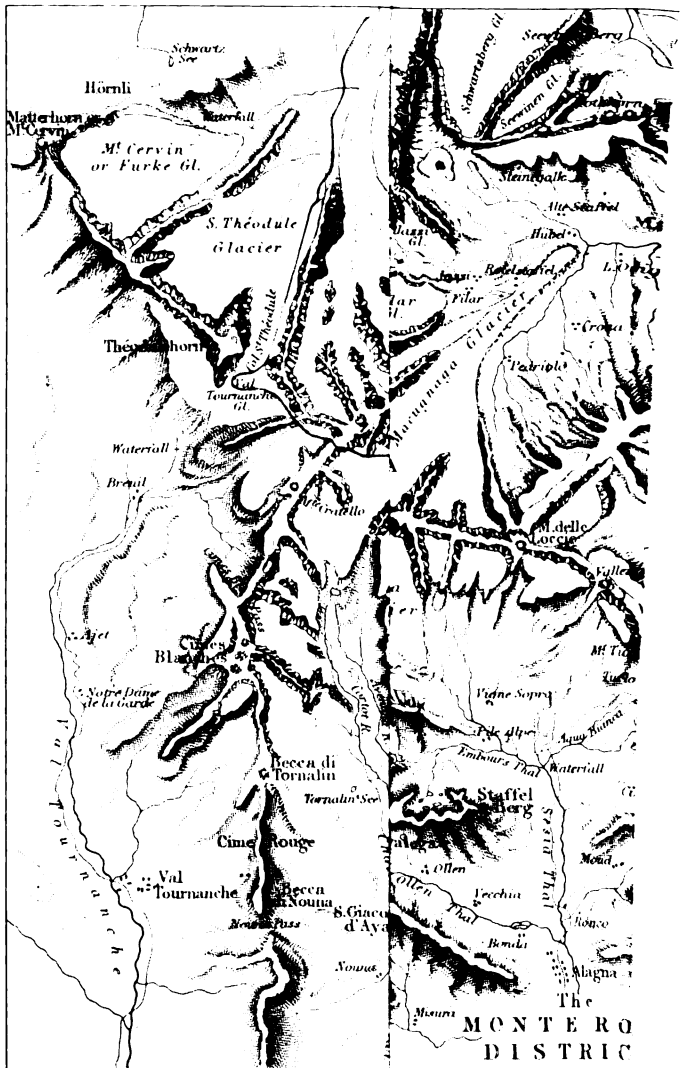


## CHAPTER V.

### THE PEAKS, PASSES, AND GLACIERS OF THE MONTE ROSA CHAIN.



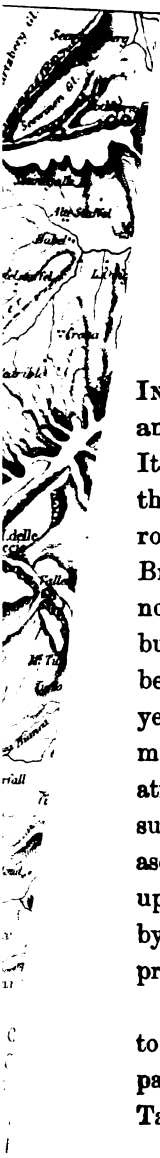
1. THE ASCENT OF THE BREITHORN.
2. THE COL DE LYS.
3. THE ASCENT OF THE LYSKAMM.
4. THE COL DES JUMEAUX.
5. THE ASCENT OF THE NORD END.



The MONTRO DISTRICT

English Miles

M<sup>r</sup> Mathew's Route ———  
 M<sup>r</sup> Barby's ———



## 1. THE BREITHORN.

BY EDWARD SCHWEITZER.

“Auf den Bergen ist Freiheit! Der Hauch der Gräfte  
Steigt nicht hinauf in die reinen Lüfte;  
Die Welt ist vollkommen überall,  
Wo der Mensch nicht hinkommt mit seiner Qual.”

IN my Alpine wanderings in the vicinity of Monte Rosa and through its beautiful valleys, both on the Swiss and Italian side, I have always admired the grand snow-wall of the four-crested Breithorn, but especially as seen from the road between Randa and Zermatt, and from that between Breuil and the St. Théodule col. My desire to ascend this noble mountain grew with every new visit to Zermatt; but, owing to bad weather and other circumstances, I had been prevented from fulfilling my intention until last year. The summer season of 1861, so memorable to mountaineers for constantly fine weather and clearness of atmosphere, rendered most ascents both promising and successful, and gave me the long-desired opportunity of ascending the Breithorn. As the 1st of September dawned upon Zermatt with unusual brightness, and accompanied by a slight northerly breeze, I at once made the necessary preparations for an ascent on the following morning.

A gentleman from Dublin, Mr. D. Howe, who intended to cross the St. Théodule, offered himself as my companion, and we therefore engaged two guides,—Pierre Taugwalder and son, the former one of the most trust-

worthy and experienced icemen of Zermatt, and the latter possessing all the sterling qualities of his father.

At two o'clock in the morning of the 2nd of September I heard the measured footsteps of the guide approaching my chamber; and immediately afterwards a knock, accompanied by the welcome information that the heavens were perfectly cloudless, with every promise of a glorious day, made me forsake my couch with alacrity. It was 3.15 A.M. ere we were able to file off; we plunged into the exhilarating morning air, faintly lit up by the stars, which shone with that wonderful brightness which resembles electric scintillation, whilst from the waning crescent-like moon in the south-east there streamed a gentle lustre upon the summits of those dark frowning mountains which, like cyclopean walls, hem in the picturesque village of Zermatt. In these twilight hours, the indefinite outlines of all forms, and the profound stillness which generally reigns, impress the mind with a sensation of mysterious vagueness, and tinge the venture of the coming day with mingled feelings of hope and doubt. In our case, however, the silence was broken by the rush of the wild Visp, and by that of the wilder Zmutt torrent as we crossed its bridge. We now commenced a steep ascent through a small wood, and came to a narrow path overhanging the Gorner glacier, which, in the light of early dawn, stood out spectre-like, with its bluish white pinnacles, turrets, and broken arches.

Soon after four o'clock the moon and stars began to pale, and a kind of faint light, the reflection of the rays of the sun, which was still beneath the horizon, played around the uppermost crest of the Matterhorn. The west was illuminated with a faint yellow glow, whilst the east assumed a dark purple; but the hue of the former faded rapidly into a leaden colour as the first fire-blush tinged

the Höchste Spitze of Monte Rosa, and in succession, according to their respective altitudes, the summits of the Weisshorn, Mischabel, and Matterhorn.

“Einsame Häupter  
Glänzen erhellt,  
Und Aurora berührt sie  
Mit den ewigen Strahlen,  
Als die ragenden Gipfel der Welt.”

I hardly remember having ever witnessed such an illumination: each successive peak seemed lit up by an ethereal crimson fire to usher in the glories of the coming day.

The Matterhorn, now our nearest neighbour, stood majestically before us in grand and noble proportions. Its towering peak, cleaving the blue air, displayed marvellously all the gradations of light, from the first flicker of the reflected ray to the pale blush which deepened into crimson, and ripened gradually into the golden beams, which, with growing intensity, glided down the massive pyramid, until they smote our brow as perfect day.

We had now reached the terminal moraine of the Gorner glacier, and scrambled and tumbled over the broken fragments; but, notwithstanding the desolate waste around us, the elastic sunlit air inspired us with the highest spirits. At six o'clock we stepped upon the St. Théodule glacier. The stern silence which reigns in these regions at night, and seems to bind them with the chain of death, was now broken as the day began to advance, awakening even the sluggish life of the glacier. This first spoke in the faint accents of tiny rills, then with the shriller notes of streamlets and the fuller voice of torrents, until, as the hours crept on, charged with the life-giving forces of light and heat, the ice-masses rent asunder

with the roar of thunder, and deep-toned avalanches shook the air.

The appearance of the glacier struck me as unusual; for when I crossed its col in the summer of 1858, it presented one sheet of white snow, into which I sank above my ankles, and not unfrequently up to my knees, making progress most laborious. We had now before us a slope of granulated ice of a leaden hue, hard, crisp, and dry, from the last night's frost, over which the foot passed swiftly. As we approached the culminating point of the glacier, the ice gradually assumed the appearance of snow, which glittered with thousands of dancing light-sparks, as the morning beams smote the crystallised surface.

For about two-thirds of the glacier route to the col the views are very imposing, and it is worth while to linger for a moment to contemplate the cyclopean belt of mountains. Facing the north, our right is flanked by the Petit Mont Cervin, the Breithorn, Castor and Pollux, the Lyskamm, and the many-peaked Monte Rosa; on our left uprears, in stupendous grandeur, the wonderful form of the Matterhorn; then comes the Dent Blanche, the Gabelhörner, the Trifhorn, the sharp-pointed, magnificent Weisshorn; after which, circling round to the right, follows a bold range in the Rhone valley, which links itself to the gigantic masses of the Saasgrat, and finally brings us back to the Monte Rosa. It seemed, indeed, like a chain of frosted silver; and, to perfect the resemblance, in the far north rose the Bernese Alps, over which the Jungfrau blazed like a precious clasp, whilst pendent snow-fields and overhanging glaciers, like giant drops, jewelled the massive flanks of the white-shining summits. I have given but a superficial outline of this unrivalled scene; but it may, I hope, suffice to encourage moderate climbers,

even of the fair sex, to penetrate into this region; and I can assure them, from my own experience, that nowhere in the Alps, not excepting Chamounix or the Æggisch-horn, can they survey with greater ease, whilst standing in the midst of a perfect arctic region, such a grouping of colossal mountains, ranging generally from 13,000 to 15,000 feet in height.

At 7.10 A.M. we reached the St. Théodule col. We rested for a while on a bench outside the hut at the summit of the col. The air was calm, and the sun, even at that early hour, struck warm, and rendered this refuge in the snow-wilderness a pleasant shelter, while the arrival of guides returning from Zermatt, and the presence of a lady and gentleman, with their attendants, gave animation to the scene. The thermometer indicated a temperature of 48° Fahr. Galton's hypsometer gave the boiling-point at 192.8° Fahr.; and this, compared with the barometer of the Observatory of Geneva, establishes the altitude, according to Guyot's tables, at 11,014 feet: the Swiss trigonometrical measurement gave 10,900 feet. After this examination, I took a hasty survey of the southern side of the col. A glorious sight presented itself as I gazed upon the great masses of the Piedmontese mountains stretched before me in majestic outlines.

Our guides now admonished us to proceed. Veils and spectacles were adjusted, both of which I discarded unwisely, as impediments to sight, hoping to be exempted, as on former occasions, from the injurious effects of the vibration of snow-light. I did not suffer at the time; but my eyes were much inflamed the next morning,—sensitive even to the diffused light of the room,—and I was compelled for two days to use smoke-coloured spectacles.

At 7.45 A.M. we left the hut, and, bearing away in an easterly direction, traversed the snow-fields behind the

Petit Mont Cervin. Having gained the highest plateau we entered on long snow reaches, which extended to the ranges of the Breithorn, Castor and Pollux, and the Lyskamm. Precisely at 9.30 A.M. we arrived at the base of the Breithorn. The colossal wall, which connects itself with *Les Jumeaux*, consists of four elevations or crests, of which the most westerly, overhanging the Petit Mont Cervin, is the highest, and, according to a trigonometrical measurement by the Swiss government, calculated at 13,903 Swiss, or 13,685 English feet. Towards this summit we directed our steps. Before we commenced our more trying task we halted for about ten minutes, during which time we partook of a small repast of bread and butter, cold meat, and a cup of Beaujolais.

I must say here a few words on the injudicious habit of supplying guides and travellers with a heavy supply of food and wine. I so entirely subscribe to Professor Tyndall's opinion, expressed in his admirable and classic work "On the Glaciers of the Alps," that I cannot refrain from repeating it here. He says, "Both guides and travellers often impair their vigour and render themselves cowardly and apathetic by the incessant refreshing which they deem necessary to indulge in on such occasions." I observed how little food or wine Taugwalder took, and that he preferred the country wine to any stronger drink. This is the habit of all the best guides. With a roll and a piece of chocolate I have sustained myself on many a long climb, husbanding my strength by an even measured pace, and avoiding frequent draughts of water. A piece of sugar will often assuage the painful effects of burning thirst; a raisin or plum will do the same. When water is near, the addition of an effervescent powder is most refreshing but of all beverages, that which soothes me most, when much fatigued, is a slightly sweetened

infusion of black tea, mixed with red wine in equal proportions. It is food and drink at the same time, and allays the irritation of the mucous membrane. Butter ought not to be omitted on a mountain excursion; with bread it is often preferable to stringy hard-fibred meat, such as is generally obtained. Brandy ought only to be used as a remedy in case of sudden indisposition. Nothing impairs the nervous powers so much as frequent potations of cognac and water; they give at first an increased feeling of activity, but, "false as the dream of the sleeper," they assuredly leave the climber more enervated and less fit for work. A case of the kind occurred this season, and might have led to serious consequences. A young Englishman of about twenty-four years of age, the very picture of strength and health, made the passage of the Weissthor from Macugnaga. He was not much accustomed to severe mountain-climbing, and when suddenly confronted by dangerous slopes, he apprehended that his physical powers would not carry him through his appointed task; so he applied himself to frequent draughts of cognac and water, against the warnings of his guides. The result became soon apparent. They had to drag him up by ropes in an exhausted state, endangering in no slight degree the safety of his trusty conductors. In fact, as he told me himself, he had not a notion how he overcame the difficulties and gained the summit: he felt all the time in a helpless stupor.

We now entered with a right good will upon the more serious climb, up slopes having an angle from  $45^{\circ}$  to  $55^{\circ}$ . It was therefore expedient to be roped together. I took my place next to the chief guide, my companion followed, and the second guide brought up the rear. The rope between each extended to about five feet, which may seem a small allowance; but it had its advantage on a steep incline, as it

gave steadiness to our phalanx, and in case of a slip it would have immediately communicated a warning that would have been replied to by a counterbalancing check, so that the danger of a serious fall was reduced to a minimum. During our progress we kept first in a north-west direction; but as the ascent increased in steepness and the snow in hardness, we were compelled to commence a zigzag course. We now approached two parallel transverse crevasses, and as they were wide, and the opposite landing was high, we dared not venture on a spring. We therefore searched for a snow-bridge, which we soon found, but in that frail condition that the probing alpenstock sank through it into the chasm beneath, producing a long narrow circular tunnel of the most exquisite cerulean hue. Our guides, from practice, knew how to overcome this difficulty, and in their operation I perceived they unconsciously acted upon a scientific principle. Taugwalder stepped forward and coaxed the snow, first by patting it with his staff, then by flogging it, and finally by trampling upon it, though carefully, and thus changed the crumbling snow, by increasing pressure and the subsequent process of regelation, into a compact firm mass, thus practically illustrating that property of ice, first noticed by Professor Faraday, which Professor Tyndall has so happily applied to the explanation of various glacial phenomena.

Whilst the guide was engaged in consolidating the bridge over the upper crevasse, which was the larger of the two, I examined its ice-architecture, and was struck with the plain horizontal bedding visible in some places, traversed at right angles by vertical blue veins. The surface was somewhat convex; and at one particular spot we admired the grouping of splendid ice-pendants, some resembling organ-pipes of all sizes, others appearing like columns, the stalactites of frozen water emitting a

chequered light of emerald green and hyaline blue. What a gorgeous display of the gems of an ice-world!

After safely crossing the crevasses, the ascent became so steep, and the snow so hard, being converted by the unusual heat of the season almost into ice, that our footing was rendered precarious, and Taugwalder sent his son forward to assist him in cutting steps. We now clung on to a very steep slope, and our onward course was of necessity slow. Once or twice, when looking down, I was impressed with the conviction that the smallest slide, unsupported, would be an inevitable disaster, leading to the unpleasant chance either of being engulfed in one of the crevasses, or of being impelled beyond and hurled down some hundreds of feet. It was unwise to entertain even the possibility of such an event; and indeed, owing to the great caution required for every onward step, and the consequent tension of the nerves, every other reflection was effectually banished. Thus we hewed our course upward, small ice-pieces flying like spray over our heads, the larger ones bounding at once beyond our sight.

Taugwalder's deep and monotonous voice, issuing as from a cavern, directed the operations of his son, and admonished us to follow cautiously in his steps. Once a slip occurred: my companion behind me stumbled, we all threw ourselves forward, and he recovered himself in an instant, but in so doing wounded my right hand with his alpenstock. Had the rope been long and slack, the slider would have obtained, in all probability, an impetus which, on such an incline, and with such insecure footing, might have compromised the safety of all. After an hour of this kind of work the acclivity became less, and being more at my ease I looked towards the summit, which was yet some distance off. My attention was attracted to the

singular aspect of the sky, now of the deepest blue, almost approaching black, and I fancied every moment I might see the faint twinkle of a star. The rays of the sun streamed through the deep azure ether, nearly bereft of their intensity, so that I gazed into that fountain of light without flinching; not so when I directed the eye upon the snow, the reflected, highly intensified light from which painfully dazzled my sight. It was evident we had now penetrated into a different region, where even the glories of the sun dimmed into dull, lustreless light, resulting from the small amount of moisture in the atmosphere at this height, and the consequent diminished diffusion of the rays.

Suddenly the rope slackened; we had turned the uppermost shoulder of the mountain, and, facing eastward, with a shout of transport, we scaled the highest crest, and stood upon the summit of the Breithorn exactly at 11 o'clock. If snow had rested upon the upper regions we should have scarcely required the ice-axe, and have sooner reached our goal; but the gain would have been most likely counterbalanced by slower progress over the accumulated snows in the lower valleys. Neither fatigue nor shortness of breathing detracted from the enjoyment of contemplating a world of mountains — a true mountain map — that extended far and wide in all directions beneath our pinnacle, and burst upon us with no slight surprise. Who could behold such a panorama without emotion? At first the eye was startled and bewildered, and, at a superficial glance, might right well have compared this vast mountain-picture with an angry sea, surging to and fro, in rocky white-crested billows, with the floating icebergs of northern waters.

To the north the Oberland mountains were to be clearly distinguished, whilst to the east the eye swept as far as the Graubünden and Tyrolese chains, and embraced

in the south the Lombardian plain, the blue-hazed Apennines, and caught the faint, air-reflected silvershine of the Mediterranean, followed from south to west by the Maritime, the Cottian, Graian, and Pennine Alps, with a dim glimpse of the Pyrenees. The most conspicuous object in the west was the towering mass of Mont Blanc, discernible with all his aiguilles and glaciers. Even here, most likely owing to the singular transparency of the atmosphere, his stupendous magnitude, disputed by none of his compeers, impressed me with the truth, that he is the Monarch of European mountains. Rising from vast glaciers, piercing the storm-cloud, gilded the foremost by the earliest morning ray, and flushed the latest by the parting day, wrapt in his silver robe he reposes, calm and cold, in all the majesty of his adamantine strength! The summit on which we stood formed a kind of crest on which two or three abreast could safely approach the eastern extremity, whence a steep descent leads to the second crest; beyond it appeared Castor and Pollux, the latter below us, the former somewhat higher. I must confess to being disappointed in the appearance of Monte Rosa; its colossal mass is rivalled by the gigantic mountain-wall of the Lyskamm, which it overbrows by little more than 300 feet. The northern flank of the Breithorn has a severe snow-slope, abutting upon an inaccessible vertical wall; its southern side is the one we ascended, whilst the western precipices overhang the Petit Mont Cervin, nearly one thousand feet below us. The great Matterhorn, whose eastern buttress we fronted, presented itself in singular and incomparable form, an object of general attraction, enhanced by the defiance it has flung to the boldest mountaineer to dare its inaccessible crown. Viewed from Zermatt, and still more from the Rympfischschwung, it gave me the impression of a reposing sphinx; but I

never could realise Ruskin's comparison of a "rearing horse."

So singularly beautiful was the day, that the panorama well might be described in the poet's words, "ringed and roofed in azure;" yet whilst the Swiss mountains in their northern air stood out in bold relief, as if carved by the chisel of the sculptor, the soft south had thrown an undefinable charm over its Alpine world, melting the sharp outlines into purple haze, and thus rendering the contrast between the two regions most marked.

The guides had spread on the snow our frugal meal; and having satisfied nature's demands, I arranged my apparatus for ascertaining our altitude, an operation in which Taugwalder gave useful assistance. The air was perfectly still; the thermometer indicated  $37\cdot4^{\circ}$  F.; and by comparing the barometer of the Observatory of Geneva with the results of Galton's hypsometer (which gave the boiling-point at  $188^{\circ}$  F.), I obtained an altitude of 13,792 English feet. We had hitherto enjoyed a cloudless sky, marred neither by haze nor floating vapour; but during the last quarter of an hour we observed light clouds scattered here and there upon the Piedmontese peaks. Some of these air-sailers rested like ascending vapours upon the highest summits, giving them the appearance of active volcanoes, whilst others floated like balloons from crest to crest. In directing my attention to a light vaporous cloud, I observed it gradually dissolve in the air, then again appear in an altered form,—the result of solution and condensation, as hot and cold air-currents struck the mountain. I never experienced so sudden a change in the atmosphere within one hour; and ere we descended most of the southern ranges were covered with heavy cumuli. We regretted we could not prolong our stay beyond an hour; but that hour afforded infinite gratification, and stored memory's gallery with pictures ineffaceable.

The guides, after having picked up the few traps, placed us in the former marching order; and with the same allowance of cord between us, and under a warm meridian sun, we began to descend at 12 o'clock. By an oversight we had turned too much in an easterly direction and lost our old foot-track, so we had to cut new steps. Going down a steep and hard snow-slope, with ominous-looking crevasses in front, is somewhat nervous work. Every step demands the greatest caution, as neither toes nor heels afford the usual support; but the sides of the feet, edged into newly-cut ridges two or three inches deep, are the pivots on which the balance of the body depends. In such moments the assistance of a good alpenstock is keenly felt, and no one ought to venture on such slopes who has not a steady eye and head. Gradually and safely we approached again the great crevasse, but now at a point where the snow was more unsafe than before. A spring was by no means advisable on a steep and hard snow descent, and young Taugwalder prepared to slide over it on his back, well supported by the rope, but his father counselled otherwise. The strongest staffs, with the ice-axes, were corded together and placed upon the frail snow-bridge; and by means of this temporary construction we safely gained the opposite side.

We soon reached the snow, which we now found impassible to the feet; and as no crevasses intervened between us and the base of the declivity, we prepared for the exhilarating velocity of a glissade. A fair length of cord was allowed, a whoop was given as a signal for the start, and away we went in gallant style, sliding into the snow-basin beneath in an incredibly short time. All now was plain sailing: released from our bondage we walked with long and vigorous strides down the snow-terraces to the St. Théodule col. Here we rested for half an hour. How different from the morning scene! Guides and

travellers had disappeared, stillness and desolation had resumed their sway. And yet even here the words rose to my lips —

“ This is not solitude: 'tis but to hold  
Converse with nature's charms, and view her stores unroll'd.”

The noble grouping of towering snow-mountains, the vast ponderous snow-fields, the wonderful glaciers, the chequered atmospheric illuminations, are so many stores of nature, which excite a thoughtful mind to contemplation, and lend a peculiar charm even to these wastes.

We could now command the entire attention of the man of the hut, so we ordered an infusion of coffee; and never tasted the fragrant Arabian bean more refreshing, though whether it might have obtained the same verdict under other circumstances is somewhat questionable. Having offered our obolus to the serving-man, whose aspect betokened an intimate acquaintance with dulness, my companion, Mr. D. Howe, shouldered his knapsack, and with a hearty wring of the hand we parted, he down to the south, to the valley of Tournanche, and I northward to Zermatt. As I lingered for a moment at the highest point of the col, contemplating, probably for the last time, the wonderfully stern grandeur around me, I perceived on the long sweep of the St. Théodule glacier an actually beaten track,— a high road. No fresh snow had fallen for some time, and this, combined with the fine weather, had allured many travellers into this region. From our elevated position on the Breithorn we saw them passing and repassing in long files.

Agreeable as our morning ascent had been, we found the return by no means so pleasant at this hour of the day. The heat of the sun rendered the surface slippery, which was now channeled by a thousand rills and streamlets:

nor were the heavens very promising; a heavy cloud projected from the crest of the Matterhorn, and long cloud-bands swathed the mountain-walls.

As we left the glacier we were greeted on its very verge by welcome tokens of life: the *Ranunculus nivalis* shed its silver ray upon this dreary waste, and further on the *Gentiana glacialis* and *nivalis* gemmed sundry little nooks with the light of their blue petals. The flowers of the Gentian tribe and those of many other Alpine plants were unusually rare at this period, having passed into seed, owing to the long-continued heat and drought.

We now sped over some old moraines, reached the rock-ledges near the Gorner glacier, and passed the wood of the Zmutt valley. The wind, which had risen in fitful gusts, now grew in strength and bent the hoary Arven, whose long barbated branches floated like streamers in the agitated air. Onwards we strode. The sight of the beautiful meadows, as they slope valleyward over terraces and knolls, gladdened our hearts; and as we stepped upon their emerald carpets, the eye, so long tried by the intense snow-light, felt a grateful relief. And now we neared Zermatt. For some time it had greeted us with its hospitable roofs. Long lines of cattle drew homeward from the Zmutt valley, and their melodious chimes mingled pleasingly with the distant sound of the belfry tower. Scattered groups of peasants, and even the curé in his long flowing robe, were busily engaged securing the fragrant hay against the approaching storm.

At 4.30 P.M., after an absence of 13h. 15m., we entered the comfortable hotel of Monte Rosa, heartily welcomed by its excellent host. I heard the wind roaring along the great rock-walls, and not long after the thunder reverberated in the deep mountain recesses. But it was

a charmed season. The clouds broke and dispersed, and at eventide the stars shone with gentle, peaceful lustre, heralding a bright to-morrow.

The foregoing description of the ascent of the Breithorn is not intended to convey the idea that I am the first by whom it has been accomplished. Several members of the Alpine Club had preceded me at an earlier period of this season. The Rev. J. F. Hardy acted as guide to a party of friends, and, although the mountain was entirely unknown to him, succeeded in conducting them successfully to the summit.

My object has been to link this description to that of other ascents in the neighbourhood of Monte Rosa, and thus to perfect the delineation of that range. I ascended the Breithorn under perhaps more severe conditions than usual, as the great heat of the season had condensed the snows of the upper regions into almost solid ice.