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## THE NORDEND OF MONTE ROSA

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IT is curious to reflect that the ascent of the Nordend might have been one of the most popular in the Alps had the Dufourspitze been but 83 ft. lower. As things are, the mountain is relatively neglected. The usual route to its graceful summit lies off the beaten track, and more often than not the Nordend is omitted during traverses of the Monte Rosa peaks; parties from the Marinelli hut seem almost invariably to take the easier but more dangerous route to the Dufourspitze in preference to the more difficult ascent of the Nordend by its stupendous Macugnaga face; the sensational Frontier arête,<sup>1</sup> which plunges to the Jägerjoch in vertical steps, has rarely been visited; and (to the best of my knowledge) the wide and steep Weisstor (or N.E.) face of the Nordend has so far received attention from but a single climbing party. To these striking neglects may be added a fifth: on only one former occasion, and that was nearly thirty years ago, has the Nordend been the subject of a paper read before the Club.<sup>2</sup> The event deserves to be recalled, because it was then that E. A. Broome described his expedition of 1911, when, in the course of the day, he ascended the Macugnaga face from the Marinelli hut and descended by the ordinary route to the Riffelhaus—the memorable achievement of a great climber who was in his sixty-seventh year at the time of the ascent.

### A VISIT TO THE JÄGERHORN.

The Weisstor face was an accidental discovery, and the manner in which it came about may serve to introduce the present climbs. What had first attracted me to the mountain were an ambition to repeat the classic ascent from the Marinelli hut and an equally strong curiosity concerning the Frontier ridge, the ascent of which was reputed to be all but impracticable, and its descent to be almost equally difficult. In 1929, snowfall had forced a fruitless return from the Bétemps hut, and continuous bad weather during July 1930 prevented all thought of an attempt upon either of these objectives. The most that could

<sup>1</sup> The term *Frontier arête* is adopted here to denote the so-called N. arête of the Nordend, which really descends almost due E. to the Jägerjoch.

<sup>2</sup> *A. J.* 26. 369, 1912.

be hoped for was a close inspection, and for this purpose I devoted one of these stormy days to an ascent of the Jägerhorn with Alexander Graven.

Having reached the Gorner Glacier after a horizontal traverse from the Bétemps hut, we found that the view up the glacier was obstructed by the great wall of rock which falls sheer from Pt. 3986 m. on the Nordend. The summit of the Nordend rises as a cone at the extreme S.E. end of a high plateau which is covered by an ice cap and slopes down to the N.W. as a long buttress parallel to the ridge of the Dufourspitze, from which it is separated by the high lying Monte Rosa Glacier. The lower end of this plateau ceases abruptly at the crest of a precipice which faces due north and is oblique to the length of the buttress. On the right, as we now saw it, the rock came toward us as the long arête which descends gradually until it ends at 3238 m. on the confluence of the N. branch of the Monte Rosa Glacier and the main Gorner Glacier. When E. A. Broome made the first complete ascent of the N.W. buttress of the Nordend in 1904,<sup>3</sup> he gained this arête near its tip from the Monte Rosa side, previous parties having attained the buttress from the same side but at higher levels and up the low S.W. flank which faces the Dufourspitze. To the left of this arête, the rock, increasing greatly in height, curves a little (so that it now nearly faced us) and becomes a sheer precipice. The sharp left edge of this wall is extremely steep (its pitch is about 70°), and it rises abruptly from the Gorner Glacier at 3362 m. to cease above as abruptly at the triangulated Pt. 3986 m., which lies far to the left (N.E.) of all routes up the N.W. buttress. This edge or corner, and the sheer rock walls on either side which meet to form it, are thus 2047 ft. in height—one of the most remarkable clean-cut precipices in the Alps. I have examined this part of the rock wall carefully on several occasions, but any practicable line of ascent to Pt. 3986 from the N. has always been denied by the state of the ice cliff, which here constantly breaks over the crest of the wall.

We went up the glacier and, after rounding the corner, found that the rock on the far side was equally sheer and thereafter became continuous with a very steep flank which ended beyond at the Frontier arête. This flank was the Weisstor, or N.E., face of the Nordend, and our way led along under it up to the Jägerjoch and thence to the difficult little summit of the Jägerhorn, from both of which there were great and misty views—across the Macugnaga face (then heavily snow-laden), up the Frontier arête, and back along the fine flank under which we had come. The classic face and the amazing arête more than fulfilled expectations, but the size and steepness of the Weisstor flank caused me to wonder. I had often noticed it before, but it loses much significance when seen, somewhat obliquely and across five miles or more of featureless snowfields, from any usual viewpoint—such as the Adlerhorn, Strahlhorn, or Rimpfischhorn. Yet the Weisstor face is high, wide and steep. Its crest, from the top of

<sup>3</sup> *A. J.* 22. 572, 1905.

the Frontier arête on the S.E. to Pt. 3986 m. on the N.W., is a slightly descending line of ice cliffs exactly  $1\frac{1}{2}$  kilometres in length. The surface of the glacier beneath the face parallels this line, and the height of the flank between them is about 2000 ft. at all points throughout its breadth, save where the slope up to the Jägerjoch reduces the height a little at the S.E. end. At that end the steepness of the flank is least, but its slope progressively increases in steepness to the N.W., finally attaining  $70^\circ$  at the corner under Pt. 3986, which forms the boundary of the face in that direction. The great flank, if not so high as is the comparable N.E. face of the Lyskamm (the latter is about 2300 ft. high under the chief summit), is even steeper, and its previous neglect appeared to be explained by the débris from the ice cliffs which lay in some places on the glacier below the face. But so great and wide a mountain side could scarcely be impracticable at all times and at all points. It greatly attracted me.

We went, as was our intention, along the edge of the Weissgrat as far as the Cima di Jazzi, from which summit alone is the Weisstor flank of the Nordend to be seen both in full face (more or less) and from neither too near nor too far. This view, however, was completely obscured by the mist in which we made the traverse; and much of our way back across the snow wastes and over the Stockhorn and the Hohtäligrat, was complicated by a mild snowstorm. Nine days later, I paid my first visit to the summit of the Nordend, by the usual route, in the course of a long two days' traverse of the frontier watershed which included the Monte Rosa peaks and ended at the Breuiljoch.

Although I was again in Zermatt for a few days later in that season, it was not until 1933 that I was next able to give serious attention to the more interesting ways on the Nordend. Having reached Zermatt from London on the afternoon of July 9, Graven and I, now joined by Alfred Aufdenblatten, set out from the village shortly after midnight and climbed the Wellenkuppe by its N. face, thereafter descending by way of the fine arête to the Triftjoch. A visit to the Hörnli hut for the ascent of the Z'mutt arête, to be attained by a traverse, was frustrated by snowfall and wasted the next two days. On July 13 we then went to the Bétemps hut. Our intention was to make a serious attempt to climb the Weisstor face of the Nordend and to descend by the Frontier arête should the former attempt succeed. If the state of the face were prohibitive, we would then try to climb the Frontier arête.

#### THE WEISSTOR (N.E.) FACE OF THE NORDEND (FIRST ASCENT).<sup>4</sup>

We quitted the Bétemps hut at 2.10 A.M. on July 14, and followed the same line as before until we rounded the great corner under Pt. 3986 and so came into view of the face. Three questions had then to

<sup>4</sup> For technical detail, see *A. J.* 45. 371, 1933, where, by an error, the face is described as 'N. (strictly N.N.W.)' in place of 'N.E.' The ascents mentioned in the Editorial note on p. 372 were made on the other side of the N.W. buttress from the Monte Rosa Glacier, that line avoiding Pt. 3986.

be answered : was there a gap in the line of the ice cliffs ? if so, was there a practicable line of ascent to the gap ? and, in that case, was the route free from the danger of falling ice ? I had set my hopes on a shallow rib (I think it is the only one on the whole width of the face) which lies to the facing left of the centre of the flank, where the angle of slope is less than it is to the right ; but the present state of the ice cliffs above the rib put that line of ascent out of the question. There was, in fact, no justifiable route or practicable exit save up the much steeper part of the flank near the great corner. On our side of that corner the rock wall was sheer, and it rose almost vertically for not far short of the first 1000 ft. To the left of that, and separated from it by a narrow cleft which disappeared in the face above, there was a flat but less steep wall of similar rock. This was fairly smooth on its right side but more broken on the left near an edge at which the rock turned sharply in to form the wall of a deep gully—again, the only gully in the face. There was a deep recess in the ice cliffs at the top of the gully, and to the left, across the gully, were grey slabs set at an easier angle than before. The slope of the face eased gradually as it receded from the grey slabs, and it was covered with ice or snow further off. Far to the left, the Frontier arête formed the rising skyline, and there the red rock again made its appearance.

Our attention had necessarily to be confined to the steep wall which rose immediately above us between the gully on our left and the cleft on our right. The more broken part of the wall seemed at least worth a trial, the ice cliffs which crowned it were stable, and an exit of some sort was assured. If this could not be made directly, and if the recess on the left above the gully offered no way, a traverse to the right under the ice cliffs would lead to Pt. 3986, above which there was no difficulty. Graven said, ' Shall we try it ? ' and I said, ' Of course.'

We therefore crossed the bergschrund at 5.30, ascended a steep ice slope, and met some difficulty in finding lodgment in the rocks at the foot of the wall. Here, and throughout the climb, the rock was found to be exceptionally sound, and the holds, if sometimes small, were always adequate. Although I noted at the time that the climbing was occasionally difficult, the deepest impression which it left was one of great exposure. The intimate views were fine—the great grey slabs across the gully on our left, our own steeper rock smoothing out into sheer red slabs on our right. There was some choice of route at the foot of the wall, little if any in the middle part, and none in the highest section, but the rock itself presented few striking details—at any rate on the lower part of the climb. New snow still stuck in small occasional patches, but for long there was no shelf or recess where the party might have rested as a whole, although there were two places at which we might have sat in separate niches had a cold and rather strong wind not removed temptation. Climbing quickly and nearly continuously, we came at 6.20 to a proper shelf which was about four feet wide and stretched across the face, the rock above it slightly overhanging in a low wall. But we went on without halt, now to enjoy

thirty-five minutes of the most interesting climbing which was met on the rocks. We were forced to the left and came to a small snow arête on the edge of the main wall. Next followed a short chimney, above which was a leaf or projecting corner of rock, and slabs then finally took us to the top of the wall at 6.55.

Here we stood for five minutes to take our first halt since reaching the rocks, and I looked to the left along the line of splendid ice cliffs. The high and vertical wall of cleanly cut ice was nearly continuous but not regular, and the manner in which it was set back in one place and advanced in another combined with wisps of mist and with ice gleaming in bright sunlight to make a picture of dazzling variety. We looked to see the further way. A direct exit was not possible, the recess some distance on our left was exposed to danger from falling ice, and there remained the traverse in the other direction to Pt. 3986. The line of this was hidden by a near bulge of the short snow slope which fell from the foot of the ice cliffs to where we were standing.

We went to the right to find that the crest of the rock wall sagged between us and Pt. 3986, a projecting mass of ice cliff rising in line above the lowest point on the arc. A descent in snow and rock to the right took us nearly level with the base of this sérac, the lower part of which was undercut. Beneath it was a slope of snow-covered ice set at an angle of  $55^{\circ}$ , and this offered an exposed horizontal traverse for about 300 ft. at the foot of the ice cliffs and above the crest of the rock wall, which plunged at a considerably steeper angle. Graven made the way, much of it by singlehanded step-cutting into the underlying ice, whilst handholds had also to be cut and belays to be contrived by nicking grooves in convenient bulges of the ice. The ice wall, edged with icicles, completely overhung us in the central part of the traverse, and an exceptional passage occupied nearly an hour before rocks were reached again. There we came together beyond all difficulties and made our way along and up until, at about 8.20, we reached Pt. 3986, probably for the first time.

Here we rested out of the wind for twenty-five minutes, but then had to go on. A short slope led up to the snow cone (which must be a secret *Viertausender*) above the triangulated rocks, and next we faced a long grind in soft snow up towards the summit of the Nordend. Almost at once we were enveloped in mist, then snow and hail fell and the wind greatly increased, so that at times we had to stand against the gusts. We reached the summit in dense mist at 10.45, having long since had to abandon all hope of descent by the Frontier arête. The cold and wind were such that we did not halt on the summit, but continued straight on down the usual way to the Silbersattel. Even that was a severe struggle against wind and hail, and we had to pause several times to recover breath with faces turned from the wind and to scrape the ice off our snow glasses. On only one other occasion, and that was on the Brouillard arête later in the same season, have I met so severe a wind on a high summit in the Alps. It was not until we had descended far down the Monte Rosa Glacier that the wind

abated, and soon thereafter we came into thin sunlight, which was welcome after the bitter cold. From that point onwards, we went more leisurely and took several long rests, so regaining the Bétemps hut at about 2.15 P.M. after an expedition which may be placed in a high class of difficulty and interest.<sup>5</sup>

The weather prevented any further plans for the mountain during our few remaining days at Zermatt, when it was nevertheless possible to make two other expeditions. Some pressing engagements with Mont Blanc then took me to Courmayeur, and, a visit to Alaska intervening, it was not until 1935 that I could return to the Nordend. Charlie Houston, my companion on Mount Foraker, joined me that season, climbing with Theodor Biner, whilst Graven and I resumed our old partnership. The weather favoured us and, as a first expedition, we traversed the Ebihorn and Mont Durand to the Constanzia hut, from which we returned to Zermatt over the Rothorn next day, making our descent by the Rothorngrat. Then, on July 15 (when Biner first joined us) we went to the Bétemps hut for my old projects on the Nordend, which was not yet quite in condition. So we spent two delightful days, on the first of them traversing the Lyskamm by its N. arête and descending to the Gnifetti hut, and on the second day returning to the Bétemps hut over a selection of the Monte Rosa peaks. The Nordend was now ready, and on the following morning, July 18, we crossed the Jägerjoch to the Marinelli hut, making our descent directly from the col itself.<sup>6</sup> Then the weather broke and a day of snowstorm at the hut forced us to postpone our attempt and to return to Zermatt. This was not too simple a problem because we had entered Italy in a forbidden manner and therefore could not return save secretly (also, one of us had no passport), and on July 20 we therefore took an unusual route to the Eugenio Sella hut, the feature of our traverse being an avoidance of skylines and an efficient use of cover. We thus evaded capture (Houston and I were not to be so fortunate a little later) and crossed the Neu Weisstor to Zermatt next morning after a wonderful view of Monte Rosa at dawn from the pass.

Having replenished our stores at Zermatt, we regained the Marinelli hut next day, on this occasion from Macugnaga, which we had reached by rail and road. All seemed set for our climb, but I was seized in the night by an attack of food poisoning, which was severe enough to enforce a lazy day at the hut, our plan being thereafter to ascend the Macugnaga face to the Nordend and to descend by way of the Frontier arête. The settled weather lessened the disappointment, and that day is one of happy memories. The great face of precipitous rock rose above the hut with its 6000 ft. and more of promise—a face mysterious indeed for the scanty records of its striking history, stern in its warning of coming effort, but with none of that earlier legend of danger which

<sup>5</sup> Excluding halts, the ascent to the Nordend had occupied 7 hours and 28 minutes, and the descent took 2 hours and 38 minutes.

<sup>6</sup> *A. J.* 47. 360, 1935. Previous parties seem to have descended, not from the true pass, but by the S.E. arête of the Jägerhorn. Our line, although more interesting, might be exposed to danger from stonefall, and the older way is to be preferred.

had urged Farrar's guide Daniel Maquignaz to prayer on the eve of his ascent.<sup>7</sup> Instead, there seemed to be a friendly look of safety and enticement in the rocks, and my mind dreamt amongst them and wandered up the great snow fields to the left. Kugy nevertheless wrote fittingly of this flank<sup>8</sup>: 'You do not come here for dreaming, but to exercise yourself in great matters.'

#### THE MACUGNAGA FACE OF THE NORDEND.<sup>9</sup>

When we awoke early on July 24, the night, calm and cold, held certain promise of good weather, although a dim sea of cloud not far below our level filled the valley and submerged the Pedriola Alp at our feet. The bright stars and a waning moon just gave light sufficient to save the lantern when we set out at 2.25 A.M. up the rocks behind the hut, and the first hint of approaching dawn came three-quarters of an hour later with a very slight tinge of jade on the eastern horizon—a faint and narrow band beneath the black of night. At the lower edge of the steep Nordend Glacier we paused for ten minutes at 3.20 and roped together in two pairs, Charlie Houston climbing with Biner on the second rope.

The faint light showed the lower end of the arête descending from left to right above the glacier and terminating considerably above our level. Higher up, the great rock face was dark and vague, yet there could be no doubt about the proper route, so well marked is the obvious ridge of ascent. There are two more or less parallel ribs in the centre of the face, that on the facing right (N.) being the better defined of the two and commencing below from the lower level. The upper parts of these ribs diverge slightly and terminate against opposite ends of a flat, wide and high precipice. This precipice, as seen from Macugnaga, is like a huge diamond-shaped facet, its crest rising from either end to a point in the centre (about 900 or 1000 ft. below the summit), and its base extending down as a V between the two ribs. The latter are separated below this level by a snow couloir which forks above to enclose the base of the 'diamond,' so forming the well-known 'Y-couloir' of the view from Macugnaga. The crest of the diamond on either side of its apex forms the outer edge of a steep shelf of ice or snow, the two shelves ascending steeply parallel with the face to meet at an ice arête which descends as steeply from the base of the final abrupt rock wall of the face to the apex of the diamond. The right-hand shelf, or 'Linceul,' besides descending parallel with the face,

<sup>7</sup> *A. J.* 38. 149, 1926.

<sup>8</sup> Kugy, *Alpine Pilgrimage* (translated by H. E. G. Tyndale), 1934, p. 256.

<sup>9</sup> For technical detail of this ascent, see *A. J.* 47. 359, 1935. The route followed was more or less that taken on the first ascent by Brioschi's party in 1876, and also by the four British parties which had made the ascent prior to 1935—that of Farrar (3rd ascent) in 1898, and those of Eaton and Oliver, of Williamson, and of Broome and Corning, all in 1911. This is, without doubt, the best line to take, and Farrar's monograph (*A. J.* 26. 422, 1912) gives much interesting information about the routes. The descriptions of the ascent by Broome (*A. J.* 26. 369, 1912) and by Kugy (*Alpine Pilgrimage*, 1934, pp. 322-9) are the only ones available in the English language.

also slopes outward from the base of the final wall, which rises from its inner edge. At the right-hand corner of the diamond, perhaps 450 ft. below its apex, the Linceul plunges as a long couloir which descends for more than 3000 ft. before it meets the Nordend Glacier. The right-hand rib is enclosed between this long couloir and the Y-couloir, and it affords an ascent which is almost completely free from objective danger after its lower rocks have been gained.<sup>10</sup> The approach up the glacier is however exposed, and it might be dangerous later in the morning.

We therefore moved quickly up and to the right across the glacier, thus reaching the rocks at 3.55. The grey granite was not easy either to attain or to ascend, so at least it seemed in the dim light, but a thin streak of deep brown had appeared in the east under a widened band of jade, and when, after about half an hour of interesting scrambling, we reached easier ground on the broadened back of the arête, the brown had changed to pale yellow and the sky was beginning to brighten. We now walked up scree and, 10 minutes later, the yellow had become a brilliant orange glow, the belt of jade had spread upwards, and the great snow amphitheatre on our left had begun to loom, cold and as yet rather featureless. In another quarter of an hour, at 4.55, the sun first lit the rocks of the Dufourspitze, and we stood to watch the sunrise. The warm light swept down the stupendous slopes as fast (so it might be) as a falling avalanche, and its pale, rose-tinted edge had all but reached us in three minutes. I turned to the east to catch the first glimpse of the sun. The dull surface of the great cloud sea, which filled the valley and spread out to the horizon, was flat and almost unruffled, and the Engadine peaks just showed on the rim like a far distant shore. The sun broke the horizon, and turned the sea of cloud, first to gold, then to dazzling white.

At this place on the ridge we must have been near the point where the rocks change from grey to red, and the arête now became steeper and sharper, the former easy scrambling being succeeded by more interesting climbing. Occasionally we met short but narrow snow arêtes up which Graven cut the steps, and then, after about an hour of sunshine, we came level with the Jägerjoch on our right and halted for a few minutes to admire the amazing scenes on either hand. To our left, and nearly at our own height, was the lower end of the Y-couloir set in a waste of steep and broken ribs beyond which were the magnificent and greatly crevassed snow slopes of the face; to our right, the Mischabel rose in the distance over the brim of the Jägerjoch, and we looked along the Italian flanks of the Weissgrat, rising like sea cliffs above the cloud, which had ebbed until the Belvedere was now barely awash; soaring up from the Jägerjoch was the wonderful skyline of the Frontier arête of the Nordend—its near flank an apparently vertical wall, as it very nearly is.

<sup>10</sup> The more exposed and less definite left-hand rib was used at the second ascent and at a few subsequent ascents including that of Kugy, who describes it vividly (*loc. cit.*).

Our ridge now steepened further and sometimes rose abruptly in narrow edges of rock. Then a longer ice arête called for a bout of step-cutting and brought us to the base of a steep but broken wall of red rock which straddled the arête. One passage in this gave some difficulty, combined tactics having to be used, and then the ridge narrowed again. From hereabouts we had a fine view of the steep ice in the lower part of the Y-couloir on our left, and we were still about 30 minutes below its fork. Above us and it was the great 'diamond' facet of rock, a wide and sheer wall. Interesting climbing now took us up, finally by slabs, to the foot of this great cliff under its right (N.) end, and we tackled it directly by making an exposed but not difficult upward movement to our right. This landed us on the corner of the 'diamond' at 7.35, and near by, at an elevation of about 4200 m. (13,780 ft.), we found a good resting place in the rocks and halted for our second breakfast.

When we left again at 8.15 there were still 1350 ft. of elevation to be won, and the stiffest part of the ascent was in front. Turning S., we faced parallel with the flank up the very steep shelf of the Linceul, on which bare ice showed above our level. On our right, the abrupt final wall of the face rose from the inner side of the shelf; on our left, the ascending crest of the 'diamond' formed its outer edge. This edge, which we at first followed, was of scattered rock and snow, and the snow, new from the storm of three days before, was deep and soft, so that our progress was necessarily retarded. In about 25 minutes we won a striking view of the far end of the wall beneath, its rock vertical in places, and draped with enormous clusters of icicles, some of which were perhaps 30 or 40 ft. in length. From this point we now quitted the edge and ascended more in the middle of the shelf, there to meet steep ice which called for continuous step-cutting. Where snow still adhered to the ice, it was too soft to trust, and these conditions continued until we reached near to the upper end of the snow crest from which the Linceul falls diagonally down and across the face. This snow arête ends blindly against the foot of the upper wall, here judged by Farrar to be impracticable, and there is a very abrupt ice couloir to the left (S.) with a steep rib of broken rocks on its far side. Graven cut across the couloir and, as I followed him, a fall of small icicles struck me without causing significant damage. We thus arrived on the rib at 10.5—or in all but two hours of fast, exposed, and strenuous ice work on Graven's part since we had left the breakfast place. It is this passage on the climb which is most likely to vary with the state of the mountain in different seasons.<sup>11</sup>

The rocks of the small rib were heavily iced, and we went up until we could recross the couloir to the right and gain the final wall. We

<sup>11</sup> Thus Farrar's party in 1898 took 2 hours and 25 minutes for the same passage (*A. J.* 26. 423, 1912), whilst that of Eaton and Oliver in the exceptionally dry season of 1911 took only 1 hour (*A. J.* 25. 751, 1911). Our own time was 1 hour and 50 minutes, and the conditions were probably intermediate but nearer to those met in the earlier year.

were thirsty, and paused in these last rocks for 20 minutes to collect water and make lemonade. A few minutes of climbing then took us to the top of the rocks and over a snow cornice not far from the summit of the Nordend. Here we paused again, put off our sacks, and walked up to the summit, which we reached at about 11.30.<sup>12</sup>

We rested there and my mind was divided between the satisfaction of a great ascent and expectation of what lay ahead. Although no passage yet encountered had been difficult or strikingly characteristic, the rib had been so long, steep, and unabating, the standard of the climbing had been so constantly maintained at its very respectable level, and the situations had been of such wide exposure and splendour of scene, that the whole left a deep sense of greatness. It lacked only the former glamour and repute of near inaccessibility, even of danger, the passing of which was regretted by Farrar when he wrote of this climb: 'Ah, you moderns, you miss a bit of the exquisite mystery of the great mountain!' <sup>13</sup>; but such mystery would in any case have departed ere the summit was reached. Yet it was nevertheless possible to recapture that older atmosphere on the very summit of the Nordend, when I thought of the exciting uncertainty of our proposed descent. This feeling may have been due in part to the very appearance of the Frontier arête when seen looking up from the Jägerjoch or as we had seen it during our ascent, but amongst its causes were also the reputation of the arête and the obscurity of its climbing history.<sup>14</sup>

If the Nordend as a whole is to be regarded as a rather bashful mountain, that engaging quality is no more strongly shown than in the story of its Frontier arête. The first attempt upon this rib was apparently that made by Kugy, probably in 1891, and the arête later became a reigning 'problem' until Flender's party effected the first *descent* in 1899, when the climb was described in the current literature. Then a veil fell, and to such effect that Flender's was believed to have been the only contact with the rib when Dübi published his Guidebook in 1916 and predicted that an ascent from the Jägerjoch would be impracticable. Yet there had by then not only been two further descents (in 1901 and 1902), but Ryan, with Franz and Josef Lochmatter, had actually, in 1906, already succeeded in making the first ascent of the rib. So far as my information goes (but this must be said with reservation), only two other parties had thereafter visited the arête before 1935—Mme Zunz with Franz Lochmatter making the second ascent in 1923, and Matschunas and Welzenbach making the fourth descent two years later, when the climb (I think, for the second time in all) again found a place in Alpine literature.

<sup>12</sup> Our time of actual climbing from the Marinelli hut had been 7 hours and 35 minutes.

<sup>13</sup> *A. J.* 38. 149, 1926.

<sup>14</sup> See Dübi, *Walliser Alpen*, 1916, vol. 3a. p. 115; *A. J.* 37. 391, 1925 and 38. 127, 1926; Kugy, *Alpine Pilgrimage*, 1934, pp. 244, 255; and Kurz, *Alpes Valaisannes*, 1937, vol. 3a. p. 198. At present I have access to no other sources of information.

Such reticence about what are probably the most sensational and difficult rocks on a great mountain in the vicinity of Zermatt aided aspect and repute to invest the projected descent with all of Farrar's 'exquisite mystery.' But there was little time for pondering if an enforced bivouac were to be avoided, and we soon had to be moving again.

#### DESCENT BY THE FRONTIER ARÊTE AND THE JÄGERJOCH.

We left the summit exactly at noon, paused at our sacks that I might change the film in my camera, and crossed the high snow plateau of the Nordend by walking along the crest of the Macugnaga face. In our line of advance, the plateau gave place to a rounded snow rib which led us out from the mountain on to the top (*ca.* 4352 m.) of the highest rock step of four on the Frontier arête. Here we arrived at 12.30 P.M. and paused again to see what might lie below. Not much was to be seen.

We were on a narrow rock tower the nose of which overhung at the top. Its base eased out for a little way in slabs, and then an ice arête stretched along more or less horizontally for 350 ft. or more to end in space above the next step and to hide the steep and more serious lower parts of the rib. This rib may be described as a narrow leaf of rock standing well out from the mountain. Its true right flank is an almost continuous wall, nearly vertical and even in places overhanging, and this, facing S., was in sunshine. The left flank, now cold in shadow, is slabby and very steep. The two flanks meet at a very acute angle to form the actual arête, which, plunging steeply, is notched in four significant steps and several smaller ones, the lower three steps being completely hidden from where we now stood. The steps of the rib rise like upright knife edges, sometimes overhanging at the top, and when seen from below it is as if the rock were the prow of a finely modelled ship. The rib is of nearly the same sharpness between the steps, but its angle is easier there, although still very steep, and in such places (but not only there) we met ice on the rocks. Our plan of descent was to use combined tactics of the two ropes, and although our order varied with the occasions, Graven usually came down last on the steep passages, whilst it usually fell to me to go first there and elsewhere. We were forced to rope down ten times in all.

We tackled the highest step a little to the left of the nose, where it was possible to descend by free climbing to iced shelves. These led to the right, and then 35 ft. or so of steeper rock was roped down to lower shelves, which also were iced and over which we traversed to the right to gain the slabs below the step. When we reached the foot of them, this relatively short passage had occupied us for so long as 35 minutes, the ice on the rocks having presented some difficulty.

The inner end of the ice arête, which there rose very steeply, was now on our left, and its crest was attained a little lower down by a traverse. One of the amateurs then commenced to cut the steps, but time was too precious and Biner undertook the work, cutting down the

crest very quickly until, towards the far end, it became horizontal and sound snow covered the ice. Despite the fast and efficient step-cutting, we had nevertheless spent so long as 40 minutes on the ice before we reached the outer end of the arête where it crowned the top of the next rock step.

This step, the third major notch from the foot of the rib, is about 120 ft. high, and it is the narrowest and most prow-like of the four, its vertical edge overhanging above. We roped down a crack on the immediate left of the nose, and so reached a niche below which was a block adorned by an old loop of rope. Such a loop could hardly have lasted in such an exposed position for the 34 years since the third descent, and it must have been a relic of the descent of Matschunas and Welzenbach in 1925. From the same block, we roped down a sheer face, and a short traverse on slabs to the right landed us, 35 minutes after leaving the top of the step, in a position of fine exposure. The very sharp edge of the easement on the arête swept down from our feet at an angle of about  $45^{\circ}$ , very steep slabs falling from it to the left. On the right, the rock fell vertically for what appeared to be a great distance, and below it, the angle seemed to ease only a little in a tremendous couloir which descended many thousands of feet. It seemed to be a sheer drop from where we stood to the moraines of the Macugnaga Glacier. At our own level, we looked back straight across the E. face of the Nordend, and the rib of our morning's ascent was seen finely in profile.

We now held to the sharp crest of rock which descended through about 400 ft. of elevation to the top of the next major step. This edge was notched and we twice had to rope down short passages during this section of the climb, where we also encountered ice. The line of descent had so far kept us largely in shadow, but we now came upon a curious horizontal shelf which ran back from the edge of the arête for a little way along the right wall below the crest. Here we could all sit comfortably in the sun, and we halted for 25 minutes or a little more to rest and eat. On leaving again, a further descent brought us to the top of the next significant step, the second from the foot and about 60 ft. high. We first roped down to the left (there was an old piton here), and then we went to the right and again roped down an overhanging wall and corner, which landed us in a sort of niche on the right side of the crest after about an hour of descent from our halting place. We were now not far above the nose of the lowest and greatest step on the arête, and I think that it was in this niche or shelf (which looked as if it might have been used as a bivouac place) that we made the surprising discovery of a broken crampon.

There was another old *rappel* loop on a rock near at hand and we decided to try to rope straight down the nearly vertical edge of the lowest step, which is about 250 ft. high. Charlie Houston was therefore lowered on the rope over the nose for about 70 ft., when he was able to gain a shelf, but he reported that there was not sufficient room for the four of us. So we hauled him up again and searched about for a practicable line, wondering the while if a bivouac might not be

enforced after all. Attracted by the sunny flank, I thought that a descent might have been made down the right wall, although the ledges were scanty. But there was more certain news from the left. A traverse of about 50 ft. on iced slabs above the top of the step took us to a practicable belay. From this we roped down for about 90 feet, at first on climbable rock, to a ledge on the left face of the step. This ledge took us to the right, and from its end we again roped down very steep rock for another 60 ft. to a lower ledge which sloped down to the right. At the far end of this was an unstable block, but another belay was found for our tenth and last *rappel*. This gave an awkward descent of about 75 ft., somewhat diagonally to the right, over a bulge of rock and to broken slabs near the foot of the sharp prow of the step. All difficulty was then at an end and a long but easy scramble down slabs brought us to the Jägerjoch at 7.20 P.M. Excluding our halt, the 1450 ft. of descent from the top of the rib itself had occupied us for 6 hours and 20 minutes.<sup>15</sup>

We did not pause on the Jägerjoch, but went straight down and came out of shadow into evening sunlight on the Gorner Glacier. Twilight overtook us, and we halted for a time at 8.40 on quitting the glacier for the traverse to the Bétemps hut. There we arrived in darkness at 10.10 P.M., after an expedition which might claim a high place amongst the grandest in the Alps.<sup>16</sup> The ascent and the descent, regarded separately, are each of them rare and great experiences. Together, they combine to give the matchless traverse, not of a mountain chain, but of a single summit. In its balance of climbing interest during ascent and descent, and in its extraordinary maintenance of that interest for so many hours, this traverse assuredly approaches very near to perfection. The day itself had given many other things to be remembered: 'He who is indeed of the brotherhood does not voyage in quest of the picturesque but of certain jolly humours—of the hope and spirit with which the march begins at morning, and the peace and spiritual repletion of the evening's rest. He cannot tell whether he puts his knapsack on, or takes it off, with more delight. The excitement of the departure puts him in key for that of the arrival. Whatever he does is not only a reward in itself, but will be further rewarded in the sequel; and so pleasure leads on to pleasure in an endless chain.'<sup>17</sup>

<sup>15</sup> This time includes more than an hour wasted in finding the way, and we were also retarded by ice at several places. A party of two which knew the best lines of descent would have taken very much less time—perhaps half that taken by us. We followed the actual crest as closely as was possible, and some of the passages which we roped down looked as if they could not have been ascended by the usual climbing methods.

<sup>16</sup> The complete descent from the summit of the Nordend, excluding halts but including time wasted, had then occupied 9 hours and 30 minutes, whilst the whole expedition had similarly occupied 17 hours and 5 minutes of actual climbing between hut and hut. This is considerably longer than the duration of climbing on the traverse of Mont Blanc by the Péteret ridge from the Gamba hut to the Grands Mulets under less favourable conditions, and the present traverse may be reckoned the harder and the more interesting of the two.

<sup>17</sup> R. L. Stevenson, *Virginibus Puerisque (Walking Tours)*, 1881.