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AND

SCIENTIFIC OBSERVATION

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THE
ALPINE JOURNAL.

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(No. 171.)

MOUNTAINEERING IN THE SOUTHERN ALPS OF JAPAN, AND
JAPANESE MOUNTAIN CLUBS.*

By WALTER WESTON.

(Read before the Alpine Club, December 18, 1905.)

IT has always appeared to me that, in whatever fresh country a member of this Club chance to find himself, it is his bounden duty, given fair opportunities, to do his level best to explore its mountains, and, wherever unconquered peaks still remain, to annex them in the name of the Alpine Club.

The results of our efforts may vary, and their story will not always be as novel or as exciting as those fascinating annals of fresh fields of exploration in Central Africa, the Caucasus, or the Himalaya. But each can do his best.

Such, at any rate, have been my own reflections during the eight summers I have spent in Japan, whence I returned, for the second time, a few months ago. And yet, though seven-eighths of that deeply interesting country consists of mountain land, I fear that my 'plain tales' from its hills must unavoidably fall somewhat flat.

However, some dozen or so of the highest peaks, averaging about 10,000 ft., have now been annexed on behalf of the Club, in the sense that until I visited them they had not been previously climbed by European travellers.

Their names I will, for the present, spare you. One of them, the 'Phoenix Peak'—Hō-ō-zan—had not, till last year, been ascended at all, by Japanese or 'foreigners.' Most of

* We are indebted to the courtesy of the Royal Geographical Society for the map which accompanies this paper.—EDITOR A. J.
VOL. XXIII.—NO. CLXXI. B

them are not known, even by name, to the majority of the natives; and repeated requests for information, even in the most likely quarters, such as the Tokyo Geographical Society, always proved futile. It was only by personal investigation on the spot that one could find out the work to be done, and the ways and means of doing it.

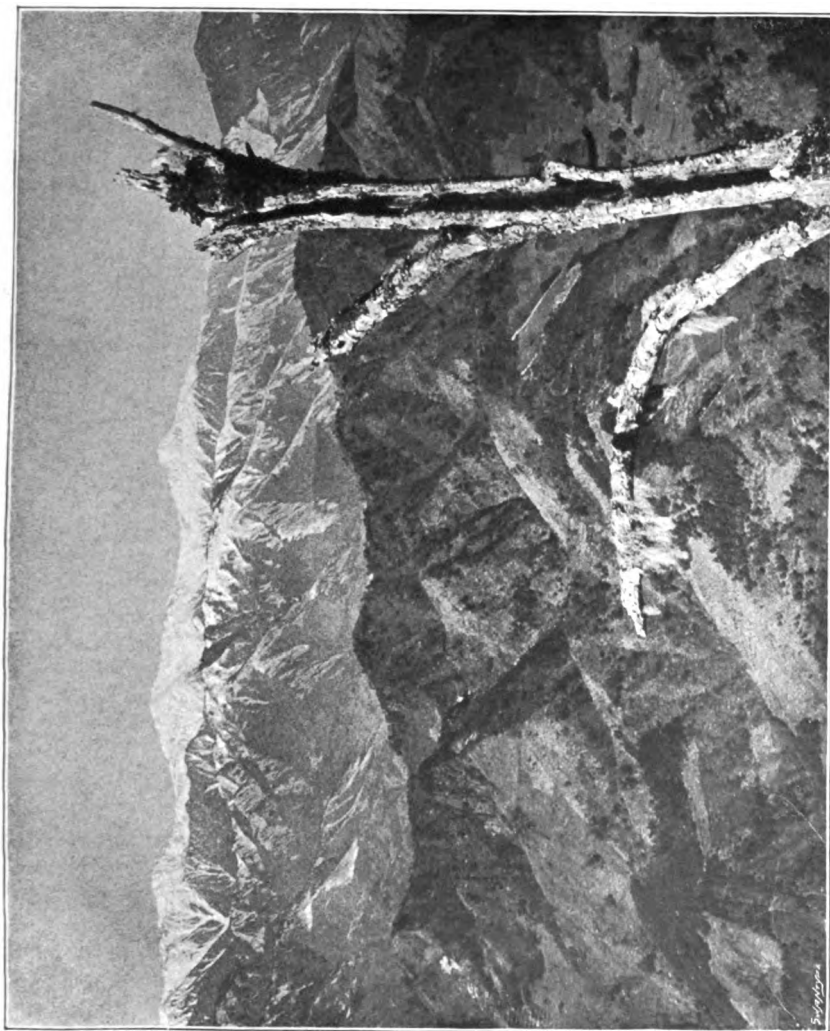
All this, naturally, invested one's expeditions with a keener interest. The element of uncertainty; the fascination of peering into the unknown; the closest contact with the quaint customs and the weird superstitions of an old-world Oriental peasantry of an almost unique type, whose thoughts and ways were of the tenth and not at all of the twentieth century—all this helped to weave a spell about one's mountaineering in the Japanese Alps that largely compensated for the comparative absence of those fiercer joys of more difficult rock-climbing, and of the subtle fascination of work amidst the world of ice and perpetual snow.

And yet, after all, the true mountaineer is not necessarily a specialist; for the basis of his creed, as I learn it, is the love of mountains, and not simply a taste for a particular form of gymnastics, however lofty. As Sir Martin Conway, in his last delightful Alpine classic has reminded us: 'It behoves us to make our [mountaineering] interest wide and comprehensive, not restricting it to mountains as mere things to climb; nor to mountains of a particular character, or at a particular time of the year; but allowing it to embrace mountain scenery as a whole, and at all seasons.'

May I then select as specimens of my last three years explorations in the Southern Alps of Japan, the ascents of Kaigane and of Hō-ō-zan, in the province of Kōshu, on the S.E. border of which stands the famous Fuji-San?

Kaigane is the northern and highest point (10,930 ft.) of the triple-topped Shirane-San, the 'white mountain' of Kōshu. It is best reached from Kōfu, the provincial capital, which stands in a flat, fertile, mountain-circled plain (once probably the bed of an ancient lake), in the very centre of Japan. In this plain there plies, between some of the larger villages, a vehicle known as the *basha*—a cross between a hearse and an ambulance. Its astonishing and alarming gyrations constantly promise the prospect of its use in the capacity of one or other of those undesirable, though necessary, conveyances.

Its employment was always one of those fond delusions to which one so unaccountably clings (and on Japanese country roads the *basha* needs very energetic clinging to).



Suam Electric Engraving Co.,

KAIGANE - SAN, (on extreme right) 10,334 ft.

Its speed averages, under favourable conditions, $3\frac{1}{2}$ miles an hour, and a 'day out' in it affords one of the most violent forms of exercise in which an active man of robust health and nerve is justified, if unmarried, in indulging.

Once out of the plain and among the foot-hills, one's baggage goes on the pack-horse, and finally has to be transferred to the backs of hunters of the big game in which some of these mountain regions abound. The frame they use is like that familiar in the Alps, and is called *yasemma*, or 'scraggy horse.'

A day's journey westwards from Kōfu brought me to Ashiyasu, a hamlet in a lonely valley at 2,200 ft., whose dark chalets cling with difficulty to broken slopes and ledges high above a wild torrent bed. These chalets are highly picturesque, at a suitable distance, though neither of their most striking features can be either properly photographed or adequately described—their filth and their odours. One soon ceases here to wonder at anything one sees, and still less at anything one may smell. At the house, however, of the village 'head-man,' a really charming spot, I was received with every kindness and courtesy, for I was the first *gwaiko-kujin*, or 'outside-countries-man,' to enjoy their hospitality.

The three hunters he sent for proved capital companions, always willing, thoughtful, and most eager to please. Indeed, the comradeship of these simple-minded, good-hearted fellows is one of the greatest charms of one's mountain wanderings in the Alpine regions of Japan. Each summer I met them with fresh interest, and parted with greater regret.

A 5 hrs. scramble under a scorching sun landed us on a ridge, 6,500 ft., to the N.W. of Ashiyasu, which commands a fine view of Fuji, 30 miles to the S.E. By a rough descent of 4 hrs. more hardgoing, through pine forest, dense bamboo grass, and over the landslides that scarred the hill-sides, we dropped down into the valley of the swift Norokawa. Yet another struggle of 4 hrs. before we gained our bivouac, at the foot of Kaigane, and then the last hour had to be done in the dark, by the faint glimmer of an Alpine lantern. It is this rough work in these splendid torrent ravines that, with the intense heat of the plains and of the lower valleys, forms the hardest part of one's expeditions, and makes them much more fatiguing than most good average Alpine climbs.

At times we had to wade across, waist deep, in the icy-cold water, stepping with difficulty from one slippery boulder to another below the surface of the current; once we were obliged to fell a tree 40 ft. high, to form a bridge over

the deepest part of the channel. A slip frequently would have plunged one into a roaring swirling torrent with little hope of rescue.

Darkness had long fallen when we gained our bivouac, at 5,000 ft., a poor little shelter of birch-bark on the river's left bank. Its sole furniture consisted of a chamois-skin and an old iron cooking pot. We were all tired out, so the next day was spent in fishing. Fair-sized trout is taken in some of the pools, here 20 or 30 ft. deep, and a delicious addition it is to our larder. On the third day we were off before dawn, leaving the oldest of the three men, quite done up, to guard the camp in our absence. We forded the torrent, here 150 yards wide, to its right bank, and climbed a steep buttress immediately above it for 6 hrs., to the N. arête of Kaigane. In the dense dark forest, near the foot of the buttress, we suddenly lighted upon the rotting shattered timbers of a little shrine destroyed by an avalanche. It was originally dedicated to the mountain divinity, formerly worshipped here, in times of drought, by deputations from the peasants of Ashiyasu. Now, however, an energetic and practical Meteorological Department, and improved methods of irrigation, have destroyed the cult, as the storms have wrecked the shrine, and I was told that it would be no more restored.

Up this forest-clad buttress we fought our way, now by rugged broken slopes, extraordinarily steep, and now up waterfalls, or by rocky torrent-beds. At one time we had to climb from branch to branch of the gigantic *haimatsu*, creeping-pine, above the upper limit of the forest trees, but after this the worst was over. Beyond it, we reached the bare northern arête, and found ourselves gazing on a splendid prospect in every direction. An interesting climb southwards then led us to the highest point; the next in height, of all the mountains of Japan, to Fuji-San itself. Every sheltered spot on the upward way was bright with Alpine flowers of every hue: the Japanese *edelweiss*, smaller and with a less furry coat than the Alpine variety, for it has to keep out less cold: the Japanese soldanella (*Schizocodon soldanelloides*), which excels its European cousin both in colour and in range of habitat, for while I found it here at 10,000 ft. in mid July, it flourishes also as early as May no less than 7,000 ft. below.

On the actual summit grew a bright yellow *Potentilla gelida*, always the highest in range of all Japanese Alpine flowers; but, loveliest of all, bloomed at 9,500 ft. the most



H. Archer, photo.

A JAPANESE ALPINE VALLEY.

THE TAKAHARA - GAWA.

Swan Electric Engineering Co.

exquisite deep blue and white Japanese columbine, *Aquilegia Akitensis*.

Just below the top, now trodden for the first time by a foreign foot, a tiny wooden shrine lay in pathetic ruin, and, near it, a little rusty iron sword, the votive offering of a solitary hunter, who years ago made the climb to supplicate the *genius loci* for prowess in the chase.

The ascent had taken us 7 hrs. hard work, but clouds were now coming up, and we had to hurry down. Very soon my hunters' sporting instincts distracted their attention. Fired by the sight of many ptarmigan (the *rai-chō*, or thunder-bird) whose picture, often hung up in hunters' homes, is kept as a charm against the lightning's flash, they contrived to lose their way. They then lost their heads, and an hour of precious time besides, until at last I had to go in front and lead down the great rock-face that falls steeply for 2,500 ft. in the direction of the Norokawa valley, where our little bivouac lay.

For 3 hrs. we worked our hardest and best, and I shall not readily forget the monkey-like agility with which my hunters scrambled down the unending succession of steep pitches and narrow gullies between us and the snow slopes below.

Once there, however, they were pounded, for they had no *Steigeisen* with them, and their straw sandals, splendid on rocks, were equally dangerous on the hard snow-slopes where I was able to enjoy delightful glissades. Darkness came on as we got off the snow, but the descent of the steep and broken rocks in the torrent bed leading down to the Norokawa was not to be thought of.

Under the shelter of a friendly wedge of rock, we built a fire, and then watched the full moon sail in dazzling brilliancy across the band of blue-black star-lit sky that roofed the walls of the ravine. We then fell sound asleep until the day broke.

In an hour after leaving our bivouac, we reached our shelter, to the joy of the old custodian therein. Great was the reception later on at the kindly head-man's house at Ashiyasu, after our five days' absence, and sad was the 'Sayonara' of his youngest-born when at length I said my final farewell.

Hō-ō-zan, the 'Phoenix Peak' (9,500 ft.), is a fine granite obelisk rising from a ridge parallel with, and to the east of, Kaigane, between it and the Kōfu plain. Until last year it had been held inaccessible to human foot. Even Kōbō Daishi,

the deified father of Japanese mountaineering, himself had returned unsuccessful, and to it especially applies the comment of a native local geography—'This is one of the most mountainous regions. There are in it trackless wilds, for these mountains are beyond the power of human legs to climb!' Even my hunters were sceptical of success, though willing, for extra pay, to help me to fail.

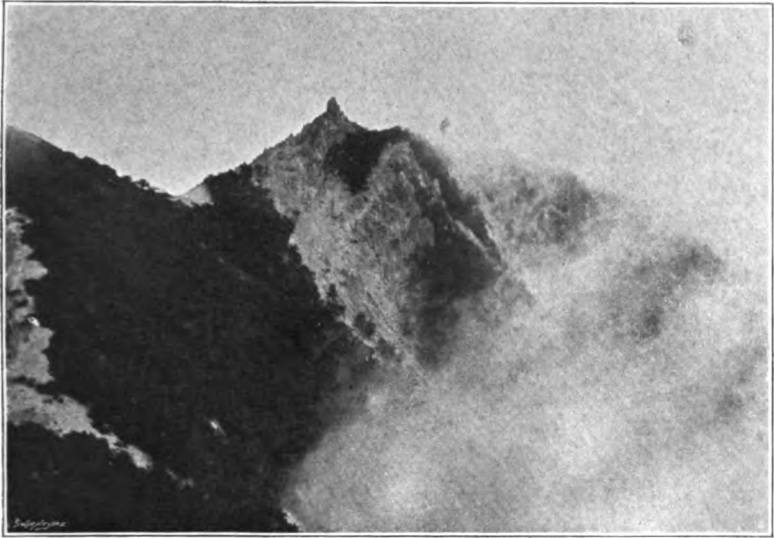
From Ashiyasu, the route for the first 7 hrs. coincided with that up Kaigane. Then, instead of descending to the bed of the Norokawa, westwards, we turned N.E., and in 8 hrs. reached a bivouac, at a ruined woodcutter's shelter, on the S.W. flank of Hō-ō-zan, near the upper edge of a forest of pines and larches, at 8,000 ft. By the side of a cheerful fire I slung my pocket-hammock from the stoutest beam, and soon was fast asleep. My hunters lay on the floor, but if I chanced to roll out in my dreams and to alight, somewhat heavily, on one of them snoring peacefully below, his only reference to the interruption was simply a word of polite apology—'O jama wo itashimashita,' i.e. 'I am so sorry to have been in your honourable way.'

The next morning, a 3 hrs. scramble up a watercourse, and along a narrow granite arête, led us to a gap between Hō-ō-zan and its southern neighbour Jizō-dake.

Just below the saddle I found an exquisite Japanese orchid (*Cypripedium Yatabeanum*) amongst the creeping pine. On reaching the gap my hunters suddenly appeared to become possessed—'Look, look,' they whispered, 'the chamois!' There he was, a fine beast, calmly reposing on a promontory projecting into the ravine on our left, some 300 yards away.

Without a further thought of Hō-ō-zan, two of the men, one carrying a rifle, darted off, like monkeys, to stalk him. They quickly disappeared down the ravine, leaving the third and myself to get on as well as we could.

As to the possibility of getting up, my solitary companion was wholly sceptical, and grew even scornful as I urged him on. Up to a ledge about 150 ft. from the top I persuaded him to come, but there he struck work, and flatly refused to go a step further. The climbing was very interesting, but not particularly difficult. At length I reached a ledge 24 ins. by 18, beyond which the way seemed impossible. The final peak really consists of two gigantic pillars of smooth granite, leaning against each other, the southern one about 15 ft. lower than its neighbour, and with a curious block projecting near the top. Up to this block ran a convex rib, quite smooth, with an angle of 80°. Balancing myself on my



HŌ-Ō-ZAN - 'THE PHOENIX PEAK'.



T. Hoskins, photo.

Swan Electric Engraving Co.,

ICE-CAVE ON FUJI-SAN.

shelf, I fastened a stone securely to the end of 100 ft. of thin Alpine rope, and tried to lodge it in a notch, some 50 ft. above me, formed at the point of contact of the two pillars. Each time I heaved it up it returned, and as the little ledge afforded no space for playing about on, I suffered accordingly. After half an hour's bombardment, however, a lucky shot went home, and then, testing the rope carefully, I found it firmly jammed. As it hung almost vertically for some 50 ft. I declined to trust it with my whole weight, so, holding it in my left hand, I applied myself to the rib on the right, and began to progress upwards somewhat as a snail.

Every few feet I had to stop for breath, the rope then coming in at its handiest. At length I found myself just under the block, but it pushed me out into such a position that the rope proved useless for further progress. Screwing up my courage, I cast it loose, luckily finding one or two fair finger holds on the bulging obstacle above my head. Here I hung for a few moments to gain fresh breath and strength for a final effort, and this enabled me to get my fingers over the upper edge of the block.

For a moment it seemed touch and go, but though my handholds were somewhat remote, success now seemed within my grasp. Another kick or two found me on the block, panting but happy. A couple of steps upwards placed me on the top of the lower pillar, and the last 15 ft., vertical, but with excellent holds, afforded an agreeable climax to the ascent. As I stepped on to the little platform, some 4 or 5 ft. square, that constitutes the highest point of Hō-ō-zan, for the first time in my life I had the satisfaction of standing where no human foot—Japanese or foreign—had ever trod. In the name of the Alpine Club I annexed the Phoenix Peak, and heartily, but vainly, wished for the means of drinking the health of the President, Secretary, Committee, and all concerned.

Externally, however, I was now getting somewhat damp, and the gathering mists warned me to depart. Within an hour my hunter and I found ourselves at the saddle below Hō-ō-zan, and there, oddly enough, we were joined by the two truants.

One of them bore on his broad shoulders the carcass of the chamois, a fine buck some 5 years old, and weighing about 70 lbs. This, without ceremony, they laid on the ground, cut it open, and forthwith invited me to 'augustly condescend to partake of its honourable inside!' As I was by that time enjoying a hard-earned meal of my own, the well-meant offer

proved somewhat ill-timed, though they protested that it would ensure me an integral share of the chamois' own most desirable attributes of nimbleness, strength, and speed.

That night, however, we supped royally.

For the next two days the chief topic of conversation amongst my hunters, I noticed, had frequent reference to the ascent of Hō-ō-zan, thrilling accounts of which, duly embroidered, were detailed by its only spectator.

They finally approached me with a remarkable request—viz. that as I had been the first to achieve it, where even Kōbō Daishi himself had failed, I should erect, at the mountain-foot, a sacred shrine in honour of the *genius loci*, and myself become the first *Kannushi*, or guardian priest, of the mountain god! It struck me as the most novel offer of preferment, and the most singular proposition for church-building I had ever received.

It has been justly remarked that nearly the whole of Japanese civilisation, until recent times, has been derived from China. There is one exception, however, in the Japanese view, to this—namely, the practice of hot-water bathing. The Chinese retort, 'What dirty people the Japanese must be to need washing so often!'

As early as 700 B.C., a great Chinese artist had painted a series of scenes representing 'The Four Conveyances'—the last and chief of these was a pair of mountaineering boots adorned with Mummy spikes!

Before the dawn of authentic history in Japan, in the fifth century A.D., we find a more modern Chinese artist describing in glowing terms the delights of painting mountain scenery. 'To unroll the portfolio, to spread the silk, and to transfer to it the glories of flood and fell, the green forest, the blowing winds, the white water of the rushing cascade, as, with a turn of the hand, a divine influence descends upon the scene—*these are the joys of painting.*'

Since a leading art-critic of that period, however, has observed that 'It is difficult to discuss these things with the *unwashed*'—an epithet descriptive of most of his fellow-countrymen—we are led to infer that an appreciation of mountain art was neither so widely spread nor so fully developed as could have been wished, in the China of his days.

The father of Japanese mountaineering was one Kūkai, better known by his posthumous name Kōbō Daishi.

Sent to study in China in the ninth century, as young Japanese go to-day to Europe or America, he returned to

Japan with the lore of the Yogācārya, a sect whose curious rites are now practised, as once they were on the Tibetan plateau, on the great sacred mountain of Ontake.

Clad in white, symbolical of the purity to which they aspire, these ascetic mountaineers make their way, sometimes at the end of several weeks of walking, to the top of their peak. After worship at the shrine of their mountain divinity, they withdraw to some secluded spot, and a weird *séance* then begins, known as *Kami-oroshi*, or 'bringing down the gods.'

The *nakaza*, or medium, to the accompaniment of weird incantations, throws himself into a cataleptic trance, and therein becomes the mouthpiece of whatever divinity has condescended to grant an audience. Information is sought of most incongruous, though invariably practical, kinds; it may be a question of the prospective weather on the climb, the healing of strange diseases, the upshot of pending litigation, or even, perchance, of some forthcoming movement on the Stock Exchange!

The constitution of these Pilgrim Mountaineering Clubs, and they are not confined to any one particular peak, is quaint and interesting. We are now so often exhorted to take Japan as our model, in many ways, of efficiency, that perhaps some will advise us to remodel the English Alpine Club on their lines. In view of our approaching jubilee I may therefore indicate a few points for consideration:—

The members' subscriptions are all pooled, and lots are drawn so that the lucky ones enjoy their summer's outing at the other men's expense, though the well-to-do are free to go at their own. The *sendachi*, or president, has a distinctive and striking costume. He is attired in white gaiters, and wears a broad white cincture round his waist, a white tunic clothes his body, and on his head is often seen a linen cap with little streamers at the side. (Ordinary members may only use broad-brimmed hats of flatter shape, usually made of fine straw.)

On the march, a rosary hangs round the leader's neck, and a damask stole, adorned with little tufts of silk, falls over his shoulders. A huge conch shell serves, when blown judiciously, to revive the drooping spirits of his weary followers; but his chief badge of office is a sacred alpenstock, topped with rings of brass, whose jangling in the clouds helps to ward off evil influences, or to keep chance wanderers, unroped as they are, in the right line of ascent. As they toil upwards the leader's oft-repeated cry is not some harsh word of warning—'keep the rope taut,' or 'ware stones,'—but

a solemn supplication: '*Rokkon shōjō o yama Kaisei,*' i.e. 'May our six senses be pure, and may the weather on the honourable mountain be fine!'

Inns or mountain huts, selected by the president, are presented with *tenugui*, or towels, stamped with the name, address, and device of the club. These are highly valued by the inn-keepers, who display them on the eaves of their houses in a fluttering fringe of blended colour and picturesque design.

Alpenstocks are duly branded with the name of each sacred shrine, and so are the white garments of the mountaineers, so that he who runs may read their victories.

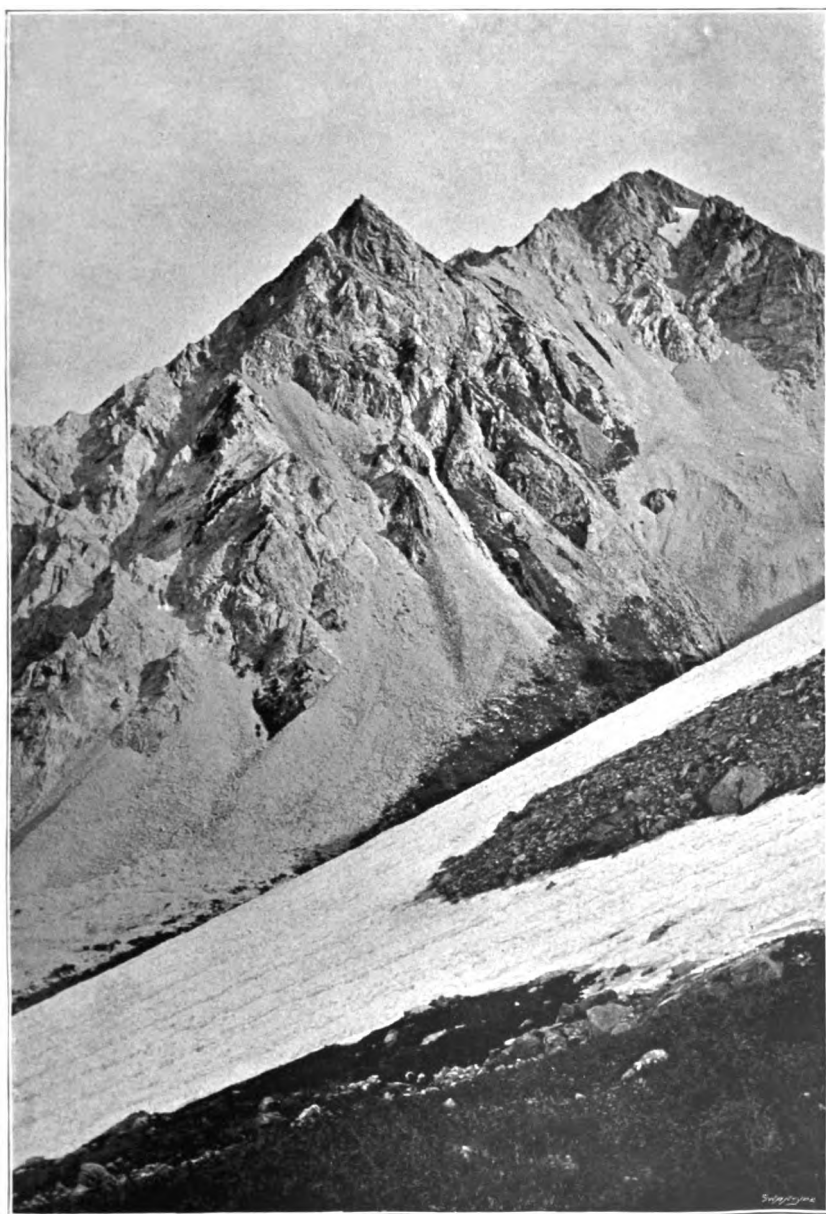
At rare intervals, a temple is erected in honour of the conqueror of a virgin peak, and sometimes such are even canonized.

Votive offerings frequently take the shape of *waraji*, or straw sandals, of gigantic size, a striking symbol of the climber's longing for fleetness of foot. A rigorous system of training is often imposed on members. This involves retirement for contemplation, strict asceticism, and frequent lustrations in the icy waters of some sacred mountain cascade.

The pilgrim mountaineers I have just described rarely visit any but the well-known peaks, usually those of volcanic origin, and, therefore, most easy of ascent. To the less accessible, in the wilder, remoter regions, only the compulsion of duty or necessity sends an occasional climber—some chamois hunter, a Government surveyor, or prospector on the track of gold or precious stones.

Even in the minds of those who know them best there is a curious mingling of awe with their admiration. This attitude is so characteristic and so curious that I may be allowed to illustrate it by two incidents that befell me in widely separated districts.

When descending the fine peak of Myojin-dake—the loftiest granite mountain in Japan (10,150 ft.)—then climbed for the first time by a foreign mountaineer, my hunters and I found ourselves at the end of a hard day's work in a dense forest near its foot. Suddenly the leader stopped dead, and proceeded to leap about with the most amazing antics. I found he had stepped upon a wasps' nest, hence his activity, and I was myself soon writhing in agony from a dozen stings. That night, as I was drying my sodden clothes at the camp-fire, a member of my party came up and politely begged me to show where the wasps had 'wounded my honourable body.' I indicated the spots—as well as I could—and turned away. By-and-by I looked round, and saw Nakagawa, squatted on



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THE NORTHERN YARI-GA-TAKE.
A GARDEN OF ALPINE FLOWERS.

the floor, mesmerising my legs. At last he got up, turned towards the ghostly moonlit form of the mountain, clapped his hands and bowed his head in silent prayer. His petition made, he returned, and respectfully informed me, 'This is what we call *majinai* [exorcism]; you'll be all right in the morning.' It then appeared that what had looked, and certainly felt, to me, like wasps, were really the embodied spirits of vengeance sent forth by the mountain god to wreak retribution on the first foreigner to defile his sacred precincts with an alien hoof.

With all the love and reverence of the Japanese for the idolised form of Fuji-San, the same quaint superstitions still linger in many minds.

Some years ago, with two English friends, I left the village of Omiya, at its western foot, to climb the mountain early in the spring-time, while the winter's snows still covered its upper 7,000 ft. Here the village fathers, backed up by the local police, anxiously warned us against the attempt. 'The Goddess of the Sacred Peak,' they averred—'She who maketh the trees to blossom'—is not at home to visitors, until the *yama-biraki*, or official 'mountain opening' at the end of July. Dire were their prophecies of disaster, and we were warned to 'look out for squalls' if we persisted.

Oddly enough, no sooner had we reached our bivouac, a broken-down hut at 5,000 ft., than a frightful typhoon burst on us, and we were kept prisoners for nearly three days. At length, on a glorious morning, we reached the top, deserted at intervals, on the way up, by all our coolies, save one, either through terror or fatigue. Traversing the peak, we descended to Gotemba, so that the village fathers of Omiya saw us no more. But, a week later, the native 'Daily Mail' came out with thrilling stories of a frightful disaster. 'A party of foreigners, supposed to be British, since they alone take pleasure in such risks, started to attempt the ascent of Fuji-San. Soon after, they were overtaken by a dreadful storm, and, as they have not since been heard of, they have without doubt miserably perished.' Subsequently, a Tokyo shopkeeper observed to my friend O'Rorke, that 'these foreigners deserved their fate for their sacrilegious folly,' a sentiment in which O'Rorke heartily concurred, particularly, as he informed the critic, since he himself was one of the lost mountaineers.

On my last and sixth ascent of Fuji-San, with my wife, last year, I was struck with one of those curious contrasts so characteristic of modern Japan with its strange and sudden transformations.

Near the highest point stands an observatory, with the up-to-date instruments of the Meteorological Survey Bureau. Side by side with this, at early dawn, arrived an old-world pilgrim, clad in ceremonial white, to offer his morning devotions to the rising sun.

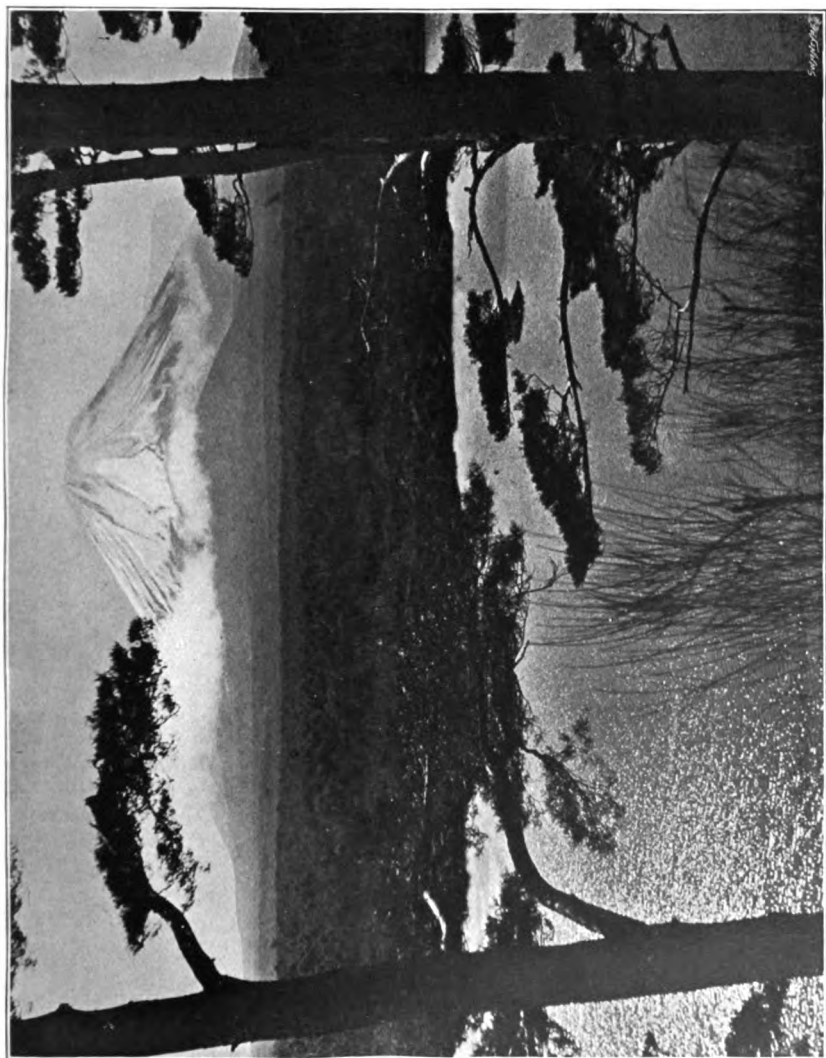
Until comparatively recently no woman was allowed to ascend to the summit of Fuji-San, although, by a strange contradiction, the tutelary divinity of the 'Peerless Peak' is a feminine one. The highest limit allowed lady climbers was to a spot known as *Nio-Nin-dō*, 'Woman's Way,' generally rather indeterminate, but usually about half-way up. Last year, however, when my wife made, with me, a traverse of the mountain, and explored the bottom of the crater some 550 ft. deep, with some care, she was afterwards presented with the gold medal of honorary membership of a Japanese Fuji-Climbers' Club, as the first European lady to do so.

Whatever may have inspired the pilgrim-climbers of the past, mountaineering is now growingly practised by the younger generation for the love of the pastime itself.

Nearly every Japanese is a born 'mountain-lover,' though, till lately, few could be catalogued as 'mountain-climbers.' Athletics of nearly every kind have hitherto been largely tabooed, chiefly because the Japanese student has looked on them as either a waste of time, or as undignified and violent. But schools and universities are now taking them up with increasing keenness.

The want of good turf as well as want of leisure precludes cricket, but at lawn-tennis they are beginning to hold their own with average foreigners, and have already outclassed the best of them at the American national game of base-ball. Some universities have taken to Rugby Union football, but they are heavily handicapped by their lack of weight and strength, and it is almost pathetic to see a heavy English forward cross the line with three small opponents hanging grimly on his shoulders in frantic but futile efforts to bring him down.

The Japanese are, above all things, a practical people, and have already begun to find a practical use for our pastime. During the late war an English resident one day observed his cook engaged in scaling the highest neighbouring hill with unusual energy. As the man repeated this four times daily for several days, he at last enquired the reason. 'Begging your august pardon,' the man said, 'I had just received honourable orders to join my regiment in four days' time, and, as I have got to fight in the mountains of Man-



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FUJI-SAN, FROM LAKE SHŌJI.

churia, I want to get myself as fit as I can before I go!' Mountain-climbing competitions were often organised by the commanding officers of rival regiments for a similar purpose.

The mountain peasantry of Japan are the finest fighters in their army. The conditions of their everyday life in times of peace admirably fit them for the work of scouts and mountain artillerymen in times of war.

The development of the Alpine cult in Japan should prove an interesting study. The love of Nature and the artistic tastes of the people are so much more deeply-seated and far more widely spread than with the Swiss or with ourselves, that, though they have no glaciers whereon to practise ice-craft, they will surely have some contribution to make towards a completer appreciation of mountains—whether as objects to climb or as subjects to paint—that must make us welcome any advance in these directions.

At least, most of the abominable desecrations of modern commercial exploitation of the Alps will long be spared us in that fascinating land, and no Japanese railway company would dare to insult either mountains or mankind with such a notice as I read last summer at the railway station on the Kleine Scheidegg, where a horde of German tourists were exhorted to 'Put a penny in the slot and watch through the great telescope nine guides searching on the Jungfrau for the dead body of a lost mountaineer!'

I feel sure that as Japan is looking to Great Britain, above all lands, for ideals of what is highest and best in the institutions of a land of real liberty, so those who there are learning to love and to follow the purest and most satisfying of all recreations, will, in due time, not look in vain for the sympathy and interest of the Alpine Club.

Perhaps you will allow me in closing this paper, already too long, to quote the *ipsissima verba* of a Japanese friend, the keenest climber and one of their cleverest writers of the day. In a recent letter to me he said: 'From what I have seen I feel certain that mountaineering is prevailingly flourishing, year after year, and that the necessity of associating the Japanese Alpine Club will be recognised by many young peoples in the future not so long. They are delighted with mountains because they can have the pleasure to breathe in the pure invigorating air, and refresh their weary souls and bodies, and *wash their eyes* by looking to the green forests, the foaming rapids and a hundred other attractions of nature. Quite so to me, too! Mountains, my dearest! Here I get the safety of my mind. Really eternity neighbours to me

there! Mountains are the holy throne of Truth. Mountains have a silent eloquence which amuses me for ever!

His 'fidus Achates,' an office clerk in a Yokohama American firm, not long since wrote to me from the Nikko hills: 'The beautiful sights here are indescribable. Now I became a simple child of Nature, while I am wandering in this splendid maple-tinged mountain and river running by. There is no war, no bloodshed, no fighting, and no trouble of life at all in *this* beautiful world. I could not forget this pleasant scenery which always live until my end. I will ascend Nantai-San to-morrow.'

APPENDIX.

PLANTS FOUND BY THE REV. W. WESTON IN THE SOUTHERN JAPANESE ALPS.

ON KAIGANE.

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| <i>Alsine Arctica</i> (Fengl.) | <i>Phyllodoce Pallasiana</i> (Pall.) |
| <i>Anaphalis Alpicola</i> (Makino) | <i>Potentilla gelida</i> (C. A. May) |
| <i>Anemone narcissiflora</i> (L.) | <i>Saxifraga bronchialis</i> (L.) |
| <i>Aquilegia Akitensis</i> (Huth) | <i>S. cernua</i> (L.) |
| <i>Dipsasia Lapponica</i> (L., var. Asiatica, Herd.) | <i>Schizocodon Soldanelloides</i> (Sieb. et Zucch.) |
| <i>Draba Nipponica</i> (Maxim) | <i>Sedum Rhodiola</i> (DC., var. Tashoioi Fr. et Sav.) |
| <i>Dryas octopetala</i> (L.) | <i>Stellaria florida</i> (Fisch, var. <i>angustifolia</i> , Maxim) |
| <i>Geum dryadoides</i> (Sieb. et Zucch.) | |
| <i>Lychnis stellarioides</i> (Maxim) | |
| <i>Oxytropis Japonica</i> (Maxim) | |
| <i>Pedicularis chamissonis</i> (Stev., var. Japonica, Maxim) | |

ON SENJO-GA-DAKE.

- | | |
|--|---|
| <i>Aquilegia Buergeriana</i> (Sieb. et Zucch.) | <i>Polygonum viviparum</i> (L.) |
| <i>Arabis amplexicaulis</i> (Edgew.) | <i>Ranunculus acris</i> (L. var. <i>Stevnie</i> , Regel) |
| <i>Astragalus frigidus</i> (Bunge) | <i>Rhododendron chrysanthum</i> (Pall) |
| <i>Campanula dasyantha</i> (M. A. Bieb) | <i>Saxifraga bronchialis</i> (L.) |
| <i>Clematis Alpina</i> (Mill) | <i>Schizocodon Soldanelloides</i> (Sieb. et Zucch.) |
| <i>Cypripedium Macranthos</i> (Swartz) | <i>Sedum Senanense</i> (Makino) |
| <i>C. Yatabeanum</i> (Makino) | <i>Thalictrum aquilegifolium</i> (L.) |
| <i>Draba Nipponica</i> (Makino) | <i>Thymus Serpyllum</i> (L. var., <i>vulgaris</i> , Benth.) |
| <i>Eritrichium pedunculare</i> (A. DC.) | <i>Trautvetteria malmata</i> (Fisch, var. Japonica, Huth) |
| <i>Euphrasia officinalis</i> (L.) | <i>Trientalis Europæa</i> (L.) |
| <i>Geranium eriostemon</i> (Fisch) | <i>Trollius patulus</i> (Salisb. var.) |
| <i>G. Hackusanense</i> (Matsumura) | <i>Vaccinium vitis-idaea</i> (L.) |
| <i>Geum dryadoides</i> (Sieb. et Zucch.) | <i>Viola biflora</i> (L.) |
| <i>Hypericum Senanense</i> (Maxim) | |
| <i>Leontopodium Japonicum</i> (Miq.) | |
| <i>Pedicularis Keiskei</i> (Fr. et Sav.) | |

LPS.



ON KOMAGATAKE.*

6,000-7,000 ft.

<i>Arabis lyrata</i> (L.)	<i>Pirus aucuparia</i> (Gaertn., var. <i>Japonica</i> , Maxim)
<i>Astilbe Thunbergii</i> (Miq.)	<i>Polypodium Senanense</i> (Maxim)
<i>Cassiope lycopodioides</i> (Don.)	<i>Rhododendron rhombeium</i> (Miq.)
<i>Cornus Canadensis</i> (L.)	<i>Saxifraga cortusæfolia</i> (S. et Z.)
<i>Deschampsia plezuosa</i> (Trin.)	<i>Schizocodon ilicifolius</i> (Maxim)
<i>Geum Calthæfolium</i> (Menz., var. <i>dilatatum</i> , Torr. et Gr.)	<i>Solidago Virga aurea</i> (L.)
<i>Pedicularis Chamissonis</i> (Stev.)	<i>Trientalis Europæa</i> (L.)
<i>Phyllodoce taxifolia</i> (Salisb.)	<i>Tripetaleia bractata</i> (Maxim)

8,500-9,500 ft.

<i>Alsine Arctica</i> (Fengl.)	<i>Diapensia lapponica</i> (L.)
<i>Andromeda nana</i> (Maxim)	<i>Empetrum nigrum</i> (L.)
<i>Arctous Alpina</i> (Niedz.)	<i>Pteridophyllum racemosum</i> (S. et Z.)
<i>Arnica Alpina</i> (Olin., var. <i>A. angustifolia</i> , Vahl.)	

9,500-10,000 ft.

<i>Angelica multisecta</i> (Maxim)	<i>Potentilla gelida</i> (L.)
<i>Carex montana</i> (L., var. <i>Oxyandra</i> , Fr. et Sav.)	<i>Saussurea Tanakæ</i> (Fr. et Sav., var. <i>phyllolepis</i> , Maxim)
<i>Cerastium schizopetalum</i> (Maxim)	<i>Schizocodon Soldanelloides</i> (L.)
<i>Luzula campestris</i> (DC., var. <i>Multi-flora</i> Celanos)	<i>Sedum Rhodiola</i> (DC., var. <i>Tashiroi</i> (Fr. et Sav.)
<i>Pilea petiolaris</i> (Bl.)	<i>Stellaria florida</i> (Fisch, var. <i>angustifolia</i> , Maxim)
<i>P. pumila</i> (A. Gr.)	<i>Viola biflora</i> (L.)
<i>Pirus aucuparia</i> (Gaertn., var. <i>Japonica</i> , Maxim)	<i>Vaccinium vitis-idaea</i> (L.)

ON YATSUGATAKE.

5,000-6,000 ft.

<i>Camellia Japonica</i>	<i>Cornus Canadensis</i>
<i>Enkianthus Japonicus</i>	

8,000-9,000 ft.

<i>Dicentra pusilla</i> (Sieb. et Zuech.)	<i>Linnæa borealis</i> (Gron)
<i>Fritillaria Camtschatensis</i> (Gaud.)	<i>Pinguicula vulgaris</i> (L.)

(besides many of those already mentioned).

VARIOUS LOCALITIES.

6,000-9,000 ft.

<i>Botrychium Lunaria</i> (Sw.)	<i>Phleum Alpinum</i> (L.)
<i>Erigeron salsuginosus</i> (A. Gr.)	<i>Primula Hakusanensis</i> (Fr. et Sav.)
<i>Gentiana Nipponica</i> (Maxim)	<i>Rosa acicularis</i> (Lindl.)
<i>Geranium Nepalense</i> (Sweet)	<i>Stellaria ruscifolia</i> (Willd.)
<i>Lagotis glauca</i> (Gaertn.)	<i>Trollius Asiaticus</i> (L.)
<i>Loisleuria procumbens</i> (Desv.)	

* Some of these were supplied by my friend Mr. Takeda Hisayoshi.

EXPEDITIONS FROM THE GAULI GLACIER AND THE
BÄCHLITHAL.

By FREDERICK GARDINER.

THAT portion of the Bernese Oberland which lies N. and N.E. of the Lauteraar Sattel, between Grindelwald and the Grimsel Hospice, and is described in Sections vi., vii., viii., and ix. of the 'Climbers' Guide to the Bernese Oberland,' vol. ii., is perhaps as little known and visited by English-speaking mountaineers as any portion of the great Bernese chain. There is, of course, the everlasting procession of climbers (and others) who ascend the Hasle Jungfrau (which is not the highest point of the Wetterhörner), and an occasional ascent of the Ewigschneehorn or passage of the Gauli Pass, but such peaks as the Berglistock, the Hühnerstock, the Ritzlihorn, or the Bächlistock are rarely ascended by English climbers. I have paid many visits to the excellent Gauli Club hut, and the Pavillon Dollfuss, both of them very conveniently situated for working this district, and never met an English climber at either. The Dossenhütte above the Urbachsattel, which is almost entirely used for the ascent of the peaks of the Wetterhörner, is also a very good hut and conveniently situated for reaching the Gauli Glacier and the Gauli hut, the most direct route being over the Dossenhorn and the Wetterlimmi. To reach the Gaulihütte from Innertkirchen involves a long walk up the Urbachthal, but it is the nearest point from which supplies can be obtained, for were they taken from either the new inn at Gleckstein, the Baths of Rosenlauri, or the Grimsel Hospice they would have to be carried over one of such glacier passes as the Rosenegg, the Wetterlimmi, the Hühnerthäli, or the Gauli. The Gaulihütte was formerly well provisioned, but in 1905, when I paid two visits to the hut, I found condensed milk the only thing obtainable; but there is always fuel to be had in the hut, which is a great convenience to travellers coming over any of the passes. I first visited this district (apart from ascents of the Hasle Jungfrau) in 1886 with my old friend Mr. Coolidge, but it was not until the year 1897 that I began systematically to make expeditions in this part of the Bernese chain, which I have continued with the interval of but two or three seasons until July 1905, culminating with the first ascent of the Brandlammhorn from the Bächli Glacier. Undoubtedly the finest expedition in this district is that of the Hühnerstock, of which Mr. Coolidge and myself

made the first ascent on September 15, 1886, from the Pavilion Dollfuss, and which I described in a short paper in the 'Alpine Journal' (vol. xiii. pp. 309-313). There was some question among foreign climbers as to whether the point we reached was actually the highest one, and Mr. Coolidge, with that painstaking thoroughness which characterises his mountaineering career, ascended (1894) the mountain a second time (an experience I do not envy him, for the mountain is one of the most rotten and toilsome that I ever climbed), and the point is now conceded to us (see Studer, i. p. 510). The Hühnerstock may be ascended either from the Pavillon Dollfuss or the Gaulihütte by way of the Hühnerthäli Pass with equal convenience. Next in point of interest I am inclined to rank the Ritzlihorn, a peak that evaded me for years. It is most conveniently ascended from the Matten Alp, near the foot of the Gauli Glacier. It can also be ascended from Guttannen, in the Haslethal, which was the route taken in 1891 by Mr. Coolidge (on the ascent, for he went down to the Matten Alp), but it is a very long and steep ascent taken that way, and I shuddered when I gazed from its summit at the village of Guttannen in the depths directly below. The peak most frequently ascended from the Gaulihütte is the Ewigschneehorn, why I do not know, except that it is very easy, and can be conveniently taken in conjunction with the Gauli Pass, a much-used pass between the Lauteraar Glacier and the Gauli Glacier; but I consider Ankenbälli a finer mountain and equally easy. Numerous passes lead to the Gaulihütte, perhaps one of the finest combinations being to go from the Baths of Rosenlauri to the Dossenjoch, then over the Dossenhorn and by the Wetterlimmi. Should the traveller wish to start from Grindelwald, then the best route would be to go to the excellent little new inn at Gleckstein (very comfortable and moderate) and cross the Rosenegg, and with it combine the ascent of the Rosenhorn, the third peak of the Wetterhörner, or ascend the Berglistock and cross the Berglijoch to the Gauli Glacier. Instead of crossing the Wetterlimmi the Renfenhorn can easily be taken in combination with the Dossenhorn, and the traveller would arrive at the same point on the Gauli Glacier, where he would leave the ice and join the faint track under the Kammligrat that leads to the Gaulihütte. Another combination which I took last year was, first to ascend Ankenbälli, and then skirting under the buttresses of the Grünbergli and Im Hubel to reach the Hühnerthäli Glacier, and then to make the ascent of the Hühnerthälihorn, the latter a short but very interesting

rock scramble. In this connection I may mention that from the point where the ridge was reached between the Hühnerthäli Glacier and the Gruben Glacier, S. of the Hühnerthälihorn, a very convenient snow-filled gully leads direct to the Gruben Glacier and so down to Handeck without (apparently) any difficulty. We could not take it, for we were obliged to return to the hut, where we had left our baggage, and descended to Innertkirchen that night (being driven down by lack of provisions); but had it been otherwise we could have reached Handeck with infinitely less fatigue and hours earlier. The Hangendgletscherhorn is the most direct ascent from the Gaulihütte, and is made by the Hangend Glacier, keeping under the N.E. slope of the Kammligrat; being quite free from difficulty, and not very lengthy, it could be taken on a half fine day, when more important expeditions were impracticable. The precipices on the N. of this peak and the view down the Urbachthal are very fine. The Hubelhorn is worth ascending for the wonderful view one gets of the ridge leading to the Hühnerstock, and the Hühnerthäligrat is a convenient pass for reaching the Pavillon Dollfuss and the Grimsel Hospice, but in doubtful weather and in point of time the Gruben Pass (the route to which passes under the N. face of the Hühnerthälihorn and then crosses the Grubengrat between the ridge of the Hühnerthälihorn and the S. Golegg-horn to the Gruben Glacier, and so down to Handeck by the Aerenalp), is the easier. There are few more desolate and unvisited valleys in the Oberland than the Bächlithal. It is best reached from the Grimsel Hospice by crossing the bridge below Nollen leading to the old mule track which was used before the Grimsel road was made, and following the old track for about half an hour; then taking a very steep and faint sheep track one reaches a small tarn under the Geisshöhle, and bearing always to the left high above the Bächlisbach the entrance to the valley is gained. It is then necessary to descend slightly to a plain at the termination of the Bächli Glacier, and so one arrives at the glacier itself. From this valley the Bächlistock and the Brandlammhorn can be ascended and crossed to the Unteraar Glacier. I made the first ascent of the Brandlammhorn from the Bächlithal in July 1905, and crossed the Bächlistock, both very interesting expeditions. The Brunberg can also be taken from this valley, and I should think (judging from what I saw from the top) that the Aelplstock could also be reached, but it is easier to make the ascent of that peak direct from Handeck by the Schafälpli, as I did, when making the first ascent in July 1905.

A pass (the Obere Bächlilücke) still remains to be crossed between the Bächlistock and the Gross Diamantstock (9,151 m.), which would connect the head of the Bächli Glacier with the head of the Hühnerthäli Glacier, but there is one place on the Bächli Glacier side where it seemed to me that difficulty would be encountered (see 'Climbers' Guide to the Bernese Oberland,' vol. ii. p. 155). Such a pass would make a very direct although not very easy connection between the Grimsel Hospice and the Gaulihütte. Although, with the exception of the Hühnerstock, the ascents referred to in this paper might not be appreciated by the climber of the modern gymnastic school they are well adapted for men like myself, who seek 'mountaineering for the middle-aged' rather than the 'tours de force' of one's younger days, and the expeditions, while not being too lengthy, contain many pieces of interesting work and a certain amount of novelty as well as difficulty.

THE CORDILLERA DE POTOSI.*

By HENRY HOEK, D.Ph.

S. E. Bolivia is an extensive mountain-land, correctly speaking a high-level plateau, that sinks gradually towards the E., intersected by several deeply cut valleys, above which rise groups and chains of fairly important mountains.

Most of these peaks are uninteresting to the Alpine sportsman. Their ascent is tedious and boring, and they belong absolutely to the class known amongst climbers as 'cow mountains.'

Still I look back with pleasure on the ascents I made there, for the clear, dry desert air ensures an almost unlimited view, which although not beautiful in the ordinary sense of the word is yet curious and impressive. Its chief characteristics are the extent of the landscape, the soft outlines and grey-blue colouring of the whole picture, and the absolute lack of all mist in the distance—that tender haze which in our own Alpine views so readily stirs the romantic and sentimental chords of human nature. It was from the highest point of one of these E. Bolivian mountain groups, the summit of the Cerro Ligui (5,100 metres), that I, for the first time, set eyes on the 'Cordillera de Potosi.' To the N.W., separated from

* November 1903.

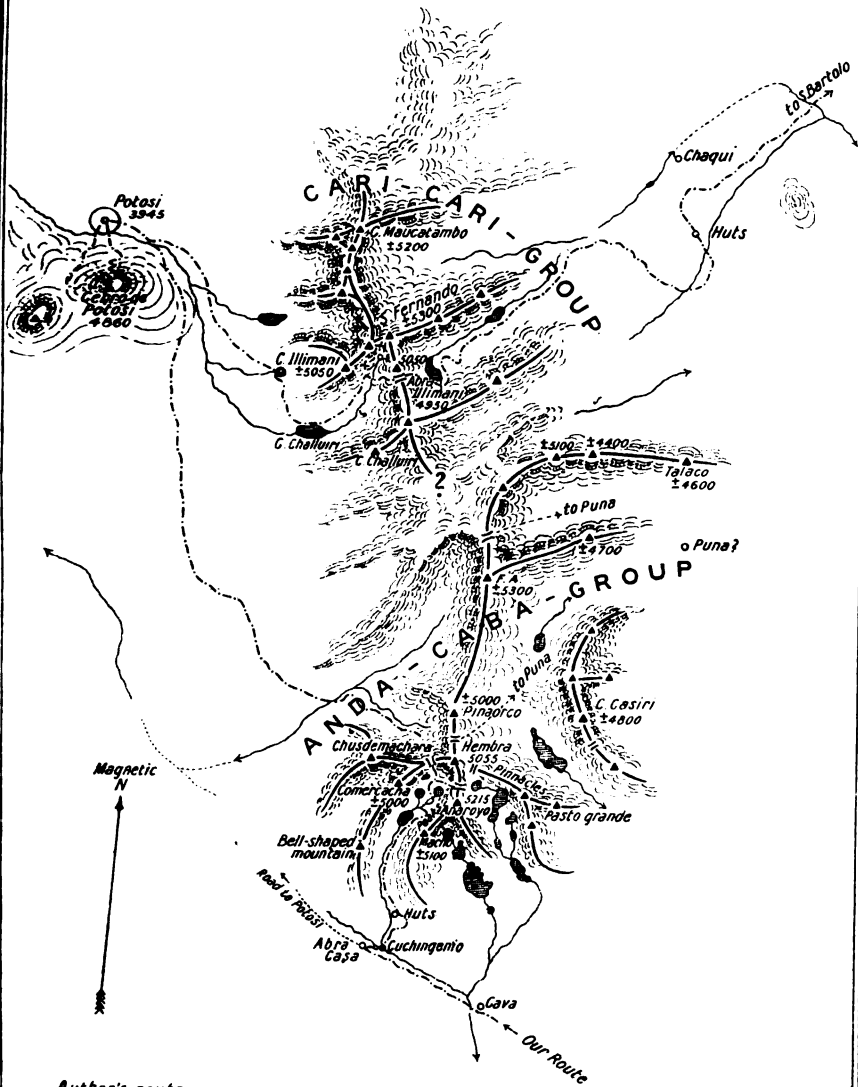
my standing-point by a level *débris* waste, at least 100 kilometres broad, broken only by a few low hills, rose a far-stretching wall of mountains with striking, because individually formed, peaks. I was ignorant as to the name of these mountains—as to whether they even had a name at all: we baptized them later on the ‘Cordillera de Potosi.’ I did not know if our route would lead past them; I only knew that our goal, ‘Potosi,’ the Silver Kingdom, lay somewhere to the N.W., and yet I could not help speculating on the possibility of gaining a glimpse from one of those summits into an unknown and, on the majority of maps, unmarked mountain world.

During the night following our ascent of the Cerro Ligui, Steinmann and I reached our third companion, with the baggage caravan, and for two days we continued our way towards Potosi, always in a N.W. direction. We crossed the great plain, the Pampa of Otavi, upon which I had looked down from the Cerro Ligui, and from every hill that we passed the mountains ahead of us appeared more imposing and varied in character.

Even in our familiar European Alps it is interesting, as you gradually near them, to identify the various details by means of maps, panorama, or literature, until you are quite at home amongst their—at first sight—indeterminate mass. In a strange land this is a most fascinating occupation, often monopolising the traveller’s whole attention. I cannot relate more of the long ride on the second day than that the road was bad and stony, the distance apparently endless, the sun hot, and water very scarce. From the Cerro Ligui I had been able, despite of distance, to specially note several peaks, which I named on my route sketch map according to their shapes, ‘Zuckerhut,’ ‘Klotzberg,’ &c. But, as the first day’s journey took us westwards through a low-lying country with no view ahead, it became a difficult problem on the second day to recognise the various peaks and to decide as to ‘which was which.’ One feature struck us about these mountains that was opposed to anything we had so far seen amongst other mountains of S.E. Bolivia: that was a massive bastion-like heap encircling the whole base of the group as far as we could see, an enormous mass of *débris* out of which rose naked, steep, and isolated rock-peaks. As we neared the mountains in the evening the day’s speculations proved a certainty; before us lay the traces of ancient glaciers. The *débris* masses were moraines, which had been discharged out of every valley or formed into a half-circle in

SKETCH MAP OF THE CORDILLERA DE POTOSI

*Reduced from Dr Hoek's Sketch Map
on a scale of 1: 185 170.*



front of it. This fact decided our plans. Come what might we must force a way into these mountains in order to gain a closer insight into the remains of this S. American ice period. Fortune favoured us. Late in the evening of November 18, 1903, we struck a larger road at the S. end of the group, leading for some 32 miles round the mountains to Potosi. We learned that this road had been made for the purpose of transporting ore from a silver mine to the city, and further, that the mine itself lay only about 14 kilometres distant up in the mountains and was attainable by a good path.

This information was sufficient. We at once put up the tent and passed the night at the cross-roads. Early next morning we sent on the 'tropa' with two of our servants to Potosi, while we three, with only one pack mule, rode up towards the mine, whence we intended to strike straight across the mountains and so reach Potosi later on.

In order to understand our route, I must ask the reader to look at the sketch map of the Cordillera de Potosi. By giving himself this slight trouble he will save me a great one and many words of description, which could never convey so clear an impression as the pictorial one, be the latter ever so imperfect. At the time we started to explore the mountains we had not the advantage of this map; in fact, it is the result of our journey. Since we had splendid weather, both in the S. half of the group, the Andacaba valley, as also later in the N., the Cari-cari valley, I can safely affirm that the relative positions of the peaks and general trend of the valleys through which our route led are correctly marked. The rest is, of course, merely sketchy. The names are given on the authority of a native Indian, and are probably local ones due to the various Indian settlers.

Only the names 'Hembra de Andacaba,' 'Macho de Andacaba,' and, in the N. part, 'Cerro S. Fernando' have been assigned to the striking peaks in the vicinity of the mines Andacaba and Illimani by the Bolivian engineers there employed. In conclusion I will only remark that on Engineer Germann's map E. of Potosi is marked a high group of mountains with everlasting snow and glaciers in the place of our 'Cordillera de Potosi.' Like so much of the Germann map this is pure imagination. On the highest summits of the group small patches of snow do remain, but a regular snow-covering is out of the question.

The group as a whole has a lengthened, elliptical form, the greater length being from N. to S. The central axis bears the highest summits. From it branch out side-ridges with

secondary elevations. At the S. end the main range divides into two nearly equally important branches. Between these lies a large valley, in the background of which is situated the Andacaba mine.

At the foot of the mountains, near the entrance to this valley, at a height of 700 metres, we passed a cold, uncomfortable night. The wind whistled through the valley, blowing dust and dry refuse into every crevice of our tent, and by morning our sleeping-sacks were covered with a grey powder, and the fine sand-dust grated between the teeth. Washing was, as usual, next to an impossibility.

It is a curious experience, this nomad tent-life on long travels in a wild country. For the first week the free life appears ideal and splendid. It is the idealisation of the joys of living in an Alpine hut, of the pleasures of emancipation from the constraints of civilisation. But hardly has that first week run out ere one begins to discover that cork mattresses and sleeping-sacks for continual use form a hard bed. The lack of water for toilette purposes makes itself disagreeably felt; the mutton roasted on the jack seems daily to become tougher, the preserved butter more rancid; the poetry of the free life daily dwindles in importance as an object worthy of attainment. In a word—one would not object for a change to return once more to the despised luxury of European culture. This phase of mind is, I believe, experienced by every traveller, and it varies in intensity according to the length of the journey that lies before him. The duration of this 'traveller's spleen' is naturally an individual matter. One man may not recover from the attack during the whole journey. Such an one had better never have started. Another may throw it off in a few days, and for him then begin all the pleasures of the untrammelled life that he has chosen of his own free-will. He is absolutely indifferent to all minor privations, is content if he have sufficient food and a dry sleeping-place. He, so to say, no longer knows any other life. With the greatest self-independence, in itself the truest happiness, he gives up yearning for those things he cannot have. Then it is real enjoyment to wander free and unfettered through a far country.

Especially beautiful are the quiet, still nights in the desert. When the stars shine like precious stones in the indescribably clear, dry upper air, when the glowing heat of day gives way to the refreshing cool of night, it is a glorious sensation to lie there in the absolute silence of the broad pampa. But there are also other nights, nights when the storm wind tears at

the tent pegs and wildly shakes the canvas, when every fresh squall smothers one in dust and sand, and the cold air penetrates into the sleeping-sack. Then is doubly welcome the short-lived dawn that again brings the all-conquering sun with light, warmth, and movement.

Thus we congratulated ourselves when that cold night was ended. As mentioned above, the 'tropa,' with two servants and a letter from us, was sent by the direct road to the care of the German consul in Potosi. We turned off into the valley opening to the S. The path up to the mine had not been over-praised; for Bolivian ideas it was really first-rate. It was possible to remain the whole time in the saddle, without the least discomfort. I shall not here refer to the traces of glacial action that met us throughout the ride in the form of moraine and débris heaps, rather will I try to give a short description of the scenery.

The Andacaba mine itself, i.e. the miners' and overseers' dwellings, consisting of low stone huts, lies at the foot of the silver-bearing mountain, the 'Hembra de Andacaba,' right at the back of the valley, above a small circular, blue-black hued lake, which is embedded in the mountain cirque, and the view extends far down the valley. It is essentially an Alpine view; on every side are sharp rock-peaks and jagged ridges, but even in the finest weather it lacks the friendly, homely character of the European Alps. Dull colours prevail, no sparkling snowfields greet one from the heights, no murmuring brooks leap down the mountain-side, no flowers are visible to the searching eye, not even a blade of grass. It is an extinct world, dead and cold, interesting and curious, but almost repulsive. To the E. the contours of the valley are not bad. Three rock peaks rise here in a finely rounded sweep; the Hembra de Andacaba, the Cerro Anarogo, and the Macho de Andacaba.

We reached the mine towards 9 A.M. It is all but deserted; only two half-breed 'ingenieros' with sixteen workmen live there. These two gentlemen did all that lay in their power for us. The 'office' was cleared out and we spread out our sleeping-sacks on the floor; then we strolled out to have a look round.

A few small snow patches cling here and there to the steep, rocky mountain-sides. Great shale heaps reach down to the quiet lake. Not a breath of air is moving; the sky above is cloudless; at the same time it is very cold, 0° C.

As we are at a height of 4,700 metres and the highest summit is not more than 500 metres above us, Steinmann

and I immediately plan to ascend the Hembra de Andacaba, which must afford a very good view into the whole group. Neither of the two 'ingenieros' can tell us whether this is actually the highest of the surrounding peaks. They only know that it has been ascended by Indians, who even built a cairn on the top. They cannot say if any of the other peaks have been climbed, but think it doubtful.

In spite of the somewhat late hour we did not hesitate to make a start, for, apart from the slight difference in height, the Hembra de Andacaba bears towards the mine much the same relation as the Sulzfluh does to the Tilisunna hut. And a sudden change in the weather, which at such a height might prove dangerous, was in all human reckoning not to be feared at this dry season of the year.

Together with our third companion, Baron von Bistram, we turned first eastwards towards the level pass between Anarogo and Hembra. Bistram was soon obliged to return, being more affected by the high air than we were. After an hour's going over steep, shale-covered slopes we stood on the pass. Our way lay plain before us, a simple easy ridge-climb. In another two hours we had conquered this bit. It offers little attraction, requiring only sure-footedness and a fairly good head. Only at the last came some twenty minutes of genuine, if easy, climbing, which at a height of over 5,000 metres is naturally more exhausting than ordinary straight going.

It was a glorious day when we stood on the summit of Hembra. Not a cloud obscured the sun's rays, and it was so absolutely wind-still that the low temperature in no way affected us, and we were able to carry out our observations without any hindrance. Our first aim was to sketch in on the map the nearest features of the group and to determine the position of the various peaks and many little lakes by means of bearings.

Curious enough are the surroundings of the Hembra. Broad, typical glacial valleys with steep sides lie between the mountains. In their beds lie numbers of small lakes, often queerly formed, silent witnesses to the conditions of the diluvial period. Bare, naked rock peaks rise above these stony, desert valleys. Their shape is often fine, their outlines imposing, yet, in this dismal brown setting, they have nothing in common with the fascinating picture of overwhelming power that impresses one amongst the rock peaks of the Alps.

To the S. and E. of the Andacaba group lies the 'pampa,'

the high-level plateau. In the hill-like, only slightly steep mountains, that rise like waves out of a petrified sea, the feeble erosive power of a dry climate has cut but slight furrows. All traces of weathering lie on the slopes. The result is a series of broad, V-formed, almost exactly parallel valleys, always with similar angles of escarpment. This system of almost parallel outlines and similar angles is surprising, and at once attracts the attention as a thoroughly typical feature. Far away to the S. and E. are visible groups of high mountains. One such group is the Cordillera de Liguí, another is the Chorolque group. Forgotten islands in an endless ocean, they awaken the explorer's curiosity, but there is nothing homely about them.

We could not have chosen a better point of view than the Hembra de Andacaba, for the mountain lies right in the heart of the S. half of the Cordillera de Potosi. It is unmistakably surpassed in height by three peaks—first by a steep isolated peak to the N., marked on my map as 'F. A.,' secondly by the 'Macho de Andacaba,' and thirdly by the 'Cerro Anarogo,' which is the highest peak in the vicinity of the mine.

As it was only 3 p.m. when we stood again on the pass between Hembra and Anarogo, the ascent of the latter proved too enticing for me to resist. While Steinmann went down to the mine I climbed leisurely up the W. side of the mountain, crossing it completely, and reached a ridge between Anarogo and the S.-lying Macho. This ridge, composed of great sack-shaped granite boulders, afforded fine climbing on good, firm rock. At 5 p.m. I reached the summit of Anarogo (5,150 metres). In the main the view was similar to that from Hembra, only less extensive to the N. and E. I looked down more steeply into the wide glacier valley between 'Pasto Grande' and Anarogo, as also into the fine 'cirque' between Anarogo and Macho, which was also ornamented by an almost circular lakelet.

After I had exhausted the actual scientific interest of the view (to use a rather inadequate expression) I was overcome by a feeling of absolute loneliness, such as I have never before experienced on any peak, not even in mid-winter, when all Nature is frozen into silence. Day was fast closing in. Everything in the clear distance became gradually merged into an undecided bluish-brown, an extraordinary mauve colour. In this lonely hour, when the very silence seemed audible, I lay there and listened to the far-away murmuring of the hurrying waters of the great European life-stream

echoing in my mind. Many an image of home rose up from the sea of the past; but viewed from an altered stand-point the prospect also alters. I have come to think differently of many things out here, and to think consciously. In the silence, in the far-off solitude, it often seems as if a quiet observer were concealed deep in your innermost being, noting your every thought, and you are conscious of this; and this observer forces his being into the most secret corners of your heart, and so on in an endless succession. Strange melancholy impressions are awakened by the bare dead landscape in whose centre you are absolutely alone with your thoughts.

I reached the mine after dark, to find supper awaiting me—soup with 'aji,' mutton with 'aji,' potatoes with 'aji.' With tea and brandy one manages to wash down the biting stuff. Very soon each sought his couch. That for Bistram was the reverse of a 'thing of joy,' since the recumbent position brought on a well-nigh insupportable attack of mountain sickness.

Before sunrise our servant brought us the hot mathe. The bad maize bread, if flat lumps of half-raw maize flour merit the title, was speedily disposed of, and we saddled up our half-frozen mules. A slight hoar frost covered the hard-frozen ground. We rode down to the little lake, in which was mirrored the Macho de Andacaba, then ascended to the saddle between the Hembra de Andacaba and Cerro Anarogo. A bad track leads over the pass; it brought us into a wide, level valley, sinking gradually to the W., with the striking form of the mountain 'F. A.' in the background to the N.E. Through moraine débris and boulders and scanty bushes of spiky pampas grass we pushed on westwards, as it seemed unendingly, until at last, shortly before midday, the west foot of the mountains was reached. Here too they rose out of vast glacial débris masses. In our valley lay large amphitheatre-shaped terminal moraines; we could count as many as nine concentric walls.

Almost due N., climbing over one moraine mound after the other, our path led to Potosi. The landmark was a broad, flat depression between the outliers of the mountains to the right and the cone-shaped, isolated Cerro de Potosi to the left.

The city of Potosi itself was first visible after we had crossed the pass. Half an hour later we were picking our way through the ruins of the outer city to the centre, the Plaza, forcing our mules up the steep alleys over break-neck cobbles, and obliged, to our annoyance, to make constant halts,

owing to the flocks of llamas that lay about on all sides. The llamas are one of the characteristic features of the famous old silver city; the second is its mountain, the Cerro. As a third it might well add a drunken Indian to its coat of arms. All three can be seen in every street, the Indian on the ground, the llama with inquisitive uplifted head, the Cerro's regular shape rising high above in the air.

The Cerro de Potosi is in many ways an interesting mountain, celebrated for the enormous masses of silver it contained, with which the old Spanish silver fleets were laden; to-day one can count some four thousand mining shafts in its bare sides. With its fabulous riches, 'una riqueza fabulosa,' it dominated the thoughts of the inhabitants in the former mighty city, which at its zenith had a population of two hundred thousand. To-day the silver is almost exhausted, the prosperity of the city a thing of the past; but still do the thoughts of the natives turn to the mountain and its treasure, and it is hardly a wonder that, almost without exception, nearly every map marks the orographically unimportant 'Cerro' and omits all mention of the mighty 'Cordillera,' at whose foot the city lies.

And yet it is as though one were to cite the Faulhorn near Grindelwald as a mountain and omit the snow-peaks to the E.

This is not the place to describe our stay in the for a third part ruined town, our reception by our hospitable compatriots, the good hotel, or the landlord's skill in the art of brewing cocktail. *En passant*, on our way to pay necessary ceremonial visits we saw the principal monuments of the city's Spanish period, the church, the mint, and the Plaza, with its arched ornamentation. Hardly was our business finished than the all-dominating Cerro began to work its spell on us: we felt bound to ascend the peak that shone with every metallic hue, the famed Cerro de Potosi. And this is no question of skill. One must beware of the innumerable shafts and holes and steep débris slopes, where the mule can find no footing. For almost to the very summit can the 'climber' remain in the saddle. Only during the final half-hour, above the last, highest shaft, is it necessary for him to exert his own limbs, a necessity that told hardly on me, for I suffered more from mountain sickness on this ascent at a height only of 4,865 metres than I did either before or afterwards at 5,000 and even 6,000 metres. The ascent can easily be made in 4 hrs., and well repays the trouble. For, owing to the isolated position of the mountain on the W. side of the Cordillera de Potosi, it affords the climber a splendid view

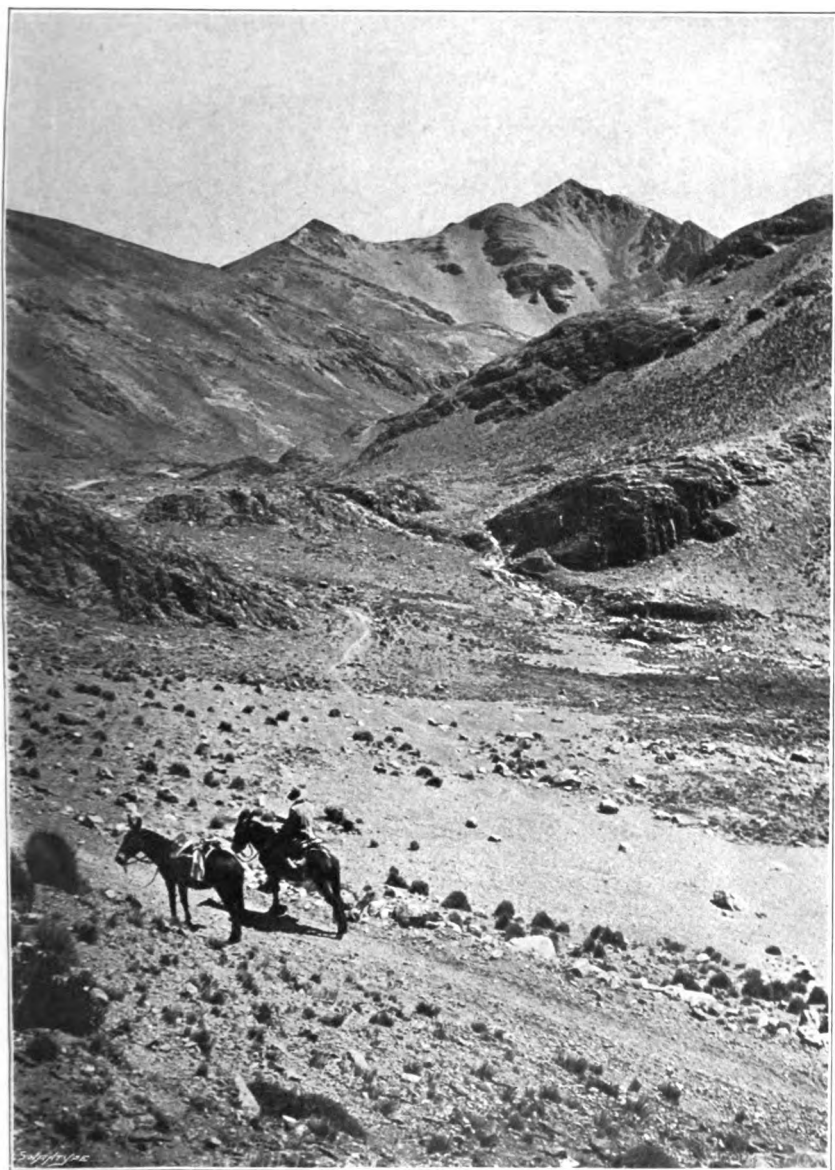
over that group, as well as an insight into the confused topography of the sandstone district W. of Potosi. More than an idea of the numerous features there visible he cannot obtain in a single visit, so great is the distance and the variety. All the clearer is the view of the Cordillera de Potosi; the orographical division between the S. group, Andacaba, and the N. group, Cari-cari, is distinctly marked. The latter name is very appropriate. Literally translated it means 'Man-man'; that is as much as 'die Manneln,' a name so often to be found in the Alps; and as a fact the rocky peaks of the N. group, viewed from here, somewhat resemble a row of sentinel-like rock-giants rising sheer above the moraines and débris, which send their last boulders right down into the eastern streets of Potosi.

We undertook yet another, longer expedition to the W., to the rose-embowered 'baths' of Miraflores. One can easily understand the affection that the few European residents in Potosi feel towards this place if one compares the friendly green of its valley to the stony wastes of the city. A picturesque sandstone ravine leads westwards into a second valley. Light red sandstone mountains throw up the green still further in relief, and the white pillar-like terraces of the hot springs, where are visible the ruins of an 'Inka' bath, give the place a peculiarity of its own.

All too soon were we obliged to return to the thin higher air of Potosi, for our journey was to carry us further to Sucre, the constitutional capital of Bolivia. The first day's march is generally as far as S. Bartolo, N.W. of the Cordillera de Potosi, and a good bridle-path encircles the N. end of the group. Along this path we despatched our entire baggage, tents, &c., to Bartolo, with orders to await our arrival.

Our wishes were centred on gaining a closer insight into the N. half of the mountains and on traversing the Cari-cari group. Unfortunately not a soul in Potosi had ever travelled this way, but we were assured that the distance could not exceed 7 'leguas' (about 38 kilometres), and we confidently started, somewhat late, at about 8 A.M., thinking we had an easy day before us, all the more confident because we knew a small mine, Illimani, lay in the centre of the Cari-cari group, where we intended to make our midday halt.

The first half of the day came quite up to the programme. First came débris and moraine. Behind this part, at the outlet of a valley of the glacial sea, we entered the mountains, and 4 hrs. saw us at the Illimani mine. It was drizzling a little, but not enough to hinder observation. The Cari-cari



H. Hock, photo.

Swan Electric Engraving Co.,

IN THE CARI-CARI GROUP.

group shows all the characteristics of the Andacaba mountains. Only here the rock peaks stand closer together. Especially fine is the Cerro S. Fernando, a regular cone-shaped rock-mass, seemingly the highest point of the group. From it branch off several ridges, over one of which, the connecting link to the S.E. with the Andacaba group, we must pass to gain the E. side of the mountains.

We could plainly see the depression in the ridge over which we must go, but doubts assailed us as to the possibility of getting the mules up to this point. However we were told at the mine that the route had sometimes been followed by mounted men. So I left my companions without misgivings to their meal, and began the ascent of a round-shaped elevation immediately N. of the pass. I reached the summit in 2 hrs. over easy terraced rocks, and stood at a height of 5,050 metres. Luck was with me; the weather improved and permitted me to make a fairly complete sketch of the Cari-cari group. Towards 2 o'clock our party reunited on the top of the 'Abra Illimani.' Two of the mules showed symptoms of severe mountain sickness, and were only dragged up with great difficulty, increased by the fact that Herr von Bistram was also unwell. We at once began the descent on the eastern side. Our way led through a long, ancient glacier valley, as typical in formation as any I have seen in Norway. Small hollowed-out lakes with characteristic sills, steep twists in the valley, broad round holes (mills), scratched and polished rocks—every proof of undeniable ice-work was visible to prevent any doubts in our minds as to the geological history of the district in the remote past.

Immediately below the first larger lake a second valley debouched from the N.W. into ours, in the background of which rose the magnificent rock-mass, the Cerro Maucatanbo. The left side of the valley shows sharp peaks, with towers and pinnacles; the right side a tamer class of mountain; within the half-circle deep kar-holes are dug out.

At first all this was very interesting; but hour after hour took us down through similar scenery: no vegetation worthy of mention enlivened the picture, and, except for a pair of shy wild geese, not a living thing was to be seen. And the rocky track was of such a degree of badness that riding was impossible; by degrees everything worked together to thoroughly tire us, and we longed for the end of the valley, the Pampa de S. Bartolo, for the day was rapidly drawing to a close. We had long left more than 7 'leguas' behind us, and we hoped to see S. Bartolo somewhere near the end of the valley.

We toiled up the right side-moraine. Soon reaching its top, we could overlook all the ground far to the S. and N. of the mountain-foot. A vast softly inclined plain with thousand upon thousand of great boulders sank away to the E., where it was merged in a level of alternate yellow sand and salt-white patches. Before the various valleys large moraines extended out relatively some distance. Such a moraine lay in front of our valley. The two side-moraines closed up together to form an almost novel dam, enclosing a small round lake hidden carefully away behind the walls. Further S., at the junction between *débris* and plain, lay a small regular cone-shaped mountain, that threw a comical shadow on to the plain in the last rays of sunshine.

A jagged mountain chain, rising dark and threatening against the red evening glow in the E., completed the rather bizarre picture in the background.

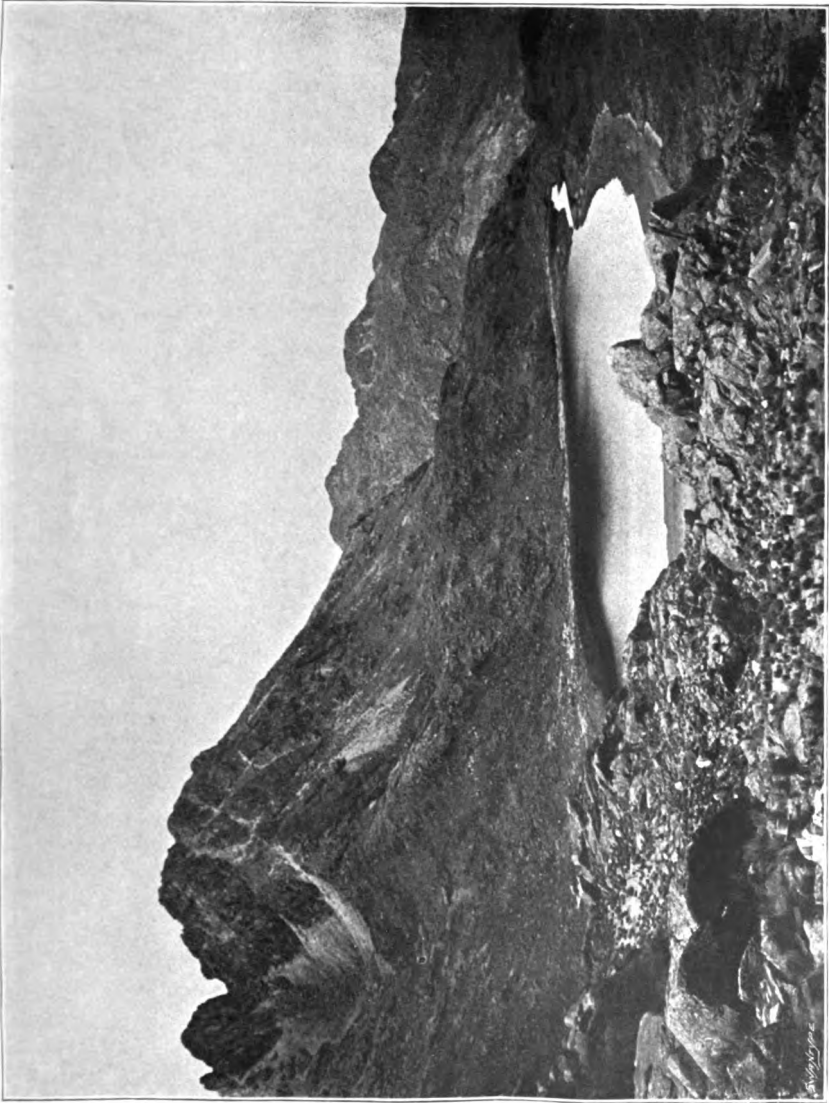
Had we dreamed that only at the foot of those distant peaks lay S. Bartolo we should most certainly have decided on a bivouac. As it was we were heartily thankful to find an Indian's hut. With difficulty we made the owner understand where we wanted to go, and then for hours and hours we dragged along our weary mules by the bridles over dreary stone wastes, through the beds of dried-up torrents, and over many a hill.

But here begins another chapter. The one concerning the Cordillera de Potosi was for the time being at an end. Other scenes and other neighbourhoods occupied our interests. I first remembered these mountains when drawing out the map at home, and keenly regretted not having devoted a short week to the study of that unknown, peaceful, self-contained world. That would have enabled me to give a geographical review instead of this cursory sketch.

ALTITUDE MEASUREMENTS BY MOUNTAINEERS: PRACTICAL
EXPERIENCES WITH THE WATKIN ANEROID.

By WILLIAM HUNTER WORKMAN, M.A., M.D., F.R.G.S.

AMONG the various mountain chains of the world the Himalayan, now comparatively little known, is likely to come more and more into favour with mountaineers, not only because it offers a more elevated and hence more attractive field for climbing endeavour than can elsewhere be found, but also because interesting problems connected with great altitudes can thus alone be solved.



H. Hoek, photo

GLACIAL LAKE, CARI - CARI GROUP.

Swan Electric Engraving Co.,

The mountaineer of the future will undoubtedly add scientific training to his knowledge of mountain technicalities, and will be able to make investigations among the higher Himalayan regions which will prove to be of importance both to mountaineering and geographical science.

A condition essential to the value of such investigations is that the altitudes at which they are made should be properly determined. This subject has hitherto received from Himalayan travellers less attention than its importance demands.* Many statements as to altitudes attained have been made, which are wide of the mark, being based on estimates from readings of instruments of imperfect construction or not in condition to record pressures correctly; or from readings at the points specified only, without regard to other conditions essential to proper determination.

In the interest of science and of a spirit of fair play towards those who are labouring in the same field, where every extra hundred feet of altitude is gained at the expense of strenuous effort, one cannot be too careful to use every available means to fix the altitudes reached as correctly as possible.

To do this with an approximation to exactness with the means at the command of the mountaineer is, in many parts of the Himalaya, a difficult matter. Leaving the theodolite out of account, as unsuited to his use, he has to rely on the mercurial barometer, the hypsometer, or the aneroid, the readings of which can only give reliable results when compared with readings of similar instruments taken at the same time, or nearly the same time, at a convenient lower station, the height of which has been fixed. Such stations are rare in the Himalaya, and until more extensive scientific surveys have been made, aside from the peaks already fixed by the Indian Survey, the altitude of many others which may be attempted will have to be estimated by single readings uncomparated with readings at a lower measured station, which estimates can, of course, only approximately represent the true altitudes.

Single readings of reliable instruments at different times at the same point may indicate for it altitudes differing from one another by 1,500 ft. or more, according as the pressure may be high or low. The highest of 252 consecutive readings

* It should be pointed out that this subject has been treated of from time to time by members of the Club, notably by such well known authorities as the late Mr. William Mathews and Mr. Edward Whympere.—EDITOR A. J.

of the Government mercurial barometer at Skardo, taken for me during the summer of 1903, indicated for it, without comparison with readings at any lower station, an altitude of 7,268 ft., the lowest an altitude of 8,088 ft., a difference of 820 ft. Hence it is easy to see how, in the absence of a lower station, inaccuracies in estimating Himalayan heights may arise.

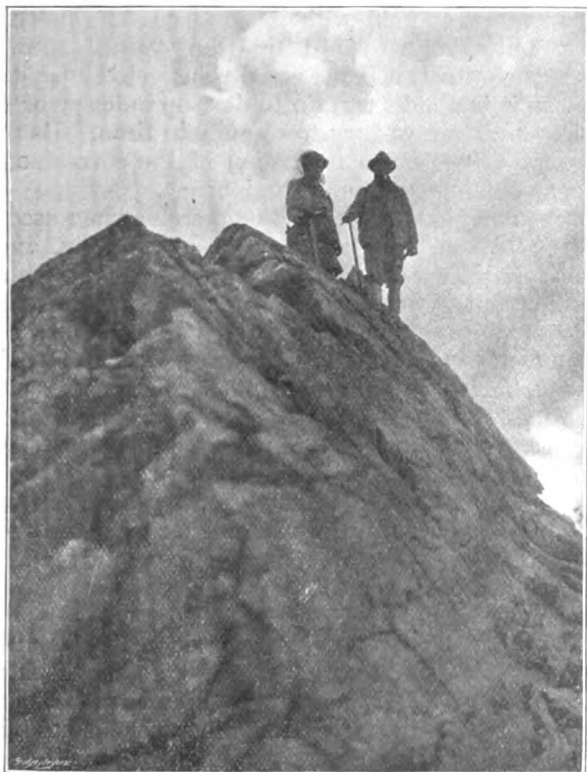
One person reaches a given high point at a time when the atmospheric pressure is low, and from the reading of his aneroid or hypsometer estimates its altitude at 20,000 ft. Another visits the same point when the pressure is high and estimates it at 18,500 ft. Neither gets the true altitude, which lies somewhere between the two estimates, but probably does not coincide with their average.

As regards the three instruments above mentioned, certain disadvantages possessed by each, which limit their field of usefulness, must be borne in mind. From the nature of its construction and its fragility the mercurial barometer is not adapted to the exigencies of mountain exploration. It is cumbersome and easily broken. Its more portable forms have not been brought to such perfection as to ensure the degree of accuracy, combined with simplicity of manipulation, which commends it to mountaineers in the trying circumstances in which they often find themselves. They are, therefore, forced to discard the mercurial barometer in favour of the hypsometer and aneroid, which possess the great advantage of portability.

The value of the hypsometer depends on the correct scaling of its thermometers. If these have been tested and found accurate, or their errors determined, there seems no reason why the hypsometer should not be as reliable as the mercurial barometer. It can be used at all camps and on mountains where there is no wind, or where shelter from the wind can be obtained. It cannot readily be used at points exposed to strong wind or deeply covered with soft snow, or where the nature of the ground is such as to afford no convenient resting-place, as on a sharp slope. Neither could any form of mercurial barometer well be employed under such conditions. With these exceptions the hypsometer is always ready for use without any tedious and often impossible manipulation, such as is necessary to the employment of the George barometer. Either absolute alcohol or rectified spirit should be used, especially at great altitudes, to ensure ready ignition and sufficient heat to boil the water quickly.

The aneroid, depending as it does on an exceedingly

delicate mechanism, considerably more sensitive to jars than that of a watch, can scarcely be called, or expected to be, an instrument of precision under the conditions in which it is used by the explorer or the mountaineer. While a good aneroid, when at rest, will perform its work perhaps as well as a mercurial barometer, when carried about and subjected to the motion and jarring which it must receive on an expedition,



ON THE SUMMIT OF MOUNT RACHEL (BASHA VALLEY), 17,600 FT.*

it will develop index errors which render its readings unreliable. It makes no difference whether the jarring occurs at sea-level or at high altitudes ; the result is the same in either case.

* Summit of Mount Rachel, 17,600 ft., Basha Valley. A knife edge, falls 1,500 ft. sheer on one side, and at one end only can the aneroid be used, and that only by a person entirely free from giddiness.—W. H. W.

These index errors, in my experience, do not remain constant, but vary according to the kind and degree of motion brought to bear on the aneroid. They may be positive or negative, or may change from one to the other. I have seen them developed to more than an inch by rather severe jars, such as those caused by step-cutting, a jump, or a fall. A jar, which a pocket watch will stand with impunity, may suffice to permanently deflect the index of an aneroid.

Comparing an aneroid with a standard barometer before leaving and after return is of little if any value, as, under the rough usage to which it is necessarily subjected during distant expeditions, it is almost certain to develop index errors, which errors are as certain to vary from time to time. Its reading, therefore, on return is no indication of the correctness of its readings at different points of the journey.

In consequence of these errors the aneroid, when used alone, cannot be relied on to measure altitude properly, and is of comparatively little value for this purpose, as various reports of aneroid eccentricities testify.

Employed, however, in connection with a reliable barometer or hypsometer, by which its index errors can at any time be ascertained, it is a useful instrument and may render important and, apparently, quite reliable service where the hypsometer cannot be used. A moderate index error is of no great consequence, if one has the means of determining it. In spite of this an aneroid in good working order, if carefully carried, may register with considerable accuracy the difference of altitude between two points, its reading and the temperature being noted on leaving the lower point and on arrival at the upper one.

One of our Watkin aneroids thus indicated a difference between two fixed points in the Alps of 3,500 ft., the measured difference being 3,509 ft.; again, a difference between two others of 1,875 ft., the measured difference being 1,880 ft. The small discrepancies here shown might be due to inability to read with absolute accuracy, owing to the closeness of the aneroid scale, or to a lack of coincidence in the position of the recording instruments, or to a slight change of atmospheric pressure during the ascent to the upper point.

An error from this last cause would be likely to occur during an ascent requiring several hours, but at great altitudes this might fairly be discarded. The result would be more accurate if, the index errors of the aneroids having been noted, simultaneous readings could be taken with an aneroid or hypsometer at the lower point.

If, therefore, the altitude of a high camp be established by simultaneous readings of the hypsometer at the camp and instruments at a lower fixed station, and an ascent of a peak be made from that camp, in case the hypsometer could not be used at the summit of the peak, it would be legitimate to consider the altitude of the latter as being the height of the camp plus the difference shown by the aneroid readings, especially if its readings on return to camp corresponded to those taken before departure. Still more reliable would be the result obtained by comparing the aneroid readings at the summit, corrected for index errors with simultaneous readings at the camp or lower station.

Under a variety of conditions the aneroid, which can quickly be read anywhere, fulfils a purpose which no other instrument is capable of doing, and, as an adjunct of the hypsometer, is, under proper control, a valuable instrument. Independently of index errors it also serves a most useful purpose in determining changes in the weather. Two or more aneroids should therefore be included in the outfit of the mountain explorer.

On our expeditions among the Baltistan Himalayas in 1902-1908 we carried with us two hypsometers, each with two thermometers, two 3-in. three-circle Watkin aneroids scaled to 24,500 ft., one latest pattern 3-in. Watkin mountain aneroid scaled to 25,500 ft., and a 3-in. Hicks aneroid scaled to 18,000 ft., which naturally played no rôle above the limits of its scale.

The directions given with the Watkin mountain aneroid are to allow 1 min. to elapse after turning it into action and then read, the understanding being that at first its reading will be about $\cdot 1$ in. too high, and that the index will fall in 1 min. to its proper position.

Before putting this instrument to practical use a large number of observations at elevations from sea-level to 5,200 ft. were made to determine the value of the apparatus for throwing it out of and into action—its distinctive feature. All four aneroids were set by a standard barometer, and kept under exactly the same conditions. The readings of the other three were used to check those of the one tested. It was found that, on putting the last out of action for periods varying from 10 min. to 24 hrs., and then restoring it, it showed plus index errors of from $\cdot 3$ to $\cdot 7$ in.

During the first minute the needle fell about $\cdot 1$ in., as the maker stated it should; during the second minute about $\cdot 08$ in., after which its movements became imperceptible to

the unaided eye. Although it continued to fall a period of several hours was required, sometimes 12 to 18, to restore it to accord with the other aneroids. The result in all experiments was invariably the same, the length of time necessary for the index to assume its proper working position varying in general with the time it remained out of action. The aneroid was returned to the maker to be examined, but nothing amiss was discovered. At the present time, after four years of use, and having been recently cleaned and adjusted, it works in exactly the same manner.

As the aneroid was thus shown to be unavailable for immediate reading after being put into action, this feature of it was never used on expeditions, but it was employed, like any other aneroid, with the index always in action, in which condition it worked consistently, and gave about as good satisfaction as the three-circle aneroids, though the latter, having a more open scale, appeared more sensitive to changes of pressure.

During the summer of 1903, while we were delayed by a storm at a snow camp on the Hoh Lumba glacier, at an altitude of 15,000 ft., it was thrown out of action for 25 min. On being restored to action the index showed a plus error of $\cdot 6$ in., which after 50 hrs. still stood at $\cdot 2$ in., the control aneroids having meantime fallen $\cdot 1$. Whether that error was ever reduced to zero our further movements prevented me from ascertaining.

Recently in London, by the kindness of Mr. J. Hicks, the maker, who placed at my disposal a new $4\frac{1}{2}$ -in. Watkin mountain aneroid, I was enabled to make some further observations, of which the following are typical:—Obs. 1: Aneroid put out of action for 5 min. On restoration index showed plus error of $\cdot 11$ in. During first minute it fell $\cdot 02$ in. It returned to normal position in 2 hrs. 45 min. Obs. 2: Out of action 1 hr.; when restored index error was plus $\cdot 15$ in. During first minute index fell $\cdot 04$ in. After 6 hrs. error of $\cdot 04$ in. still existed. Obs. 3: Out of action 12 hrs. When restored index error was $\cdot 16$ in. During first minute index fell $\cdot 03$ in. At the end of 10 hrs. it agreed with that of control aneroid.*

From the above observations it is evident that neither of

* These results do not necessarily imply any lack of skill on the part of the maker, but rather illustrate the extreme difficulty of constructing of metal an instrument that shall work with the desired precision.—W. H. W.

these aneroids could be relied upon to give correct readings immediately after being put into action, and that they would be useless if used in the prescribed manner by mountaineers, who have no time to wait for instruments to adjust themselves. The temporary shut-off index errors not only differ in the two instruments, but they are not constant in the same instrument under different conditions of time and altitude, which would have to be the case if any proper allowance were to be made for error from this cause. The observation at the glacial camp and others of similar nature, together with the fact that that aneroid has always shown a persistent tendency to plus error, lead me to suspect that the use of the shut-off may cause a permanent and accumulating plus error, although I have not been able to investigate this point sufficiently to assert it.

These are experiences with only two Watkin mountain aneroids; but, as these were made by a manufacturer of high reputation, and declared by him to be perfect in construction, and as the second was made four years later than the first, which latter bears a number well into the second hundred of its series, their distinctive feature, presumably, fairly represents the same feature of other similar instruments.

These results throw suspicion on the accuracy of readings taken in this manner with aneroids of this class, and suggest the desirability of further investigation of the working of this arrangement. Every possessor of a Watkin mountain aneroid can satisfy himself of its value, in case of his own instrument, by repeating these observations. A presumptive test can be readily made by setting the marker on the rim accurately with the index, after the aneroid has been a day or more in action turning it out of action for five minutes, and, on restoring it, observing how long a time is required for the index to coincide again with the marker.

On putting the aneroid into action for use I allow 48 hrs. to pass to permit it to adjust itself fully to existing conditions, and then test the index by barometer or hypsometer.

After starting on our expedition to Baltistan in 1902 the four aneroids, which when quiet had read well together, although handled with every care and subjected to the same conditions, so far as possible, developed different index errors, even when there was little change in altitude; and it was seldom that any three of them ever read alike. The extremes of difference sometimes amounted to .5 inch. Altitude did not appear to influence the errors as checked by the

hypsoneter, and the aneroids averaged as well in this respect at 19,000 ft. and above as at 5,000 to 8,000 ft.

The two which proved most reliable often agreed in their readings or differed by only .01 or .02 inch. Both of these always showed plus errors above 17,000 ft., except on one occasion, when one of them had a slight minus error.

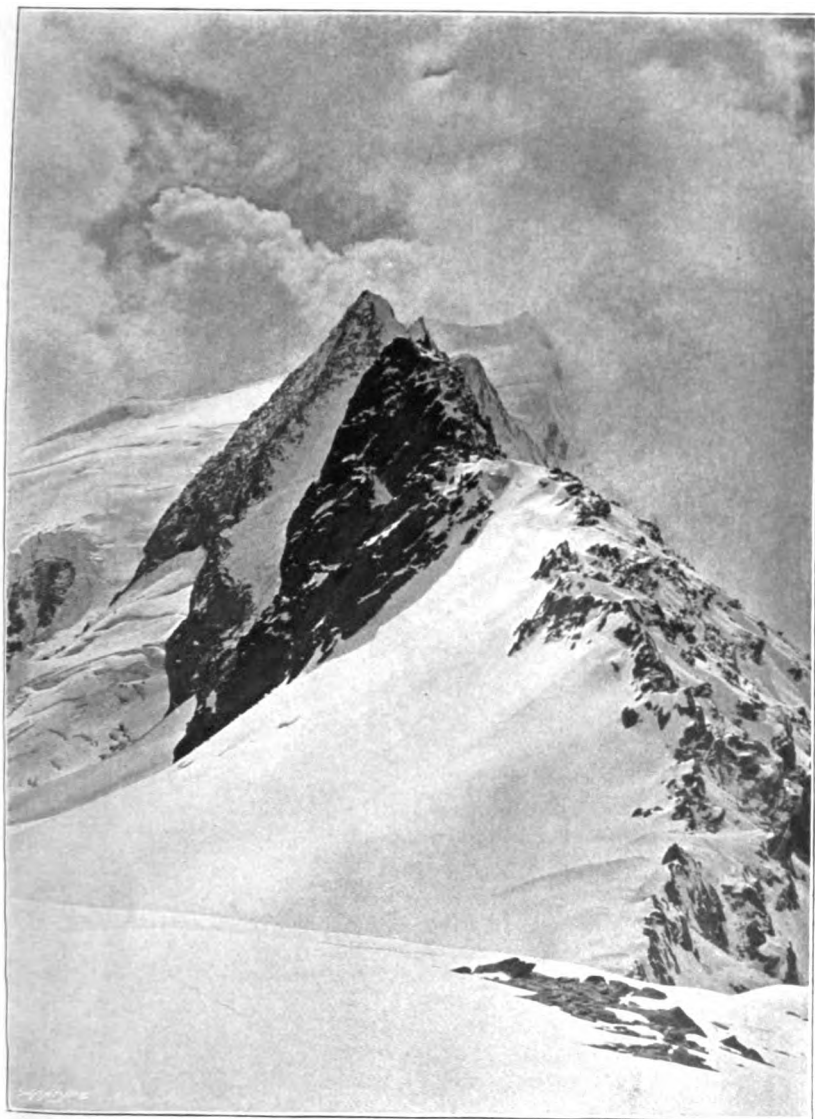
This last circumstance is of interest in connection with Mr. Whympster's observations on the loss of aneroids of an older type as compared with the mercurial barometer under diminished pressure, indicating possibly an improvement in construction.

Further observations with these two and a 3½-in. aneroid scaled to 25,500 ft., recently made for us, all of which when set and tested in the laboratory were found to correspond with the standard mercurial barometer throughout their whole range, showed a disagreement in the readings of all three after being carefully taken in a hand satchel at sea-level a few hours' journey from London. These facts, together with others of similar nature, lead me to the opinion that motion, if not the chief, is a very important factor in the causation of index errors, whatever may be found to be the effect of diminished pressure on instruments of recent construction.

THE BEICHGRAT.

By THE EDITOR.

EVIL weather drove my friend W. C. Compton and myself, with our guides, Johann Stoller, of Kandersteg, a son-in-law of Compton's favourite guide, Abraham Müller, and Benjamin Pession, a brother of my trusty companion François Pession, of Valtournanche, to Belalp on August 28, 1905. We walked up from Naters on that rare delight last season a really fine morning. All things were at their best except the flowers, which had for the most part gone to sleep to prepare for next year's exhibition, except *Campanula barbata alba*, which would have been the bliss of solitude, but near to so frequented a track was adventuring itself to destruction. Shall I not then receive absolution from my readers when I admit that I plucked its flowers, lest haply they should be conveyed, roots and all, to an untimely sepulchre on the window-sill of some pseudo-philanthist's bedroom, or be exhibited in a purloined soup plate to the languid gaze of a bored *table d'hôte*? The weather, instead of bullying us, laid itself



W. C. Compton. photo.

Swan Electric Engraving Co.,

LONZAHÖRNER FROM BEICH PASS.

out to be complaisant, and nothing seemed to come amiss. Even the bilberries, in widest commonalty spread, were something more than a mere purple patch on the hill-side, to judge by our fingers and lips. We reached our destination early. Fair indeed laughed the morn, but ere night the tempest was abroad again.

The next day was the very reverse of what our fancy had painted it, for in the morning snow lay low on the mountains and there was a layer of it on the wall outside the Belalp Hotel. At first sight you might even have taken that commonplace agglomeration of stones and mortar for the arête of a third-rate mountain. One interview with the guides was no sooner over than it occurred to us that we had forgotten something we wanted to say, or to them that we should like to hear the newest bit of gossip about the weather. Thus we met and parted and met again with an iteration as delightfully irrational as that of Romeo and Juliet. But our meetings were not so satisfying as those of the Veronese lovers. Shaking of heads, shrugging of shoulders, deprecatory spreading of hands, utterances worthy of the Delian or Delphic Apollo were all the consolation we could get. Our devotion to tea and coffee became phenomenal, as novels in their sixpenny superfluity palled upon us. Occasional glimpses of one or other of the Fusshörner in a feathery raiment of snow, which as little concealed their truculence as Omphale's rent sark hid the grim strength of the burly Hercules, told us we were in the Alps. Otherwise we might have been prisoned on any desolate hill-side in Connemara or Carnarvonshire.

But at any rate no possible chance must be lost; therefore on August 30, with considerable misgiving, while the sun was still suffering from a partial eclipse, we started for the Ober Aletsch hut. Before we got to the glacier we passed a herd of cattle, very friendly beasts. They stood in the path and received our patronage stolidly. Then I expounded to Benjamin where his brother François had led us to victory on one of the up till then unclimbed Fusshörner in 1898. I saw afterwards that I had been quite mistaken in my description of our route; but if Benjamin's memory is sufficiently tenacious to remember what I said to him I shall but have enlivened the mountain discussions by Valtour-nanche-firesides this winter.

Lazily we proceeded to the hut, which we had the good fortune to have all to ourselves; and heart-felt were our thanks to the Chaux de Fonds section of the Swiss Alpine

Club for their kindness in providing climbers with so clean and comfortable a shelter. Having deposited our baggage—I did not take so much interest in this process as the others, seeing that I made no pretence of carrying anything except the 'Climbers' Guide to the Oberland,' vol. ii. (which, as a matter of fact, I had left at York)—we strolled up in the direction of the Sattelhorn, as we had thoughts of crossing that peak to the Lötchenlücke on the morrow.

A little later the weather began to show signs of resuming its familiar veil of inky gloom, and we turned in with many forebodings for the morrow. There were plenty of blankets, and I believe we all enjoyed a satisfactory amount of sleep.

At 3 o'clock next morning (August 31) the guides went out to examine the prospect. I followed them. It was a gloomy trio that returned to the hut. To the north the outlook was threatening, and a thick fog was slowly crawling up the glacier between the Fuschhörner and the Belgrat. Whilst it confined itself to creeping in Tennysonian style from pine to pine well and good, but when it trespassed upon the summits where we would be we gave our views upon it with more vehemence than politeness. Our moan thus made, we resumed our slumbers, or at any rate pretended to do so.

At 6 we started, though appearances then were by no means reassuring. We decided to give up the Sattelhorn and try the Beichgrat, with its two points of 10,676 ft. and 10,670 ft., to which the 'Climbers' Guide' attaches the strangely hortatory label 'No Information.' If a word is enough to the wise, surely two words even to poor average climbers must be more than adequate.

We curved round the end of the Thorberg by the point marked 2,617 mètres on the Siegfried map, and then made for the figures 2,798 mètres of the same invaluable atlas. We put on the rope earlier than usual, as there was so much new snow that such a precaution seemed advisable. We eventually reached the figures 2,798 mètres, and then climbed the rocks indicated above them. In an ordinary summer this would have been a distinctly difficult task, but as we found it there was little to complain of. So much snow—of a consistency which inconsistent mortals can but dream of—covered the smooth rock that we walked up without much discomfort, though at first the guides were distinctly distrustful of it. We then traversed, descending slightly to the last of the semicircular band of rocks which lies to the S. of point 3,254 mètres of the Beichgrat. Keeping to the E. of this we mounted for some distance, and then, owing to the

crevassed state of the glacier, we turned westward and, passing the rock-band, went up snow, lying on ice, but perfectly secure, so deep was it and so consistent in texture, to point 3,254 mètres, the last bit of the ascent being over snow-plastered rocks. A few stones were then thrown together on the highest point, and Stoller, for some reason which neither Compton nor I could quite understand, being unable to recommend a descent to the W. towards point 3,252, we retraced our steps—we had gone some little way westwards along the ridge—perhaps two-thirds of the way down the snow which we had mounted. After traversing to the W. we came to the upper edge of the rock cirque before mentioned and descended its W. face by an interesting though short scramble to the glacier below. On these rocks I found *Ranunculus glacialis*, scorched by the frost, and *Chrysanthemum alpinum*, prematurely shrivelled by the same pitiless agency. Then turning northwards we reached the col between the rocky W. ridge of point 3,254 and the beautiful snow point 3,252. Here we lunched, and then walked up 3,252,* taking care to avoid the considerable cornice which in places overhung its northern face. This point is a beautiful snow pyramid, and if it were higher would certainly claim a distinctive name. We called it the 'White Nightcap,' owing to the curve of the actual snow summit as seen from the W. When we reached this little mountain the weather improved, and we had fine views of the sharp eastern point of the Lonzahörner, the first ascent of which I had made in 1884 with Alphonse Payot and Séraphin Henry, not without a good deal of step-cutting in steep ice, a task in which I doubt if Alphonse has a superior. We greatly admired the Löschthaler Breithorn, which kept changing the colour of its scarf of cloud like a beauty unable to fix upon the most absolutely captivating head-gear. The N.W. ridge of the Nesthorn, so lately conquered † by Messrs. Hope and Kirkpatrick, looked most impressive.

We then descended the rest of the arête to the Beich Pass, by snow first and afterwards by rocks. There were many quite enjoyable little excitements in this descent, the more delightful because hitherto the weather had treated us with such scant consideration.

In going down from the pass we did not keep sufficiently to

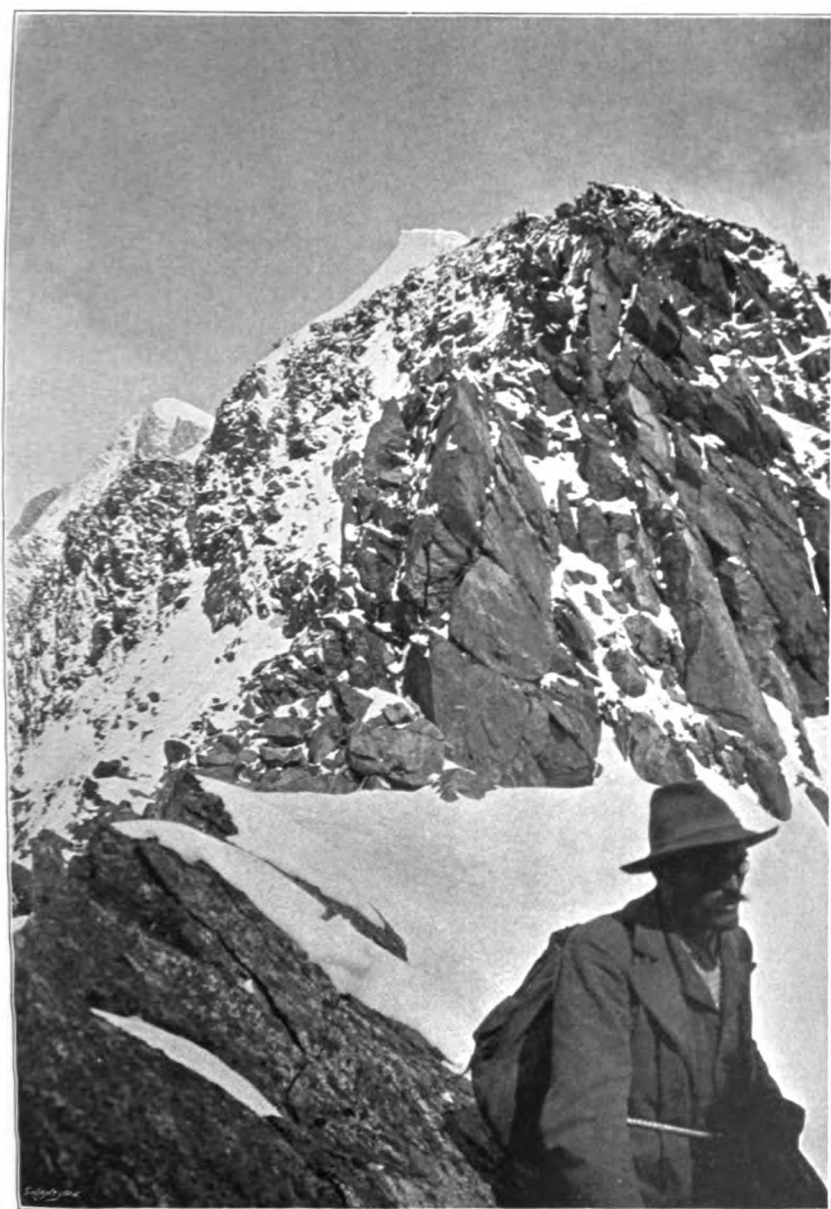
* It seemed to us that the eastern point was considerably more than two mètres higher than the western.

† *Alpine Journal*, vol. xxii. p. 618.

the W. The fault was mine, for I had recollections of descending to the W. of a sort of arête of rocks. Consequently we went straight down by a big snow couloir on the W. of the ridge of rocks immediately to the E. of the pass. When we had descended some way in deep snow Stoller, who was leading, refused to proceed any further, as he said we should have to pass under a hanging glacier, which was very visible to the W. of our track. With his objection we thoroughly agreed, though it was urged that the ridge to the E. of our track would take us safely to the valley; it was, however, decided that we must retrace our steps, make a traverse above the hanging glacier, and then seek a way down on the W. of that threatening obstacle. To some perhaps a monosyllable would have summed up the situation, but the word was not spoken. The snow was nearly up to our knees, but the retrograde movement was duly effected, not in what remained of our footsteps of the descent, but through untouched snow interspersed with a few rocks a little more to the E. These rocks were like the porter in Macbeth to the rest of that play; without them the reascent would have been pure tragedy.

Having passed above the hanging glacier westwards, a descent was made practically straight down to the Lötschenthal. We soon discarded the rope, and going as we pleased—a glissade of some 500 ft. being part of the programme—arrived separately at the stream in the valley. I was the last to reach it, and found the others preparing for afternoon tea, for we carried with us a small tea-kettle with a folding handle—an adjunct to comfort so cheap (it cost a shilling), so light, and so consolatory that we are not likely to forget it in the future. The guides fully appreciated its virtues and had been thoughtful enough to carry with them a few dry sticks. The sparkling water of the stream and the latest left of our store of lemons completed our happiness.

We had a beautiful walk down the valley to Ried. The woods, fresh from the recent rains, were charming; even the pastures had some of them received a pleasing verdure. At one hamlet half a small God's acre was simply ablaze with flowers, many of them annuals. The peasants whom we met had not lost the natural friendly feeling for strangers which still survives in primitive valleys; they all said, 'Good evening.' We reciprocated their kindly wishes. Such hospitable greetings, though they may cost little, are worth much in these days of everything for advertisement and advertisement for everything. The younger women were for



W. C. Compton. photo.

Swan Electric Engraving Co.,

WEST PEAK OF BEICHGRAT (The White 'Nightcap').

FROM COL E. OF BEICH PASS.

the most part comely and wore a headdress—I know not whether it should be called hat or cap—which attracted Benjamin's attention. Stoller was already acquainted with the phenomenon.

But the mountains were the great attraction. Sometimes as we looked back the distant Schienhorn glowed in the sumptuous light of evening. Sometimes a scarf of golden cloud hid the stately Lötschenthaler Breithorn. Anon it half dissolved, showing a blue space of sky above the icy walls and sharp snow-crests. Sometimes a soft, semi-transparent vesture of pale pink wrapped the Breitlauhorn; you lowered your eyes to the pine woods or to the pale purple of the colchicum in the meadow. When you raised them again it had gone. The Lauterbrunnen Breithorn, which, by the way, from the Beich Pass in sunshine might be taken for a massive Duomo of spotless white marble, remained behind a heavy curtain of cloud, as though a great stage effect was preparing. Suddenly the wind raised the curtain and a masterpiece of Nature's theatre claimed our almost breathless admiration.

After hearing from more than one quarter disquieting reports of the inn at Ried, which had been enlarged since my last visit, it is a pleasure to be able to say that we found it clean and comfortable and the prices reasonable. The next morning was lovely, and it was not till about ten o'clock that we left for the Lötschen Pass and Kandersteg. We had a delightful walk. On the outskirts of the pine woods there were many striking single trees—patriarchs among their kind. In places there were acres of *Anemone alpina* in seed. Fancy the sight in spring, when ten thousand of them were raising their open cups in sun-worship! When we had walked some distance, as we were lunching, we were witnesses of a curious hybrid friendship, if I may be allowed the phrase, between a red calf and a black lamb. We watched them with amusement; they were the quaintest pair. When the calf stood still the lamb composed herself to sleep comfortably in his shadow. When he moved on she got up and followed. The bulkin kept well away from the herd, for doubtless the heifers all made fun of him and his ally.

So far the weather had been splendid, and we had had glorious views of the peaks I have previously mentioned, as well as of the tremendous wedge of the Bietschhorn, but when we came to the spot where the waters separate—those for the North Sea to the Kander and those for the Mediterranean to the Lonza—fog came down upon us. There was a considerable quantity of snow about, and we went on,

seeing but very little till we had got a good way down into the Gasternthal. The special flower of this side was *Aconitum Napellus*, the great majority of blooms being of the ordinary blue variety, but one or two of a pinkish mauve tint, such as I had not come across elsewhere. We saw four ptarmigan, and then when we got close to the floor of the valley the mists cleared a little. The cattle had left the high pastures, for it was now September, and it was only when we were in the valley, close to the Kander torrent, that we found a chalet where we could obtain milk and so enjoy tea. The little inn across the stream looked quite inviting, but would have taken a good half-hour to reach. The shades of night were rehearsing the opening line of *Excelsior* as we finished our tea-drinking. I was agreeably surprised at the Gasternthal, as I think was Compton, though he knew the country and I did not.

I expected grim crags, storm-worn slopes, and more or less bare flats, with occasional pastures; but we found instead green meadows and quite imposing forests, though above them there were sheer cliffs almost without a single ledge, with an occasional wreath of dangling water-smoke, and savage battlemented rock-towers, compared with which the famous Château Gaillard of the Lion Heart were hardly more than a toy.

Gradually the light grew less. In one or two places the Kander had amused himself by destroying the pathway. There was no obvious exit from the darkening ravine down which we plodded. We seemed to be shut in as if in a prison. The gruff voice of the Kander seemed to mock us. The pitiless walls and fast gathering gloom seemed to close in upon us. The light went all but out. It was a most impressive walk. But of course we knew that there was a way out, and moreover Stoller had been sent on to his father-in-law's hostelry, the *Hôtel Müller*, to see that supper was ready on our arrival. To be brief, we duly reached the inn. Supper was ready. We had had a day and a half's fine weather, and made good use of such, in 1905, no mean good fortune. We deserved to sleep well, and did so. The *Hôtel Müller* earned our grateful commendation.

I found Kandersteg greatly altered. The water cart has arrived, the electric light is in working order, new hotels and restaurants are well-nigh as plentiful as blackberries. It is a place for Dives, that lived in purple. To be sure if the shortly expected electric railway comes—I say nothing—but may Kandersteg never become the place for Dives in the last phase of his history.



W. C. Compton. photo.

Swan Electric Engraving Co.,

BEICHGRAT AND BREITLAIHORN
FROM LÖTSCHEN PASS PATH (above Klippel).

RUWENZORI.

BY DOUGLAS W. FRESHFIELD.*

LAST summer Mr. Mumm and I undertook a journey to the glaciers of the range which claims to be Ptolemy's 'Mountains of the Moon,' and is known to modern geographers as Ruwenzori. Moritz Inderbinnen, of Zermatt, accompanied us.

From Entebbe, on Lake Victoria, the beautifully situated capital of the Uganda Protectorate, it is an easy fortnight's march or ride to Fort Portal, the British outpost under the low northern spurs of Ruwenzori. Three days more take the traveller to the last village in the Mubuku valley, which offers, as our predecessors had proved, the easiest, if not the only, access from the east to the highest part of the range. Here, to our surprise, we found among the beehive huts a cover of 'Punch' and part of a London weekly illustrated newspaper. They had been left behind by a negro sent out by an English official as a natural history collector. Civilisation advances; our own mail reached us a few miles lower down the valley on our return.

It was early in November when we approached the mountain. The time of our visit, after many inquiries in England from travellers or recent residents in Uganda, had been mainly determined by the printed statement of our most distinguished predecessor that November was likely to be a good month for climbing and exploration. Unfortunately for our plans November proved last year—and I was told locally it generally is—one of the very worst months. It was not till we got to the spot that we ascertained from Mr. Maddock, a mountaineering missionary, from the prime minister of the local potentate, Kasagama, a most helpful and intelligent person, and from numerous natives, that the fine-weather months on the mountain are two—January and July. The plains are then frequently wrapped in haze, but on the heights the air, as a rule, is relatively clear and cold, the streams run low, and the swampy flats are at least partially dried up. You may have bad days, but they are rather the exception than the rule.

We encountered from the first most unfavourable conditions. A torrent our predecessors had all waded without

* The substance of Mr. Freshfield's narrative printed above first appeared as a letter to the Editor of the *Times* on January 13 last.

difficulty was unfordable, and had to be bridged. The 8,000 ft. or 9,000 ft. ascent to the head of the Mubuku valley was an alternation of morasses, brimming over under incessant cloud-bursts, of precipitous mud-slides, and rotten barricades of fallen trees, veiling pitfalls deep enough to swallow a man. The so called 'rock shelters' used by the natives when hunting in the dry season were now no better than dripping wells. From morning to night, with too brief intervals, chilly blasts drove the teeming mists up the deep trench between the dark mountain walls, blotting out everything 50 yards off. The universal moisture invaded our tents, it permeated our clothes and bones, and the only exercise possible was wading.

The highest rock shelter in use, Bujongolo, is $1\frac{1}{2}$ hr. below the end of the glacier. Here, for the sake of our carriers, we camped. On the first break in the mists we set forth on a reconnaissance. The head of the Mubuku valley is a flat-bottomed basin, hemmed in on all sides by black cliffs, stained gold above by mosses, draped lower down in the uncanny vegetation excellently described and drawn by Sir Harry Johnston, and recently botanically investigated by Mr. Mawe.* A considerable expanse of glacier is visible on the sky line in front, spreading out its skirts broadly on the top of the cliffs to the traveller's left, but on his right letting fall a long fold down a cleft or hollow, to within about 500 ft. of the floor of the valley. As at Rosenlauri, but on a smaller scale, a broken icefall is contained between steep rocks. It was probably the appearance of this icefall that induced Mrs. Fisher, the plucky missionary lady who accompanied her husband thus far, to hazard an assertion, which has been recently quoted as authoritative, that the highest summits of Ruwenzori will prove inaccessible. I venture to think that it will not be very long before this prophecy goes the way of many others, made on better grounds, of a similar character. At any rate, this has been the 'sticking-point' of most of the adventurers who have approached Ruwenzori. What actually stopped them was a rock-face, calling for the use of a rope. My companions, who pushed on hoping to make smooth a track for use in our final assault, very soon mastered this obstacle. Above it, however, they were compelled to take to the glacier. In about an hour, after some step-cutting along narrow ridges, which might well prove alarming, or even dangerous, to novices in icework, they found themselves on the verge

* See *Journal of the African Society*, No. 18, January 1906.

of the uncrevassed upper slopes, which lead to the gap S. of the highest peak. From distant views we obtained and photographed there is, I feel confident, likely to be little difficulty for practised climbers above this point. But, having regard to the risk that may be run in the icefall by persons unused to glaciers, I have recommended local explorers to prefer a more circuitous route indicated by some of our predecessors, and to endeavour to reach the snow on the top of the cliffs to the left. In this direction one traveller, Mr. Moore, believes himself to have gained the watershed at a height of about 14,900 ft.

My companions stopped when fog again fell on them at a height of 14,500 ft. Their object was entirely a practical one; they had no thought of 'breaking a record.' The motive indicated in this singular phrase is, indeed, hardly recognised among us elder mountaineers. Our battles have been with the mountains, and few of us have ever been at the pains to endeavour to disguise defeat, either to ourselves or others, by claiming minute advantages over less fortunate or less persevering competitors.*

The opportunity, however, to utilise this reconnaissance never came. Fortune did not give us a chance. Moritz's step-cutting was thrown away. To be overtaken by storm on the well known snowfields of Mont Blanc or Monte Rosa is, as has been too often proved, perilous; to venture in fog upon those of an unknown mountain would have been in the highest degree foolhardy. Our foul weather continued, and 24 hrs. after our retreat to the lower valley its torrent came down in a spate which showed that had we waited longer we might have fared worse.

Though thus defeated in our principal aim we have learnt enough from the distant views we were, in rare but fortunate glimpses, able to obtain to be in a position to do a good deal towards correcting some of the inaccurate impressions recorded by previous travellers. I must postpone for the present many details as to topography and nomenclature. I will mention only a few of the most salient points. The highest crest is not, as has been supposed, the bold rock peak conspicuous from the upper Mubuku valley, but a snowy summit more to the N. It is depicted from the W. in a fine

* A German traveller, Dr. David, has stated in a letter (*Globus* for 1904, No. 86, p. 62) that he reached 16,000 ft., on a ridge N. of Dr. Stuhlmann's route on the W. side. He gives no details of any kind.

photogravure in Dr. Stuhlmann's book. From Butiti, the second rest-house from Fort Portal on the Kampala road, we had a clear panorama of the entire range. It was easy to recognise the reversed outline of the portion of it figured in the German plate. For reasons I cannot yet set out fully I feel confident that the highest point does not exceed 18,000 ft. It is supported by several bold rock peaks, the gullies of which hold permanent snow. For the southernmost of these the height of 16,757 ft. was obtained by the English members of the Anglo-German Frontier Delimitation Commission.*

In comparing Ruwenzori to the Alps or Caucasus the extent of the snowy range has been monstrously exaggerated. A circle 12 miles in diameter would, I believe, completely cover all its glaciers. A remarkable feature in these glaciers, noticeable to a less extent in the Sikkim Himalaya, is that they discharge no meltings, but waste away under atmospheric influences. A tiny clear rivulet, the issue probably of some fountain beneath the ice, is all that represents the source of the highest tributary of the Nile. Trees grow up to 15,000 ft., and the snow line, in any sense in which the term is used by orographers, is not therefore at 18,000 ft., though I did make a snowball at that level. Through the very heart of the chain there is a native pass which must be over 14,000 ft., and which does not touch snow.

The 'Saddle Peak' indicated in some maps, several miles to the N. of the central group, is an invention, or rather a duplication of the highest peak, which has two tops. If Mr. Mumm succeeds in developing his photographs these matters will be made more clear.

We found the mountain tribe the Bakonjo, who served us as porters, very pleasant people. They carried heavy burdens up the worst paths with amazing skill and alacrity; on the march they were willing, helpful, and intelligent. Fortified by the blankets and food we supplied (provisionment gave us no trouble) they endured the weather without a grumble. On rocks they can climb; snow and ice, of course, are beyond them. The slopes round their villages are industriously cultivated, and we saw many plots on the forest outskirts being cleared for maize fields.

With the frosty splendours of the Alps, Caucasus, or Himalaya the solitary African mountain cannot, as I have said, pretend to vie. But the scenery of Ruwenzori has an

* See *Geographical Journal*, December 1905, p. 620.

extraordinary character of its own. It must impress even those (and perhaps most those) who are familiar with many of the great ranges of Europe and Asia. The landscapes of the foothills, enlivened by banana groves and beehive huts, by clusters of palms and red-blossomed trees; the deep bays at the base of the central range, clothed in a belt of tropical forest over which frowns the serrated crest of the Portal Peaks—scenery of this kind may be seen elsewhere. But the strange and fantastic aspect of the inner glens, with their dark, smooth, gleaming walls and broken battlements and their almost incredibly grotesque vegetation, is, so far as I know, unique. The traveller is tempted to fancy himself wandering among the relics of an earlier world, or under the influence of a Doresque nightmare. The prevailing impression, in our case at least, was one of gloom. Yet when a passing ray of sunshine slanted across the black and gold cliffs and lit up the lichens on the gigantic heaths the effects of colour were superb.

Beautiful also, when the pall upon the mountain lifted sufficiently to reveal beneath it the sunshine of the lower world, were the views out over the broad valley to the east and across the shining levels of Lake Ruisamba to the hills of Ankole, greener Apennines, glowing through the morning hours in aerial colours, more brilliant and translucent even than those of Italy. Lake Ruisamba is often represented on maps as a backwater of Lake Albert Edward. At the time of our visit it was connected with it by a swift, smooth-flowing stream, several miles in length, and second only in breadth and apparent volume to the Victoria Nile. It is strange that in a region so riverless as Uganda such a feature should have been hitherto little noticed.

In conclusion I should like to point out that in this district we are at this moment engaged in a frontier controversy of some importance with the Congo State, arising from the rough and ready way in which the Foreign Office has been accustomed in Africa to take degrees of latitude or longitude for political boundaries. Here Nature herself had provided one in the Semliki River, which, with a little give and take, ought to be able to be made acceptable to both sides. The Belgians owe much to the Uganda Protectorate, and can hardly afford to quarrel with it. Their mails, their officials, their engineers and machinery, their trade caravans of hides and ivory pass to and fro through it from the east coast to the Upper Congo, to which it affords by weeks the shortest route from Europe. I trust that, at any rate,

Ruwenzori, even if it is not, as was lately thought, the highest mountain in Africa, will not be given away as Kilimanjaro has been. To the native chiefs round its base the question is one of more than sentiment. One of them has recently shown his anxiety by tendering to the Uganda Government the house tax for his whole tribe, in the hope that he might thereby establish his claim to be, and remain, a British subject.

HIMALAYAN EXPLORATION.

MR. DOUGLAS FRESHFIELD, in concluding his address to the British Association at Durban in September last, referred to the prospects of Himalayan exploration, and made an important announcement as to communications that had recently passed between Lord Curzon, then Viceroy of India, and himself. It was to the following effect:—

Lord Curzon, acting on his own initiative, had expressed his desire that some further endeavours should be made to explore, and, if possible, to climb, either Kangchenjunga or Mount Everest, and with this end in view had proposed to Mr. Freshfield to act as an intermediary in organising such an attempt and obtaining the sympathy and material support of the Alpine Club, the Geographical Society, and any other scientific bodies likely to be interested. On his own part he promised to recommend to the Indian Government to contribute substantially to the cost of the expedition, and to do his best to get permission from the Nepalese authorities for its sojourn in their territory.

The matter was accordingly brought before the Council of the Royal Geographical Society and our Committee. The Council instructed their President to make further inquiry of the Viceroy as to the exact scope of the proposed expedition before deciding on any action. The Alpine Club Committee promptly requested our President to express their most cordial appreciation of the Viceroy's suggestion, and their willingness to co-operate as far as was in their power. It was agreed that it was too late for anything to be done last summer; but that the Viceroy should be informed that Dr. T. C. Longstaff, who was just starting for the Himalaya for climbing purposes, might be able to make useful practical suggestions. Dr. Longstaff, after an independent excursion in Kumaon, was permitted by the Viceroy to accompany the official party that visited the Kailas. He has not as yet returned to England.

Meantime the resignation of Lord Curzon has delayed any further steps in the matter. To his personal initiative the proposal was doubtless due. It is not every Viceroy of India who is an enthusiastic geographer, and we know as yet nothing of what his successor's views may be. We have good grounds, however, for hope. Lord Minto has long been a member of the Alpine Club. There is, moreover, a growing interest among the Survey officers in India in mountain work, and we trust that after due deliberation a joint and competent party of surveyors and mountaineers may be organised to explore the environs of the highest mountain of the world, and to climb as far as possible towards its summit. That the summit should be reached in a first attempt is, of course, highly improbable. The degree of success attained will, we believe, largely depend on the presence in the party of Major Bruce or an officer like him, with a little band of trained and properly shod Gurkhas under his command.

THE DISASTER ON KANGCHENJUNGA.

IN our last number we were only able briefly to record the disaster in which one of the three Swiss members of a party that started last summer to attempt Kangchenjunga lost his life, together with three coolies.* The party consisted of three Swiss, Dr. Jacot-Guillarmod, M. Reymond, and Lieutenant Pache. They put themselves under the leadership of an Englishman, writing over the signature Alliston Crowley, and described by the 'Daily Mail' as its 'Special Commissioner.' He had been one of the companions of Dr. Jacot-Guillarmod in a cosmopolitan company that visited the Karakoram in 1892. Crowley, to whom the commissariat arrangements had been entrusted, added to the party an Italian hotel-keeper from Darjiling, named De Righi. The expedition proceeded by the Singalila ridge and the Chumbab La to the Yalung valley, and having marched up the glacier at its head attacked the great curtain of icy slopes which falls from the base of the cliffs of the S.W. face of Kangchenjunga. They succeeded in establishing a camp at 6,200 m. (20,343 ft.), and some of them, according to Dr. Jacot-Guillarmod, climbed 1,000 ft. higher. Crowley's account of the disaster which, on September 1, put a stop to the expedition has been widely circulated in this country in the 'Daily Mail' and in India in the 'Pioneer.' It is strongly objected to by the remaining European members of the party, and in justice to them we think it right to reproduce in an abbreviated form a portion of the narrative published by Dr. Jacot-Guillarmod in the 'Gazette de Lausanne' (November 11, 1905). The party, at least

* One coolie had previously perished by a fall on treacherous snow.

all its European members, were assembled in the middle of the day, on September 1, at the highest camp. In the afternoon Dr. Guillardmod, Lieutenant Pache, and De Righi, with three natives, started to descend the glacier to a lower camp, leaving Crowley and Reymond at the higher. Crowley states that he warned them of the danger they were incurring in descending so late in the day with a large party. While *traversing* a snow-slope the two coolies who were in the middle slipped, dragging with them Pache and the third native, who were behind, and the Doctor and De Righi, who were in front. The two last-named escaped with a severe shaking. Their four companions, Pache and the three natives, were buried in the snow brought down by the fall. The cries of the survivors soon summoned Reymond, who found apparently no difficulty in descending alone from the upper camp. Crowley, however, by his own avowal, remained in the tent in bed, drinking tea, and on the same evening wrote a long letter, printed in the 'Pioneer' of September 11, from which the following sentences are culled: '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 the 15th, 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. They were not found until 3 days later (after Crowley had left the party), buried under 10 ft. of snow.

Into the internal dissensions of the travellers, discussed at lamentable length in the newspaper correspondence, we must decline to enter. In the conditions described, and with for a leader a man capable of writing the extraordinary letters printed in the 'Pioneer,' trouble in camp and disaster on the mountain were to be looked for. We will only add for the sake of foreign members and readers who have not seen these letters that the 'Special Commissioner' of the 'Daily Mail' has never had any connection with the Alpine Club. To those who have seen the letters in question this statement will be altogether superfluous.*

We gladly turn to the topographical results of the expedition, the chief of which is the exploration of the Yalung basin, which lies enclosed between the back of Kabru, the Talung saddle, Kangchenjunga, and the long ridge that connects it with Jannu. Dr. Guillardmod has brought back many photographs, some of which we shall no doubt see in due time. One, of the scene of the accident, has been published in the 'Sphere' (November 18). Meantime he has promised to correct the delineation of the Yalung

* The correspondence can be read in the book of 'Cuttings' kept in the Club rooms.

glacier in Mr. Garwood's map, which Mr. Freshfield has put at his disposal for this purpose. In view of some recent and possible future criticisms Mr. Freshfield asks us to call attention to the statements made in his 'Round Kangchenjunga' with respect to this portion of the map. On p. 210 he points out that he has been reduced for the Yalung basin to 'interpret the probable import of the strange indications (of Rinsing's, the native explorer's, MS. map) by analogy from his treatment of the other glaciers we explored in detail.' On p. 304 Mr. Garwood repeats this statement. On the map itself two marks of interrogation are placed on the Yalung glacier, and in the corner is this note: 'Where ? are placed on the map the topographical material at hand was inadequate.' The spur of Jannu and the buttress of Kangchenjunga mentioned in the correspondence are clearly indicated on the map and in the illustrations in Mr. Freshfield's volume, where the latter is numbered 4 (see plates opposite pp. 122, 158, and 234).

With regard to climbing Kangchenjunga some additional facts have been ascertained. From the highest basin of the Yalung glacier slopes, variously estimated at from 20° to 50°, lead up to the base of the cliffs of Kangchenjunga. These slopes are, it appears, not, in so far as they have been climbed, difficult, but very dangerous for any but properly shod and practised mountaineers. They should not be attempted except by a party whose porters have, and have learnt to use, crampons. They would appear to abut on the base of the cliffs just to the W. of the highest peak of Kangchenjunga, where a broad, sloping shelf runs up close to a singular horseshoe crag.* It is conceivable that a way to the top of Kangchenjunga may be forced in this direction. But in the panorama for which we have to thank Dr. Guillardod the middle slopes are too much foreshortened for it to be easy to judge as to their character, while the upper cliffs, so conspicuous in the views from above Jongri, almost disappear.

In another and more important respect we trust that this disastrous expedition may have results which will, to some extent, compensate for the temporary discredit it has brought upon mountaineering in India. All who are seriously interested in Himalayan exploration must join with us in the hope that the authorities at Calcutta may recognise the expediency of exercising in future the same caution they have, as a rule, exercised in the past before facilitating the entrance of travellers into the native States or territories on the northern frontiers of India.

The Indian Government gave, it will have been noticed, the expedition commanded by the 'Special Commissioner' of the 'Daily Mail' very unusual assistance. Mr. White and Mr. Dover, the local officers in Sikhim, procured coolies for it; permission was even applied for and obtained from the Nepalese authorities for it to enter their territory. The travellers, as was to be expected, had trouble with

* See illustration opposite p. 234 of 'Round Kangchenjunga,' and paper on 'How to Climb Kangchenjunga,' *Alpine Journal*, vol. xxii. No. 164.

the coolies, and then blamed the Government in place of themselves and the nature of coolies. Fortunately they did not penetrate far into Nepal, for we tremble to think what complications might have been produced by a leader who has apparently not only succeeded to the post but also inherited the methods of Mr. Savage Landor.

IN MEMORIAM.

F. D. BROCKLEHURST.

THE year 1905 was a sad one, marked as it was by the loss of several of our well known members, amongst whom was Mr. F. D. Brocklehurst.

Like so many of the older members he was possessed with the spirit of travel, and in the days when Japan was an eastern dream, and the Salt Plains of America a terrible reality, he explored those countries, and completed an Indian tour with a sporting expedition to the Himalaya. It was on the strength of this last named journey that he became a member of the Alpine Club in 1868, though, as he often said, the expedition that looked best on his qualification list was but a long snow trudge.

He was to the end essentially a traveller, visiting nearly every part of the world, and his keen interest in human nature as well as scenery, coupled with a quiet but vivid power of description, made him the most interesting companion at all times.

He was of a sensitive and rather retiring disposition, and seldom talked of what he had done as a climber, but during his repeated visits to the Alps he made many ascents in a great variety of districts.

He was one of those men who, leading a simple life, keep themselves mentally young. He was always happy with younger men, and the charm of his hospitality and conversation, his advice and example, will ever remain fresh in the minds of those who knew him well. At the age of 65 he was still young enough in body also to make the ascent of the Matterhorn.

This is hardly the place to say much of the position he held in his own neighbourhood. He was a delightful host, a just and sympathetic magistrate, a good landlord, and a munificent benefactor to his native town.

C. P.

JOSEPH COLLIER.

*Quis desiderio sit pudor aut modus
Tam cari capitis?*

Who could but grieve for Joseph Collier, taken from us in his prime, the man whom we, his friends, regarded as the type of cheerfulness, of enthusiasm, of overflowing vitality? Even in our grief it is hard to realise that we shall not hear again that pithy counsel, the flow of anecdote and flashes of repartee, or the

cheering voice bidding us follow up on the crags of Scafell or the ridges of Ben Nevis. I have before me as I write a photograph of a group of well known climbers, taken just ten years ago at Fort William: it is a group of men each rather accustomed to holding his own in talking and doing, and yet they all felt themselves pleasantly dominated by the high spirits and the intense *humanity* of Joseph Collier. When the time came for making up the Christmas or Easter party for a week's scrambling was not the first thought with many of us, 'Will Collier come?' His presence on the rope was not so much valued because he was a remarkably skilful cragsman (and I believe that, for a few years, he was one of the two or three most brilliant of English rock-climbers), but because his decision always inspired such confidence. The boldness and rapidity with which he tackled a difficult pitch seemed to rob it of half its terrors; the apparent ease with which he ascended a vertical chimney made it look almost inviting! And his judgment in his own powers was very rarely at fault; very few of his friends can remember a rock-face or chimney which remained intractable when Collier had once said that 'it would go.' 'Collier's Exit' and 'Collier's Climb' on the precipitous face of Scafell bear witness to the boldness, the resource, and the agility of their first climber. I have good reason to remember Collier's power of hold on the overhanging traverse on the face of Moss Ghyll.

A remarkably incisive and dramatic speaker, Collier could describe a climb with such accuracy of detail, with so just an emphasis on what was really difficult, and with such appropriate gesture and play of feature that those who had climbed with him enjoyed nothing more than to listen to the fascinating tale from his lips while they *watched* him balancing on some narrow ledge or feeling the smooth wall for the invisible finger-hold! His acting would make our flesh creep and then leap with the joy of accomplishment. But though he possessed the art of the story-teller and a large share of humour, Collier, like many men of very active life, did not care to put his thoughts on paper. I do not know of any written account of his mountaineering experiences except those written home to his wife in letters which did not aim at literary form. Mrs. Collier has allowed me to see these letters, and with her permission I make one extract from a letter sent from the Caucasus in July 1894, when Collier with Messrs. Solly and Newmarch were preparing for a second attempt on Ushba:—

'Gul Camp, Betsho: July 25, 1894.

'We have made the first ascent of a mountain called Bakhtau; to do this we left our camp early the day before yesterday and took our horses and two men as far as we could up the valley towards the mountain we had seen in the distance. A glacier descended from our mountain by a side valley, so we made for this; but we soon had to send our horses back, as the undergrowth in the forest was too thick and there was not the faintest path of any kind. So we loaded our provisions and sleeping-bags on our backs and

worked away through the dense primeval forest ; and when we at last got through the lower thickets we came upon miles of a perfect garden of all kinds of flowers reaching high above our heads. We had to keep near together, so as not to get lost ! And through all this were rushing many most beautiful streams. At last we got above the flowers to the usual band of rhododendrons which always grow here after a certain height up to the foot of the glaciers. Here we had supper and lay down to sleep. Up at 2 A.M. and tackled the mountain by a route I had chosen from many miles away, first up the glacier and then by steep snow-slopes. We reached the summit at 7 A.M., built a cairn, had breakfast and a most glorious view, left our cards in a sardine tin, and got down safely and swiftly. But we had a terrible time getting through the woods. I got so tired of forcing my way through the dense jungle that at last I took to the river deliberately, and we walked down the last part knee-deep in water. Back to camp at 6 P.M., all tired, as we had been going for almost 16 hrs. . . . A wild-looking messenger has just brought up your letter, and I am lying on the grass writing to you while he waits, standing by his horse, with his rifle on his back and revolver and dagger in his belt. . . .'

Joseph Collier was born at Hyde in 1855, and was educated at the Manchester Grammar School and the Owens College. He did not commence his medical studies until he was 21, but his career as a student was quick and brilliant. He graduated M.B. of the University of London in 1883, being University Scholar with the Gold Medal for Forensic Medicine. In 1884 he graduated as Bachelor of Surgery, winning a University Scholarship and the Gold Medal for Surgery. He became Fellow of the Royal College of Surgeons in 1885. After serving as demonstrator in anatomy at the Owens College under Professor Watson he turned definitely to surgery and acted as house surgeon and then as resident surgical officer at the Manchester Royal Infirmary. At the conclusion of his period of office he started private practice as a surgeon. Work came to him slowly at first, but, as his powers developed, with ever increasing rapidity, so that during the last few years his practice was one of the busiest in Lancashire. For 15 years he was surgeon to the Children's Hospital at Pendlebury. In 1899 he was appointed honorary assistant-surgeon to the Royal Infirmary, and in the following year he became full surgeon. He was lecturer in practical surgery at the Manchester University.

As a teacher he was most successful ; his energy and fervour were stimulating and infectious, while his rapidity and skill roused the enthusiasm of his classes. As an operator I am assured by his colleagues that his rapidity of judgment was no less striking than his quickness of hand. 'He was full of resource in the face of an emergency. He was at his best when he met with some unexpected and serious complication. He seemed to grasp the situation at once, and without hesitation he adopted methods to suit the new conditions.' Again, a near colleague of his has said, 'It was a matter of regret to his friends that he published so little, for he

had plenty of originality and a large and varied experience. This again was a matter of temperament.'

All his life Collier worked and played hard. As a student he was a fine Rugby footballer, playing for Owens College and the Manchester Rangers club. Of late years he took up golf enthusiastically and became captain of the Manchester Golf Club. He cycled and played lawn tennis and Badminton with keenness. He joined the Volunteers, and was captain in the Manchester Company of the Royal Army Medical Corps. Though not robust in appearance his frame was wonderfully strong; but it was his really extraordinary agility that distinguished him most from his fellows. For years I kept unwhitewashed a dark mark on my library ceiling, the mark of Collier's foot: he made it by springing into the air and kicking one foot high over his head. It was a trick he had learnt in the Tyrol.

For fifteen years Collier was an ardent mountaineer. In the Caucasus and Norway his name is known as an explorer, but I think he found his greatest pleasure among the rock pinnacles of the Dolomites. And next to these he always loved the English Lakes and Scotland.

I find it very difficult to convey to those who did not know Collier how and why he was held so dear in the hearts of those who knew him well. To be with him was to be drawn out of one's self and to be mentally invigorated. Although he was self-reliant and wrapt up in his immediate pursuit he was one of the most approachable, sympathetic, and generous of men. Nothing could exceed his ready tact and kindness with children, with the poor and with the unfortunate. He was singularly happy in his home, and was delightful as a host. He made many and staunch friends: I hardly think he can have made an enemy.

H. B. D.

THE BISHOP OF GLOUCESTER.

I HAVE been asked, as one of the late Bishop of Gloucester's earliest companions in the Alps, to write a few words about him as he was known to us when taking his favourite pastime in the summer holidays. For twenty-five years the month of August was almost sure to find him at Bel Alp. Dr. Ellicott was a true lover of the mountains, and delighted in getting away quite alone, or with one or two others, to some Alpine recess where he could commune with Nature in all her grandeur. He never attempted any exploits upon the higher peaks, though in the early seventies I guided him up the Unterbachhorn (11,800 ft.), and he thoroughly enjoyed the pretty rock scramble below its summit. The Great Aletsch Glacier was his chief playground; axe in hand, he would spend hours in exploring its 'falls' and threading his way, with his little party, amongst its crevasses. For some years past the Bishop had been unable to visit Switzerland, but his love of the mountains remained strong even in venerable old age. Many generations of visitors to

Bel Alp must remember with pleasure his genial presence and the conversation (always interesting) with which he was wont to beguile the after-dinner hour; those of us who were privileged to know him better will ever recall that gentle, kindly, courageous spirit which endeared Dr. Ellicott so much to his friends.

ARTHUR FAIRBANKS.

C. J. JOLY, F.R.S.

By the death, on January 4, of Charles Jasper Joly, D.Sc., F.R.S., Royal Astronomer of Ireland, the Club has lost one of its most distinguished scientific members, and those who knew him a true and well-loved friend.

A Fellow of Trinity College, Dublin, since 1894, he devoted himself chiefly to the study of quaternions, and in 1899 and 1901 were published the two volumes of Sir William Hamilton's original work on this subject, which Joly edited at the request of the Board of Trinity College.

In 1897 he was appointed Royal Astronomer of Ireland, and worked hard in this congenial sphere of duty till his death at the early age of 41. His scientific labours were recognised by the Royal Society, which conferred on him its Fellowship in 1904.

But while the world of science deploras the loss of a brilliant and earnest worker his friends in the Alpine Club will remember Joly as a singularly gentle, simple-minded, and lovable man. He was a true mountain-lover and an active climber, with a real knowledge of mountain craft. Gifted with a keen sense of humour and an imperturbable temper, as well as great physical endurance, Joly was an ideal companion on a mountain; and those of us who formed a small guideless party at Arolla in 1896 will never forget the skill and judgment with which he led us in some difficult and anxious situations. He was especially fond of rock-climbing, and among the Dolomites of San Martino and Cortina he spent some of his happiest mountain holidays.

Of an extremely modest and retiring nature, Charles Joly was not perhaps known to a wide circle in the Alpine Club, but by his friends, both within and outside the climbing fraternity, his loss will be deeply felt and sincerely mourned.

G. SCRIVEN.

WINTER EXHIBITION, 1905.

THE Winter Exhibition of 1905 was one of great interest to members of the Alpine Club and mountaineers generally. It marked the close of a very strenuous art career devoted to mountains with a sincerity and singleness of purpose beyond all praise.

It would be futile and inadequate to notice such an exhibition in the ordinary way, picture by picture, a word of praise here, a word of blame there; it should be rather looked at sympathetically

as a whole, with a view to really form an estimate of the deceased artist's life work.

Alfred Williams was at once a delineator and interpreter of the subjects he loved—a delineator in so far as he faithfully used the forms and local conditions of his model, an interpreter in that he strove to convey his own strong convictions, even at the cost of some marked characteristic of his subject. He was so impressed by the majestic size of the Alps and other great mountains, and their atmospheric quality, that he sacrificed the extreme brilliance of the sunlit snow against the deep blue of the sky; indeed it is doubtful whether it is possible to convey in art, at one and the same time, the size and the light of an Alpine peak under the effect of brilliant sunshine. Therefore the conclusion is that Williams was in the right from his own standpoint, and that he practised what a great French critic put into words: 'La première vertu de l'Art, c'est le sacrifice.'

One happy result of his methods is, that the larger and grander the mountain subjects were the more successful was his work. As a whole the Himalayan pictures were the most impressive. Such examples as 'Nanda Devi and Nanda Kot,' 'Trissul,' and the 'Break in the Monsoon' readily occur to the mind. We have in all their immense size and space. The eye travels over the nearer ridges far into the distance, finally resting on the beautiful forms of the distant snows, full of soft but penetrating light. It is difficult to describe the exact effect on the mind of the spectator, but the cant expression 'convincing' is near it. Even if he had never beheld the Himalaya the onlooker felt that after he had seen Williams's pictures he knew them and had been introduced to a new world.

His Alpine work is also very impressive, in some cases quite as much so, notably in the 'Saasgrat from the Augstbord Pass' and in 'Moonrise and Afterglow at the Schwarzsee.' It would be easy to name many others, but these will serve.

Of his purely ice pictures the 'Icefall of the Gorner Glacier' and 'A Glacier Pool, Foot of Séracs, Col du Géant' are amongst his most successful works, the soft effulgence of the first drawing being particularly beautiful.

Of his British work it is more difficult to judge, it being more unequal. He was at times not quite so much at home with the atmospheric conditions or the forms, and the modifications introduced by the former in the latter. The rich moisture-laden clouds that roll over the British hills from the Atlantic produce a totally different set of artistic effects from the dry, clear air of the High Alps, and it speaks volumes for his powers that Williams succeeded so well with such totally different mountain aspects—as, for example, the Coolin and the snows of the Jungfrau. That he did succeed will be readily admitted by any one who studied his 'Sgurr nan Gillean' or 'In Harta Corrie.' It is true the first work has snow on the tops, of which he was master; but the Harta Corrie has not, and it is nearly, if not quite, as fine a drawing.

To conclude, Alfred Williams was extremely individual as a painter; his work stands on its own merits. Indebted to no school and no master, he saw Nature for himself, and won his success by virtue of his own great love of the mountains, and by a life, when circumstances permitted, devoted to his art. When it is remembered how little of his time—for the greater part of his life—he could give to it, it is only possible to wonder and admire.

THE ALPINE CLUB LIBRARY.

The following additions have been made since October :—

New Books and New Editions. Presented by the Authors or Publishers.

Candler, Edmund. The unveiling of Lhasa.

8vo, pp. xvi, 304; map, plates.

London, Arnold, 1905. 15/- nett

The story of the Tibetan Mission.

Caspari, Dr W.; see Zuntz, N.

Claray, Jean Baptiste. Les Poésies alpines de Jean Baptiste Claray, Instituteur à Chamonix en 1815. Malzéville, Thomas, 1905

This is one of 35 copies of a large paper print of articles published in the Bulletin de la Section Vosgienne du C.A.F., 1903–1905, by M. E. Woelflin.

We have referred to these articles as they appeared during the past two years. It is of value to have them collected together, as the original pamphlets containing Claray's work are very rare. Their titles are;—

Opuscule poétique. . . . 8vo, pp. 16. Genève, Bonnant, 1815

Chansons et hymnes nouveaux . . . par le troubadour des Alpes de Faucigny. 8vo, pp. 8. Paris, Le Normant, 1818

The titles of Claray's poems published in this brochure are;—La conquête du Mont Joly; Itinéraire en chanson, à l'usage du Voyageur qui visite les glaciers de la Vallée de Chamonix; Chanson descriptive des montagnes . . . de la sommité du glacier de Buet; La bergère du Mont-Envers: La cascade du Pisse-vache: Tremblement de Terre dans toute la Vallée de Chamonix. These are accompanied by notes on, and quotations from, contemporary writers and by historical commentary. Claray's original brochures contain a few other non-alpine poems.

Compton, E. T.; see Habel, P., Die Hohe Tatra [1905].

von Déchy, Moriz. Kaukasus. Reisen und Forschungen im kaukasischen Hochgebirge. In drei Bänden. Berlin, Dietrich Reimer, 1905

4to, pp. 348, 396; maps, plates.

Vols. 1 and 2 together, M. 40

Vols. 1 and 2 are now published.

v. Della Torre, Dr K. W. Die Alpenpflanzen im Wissenschatze der deutschen Alpenbewohner. Festschrift hgg. anlässlich d. V. ordentl. Generalversamml. d. Ver. z. Schutze d. Alpenpflanzen. Bamberg, Handels-Druckerei, 1905

8vo, pp. 91.

Deutsche Alpen. Erster Teil: bayerisches Hochland, Algäu, Vorarlberg; Tirol: Brennerbahn, Ötztaler-, Stubaier und Ortlergruppe, Bozen, Schlern und Rosengarten, Meran, Brenta- und Adamellogruppe; Bergamasker Alpen, Gardasee. 9. Aufl. Meyers Reisebücher.

Leipzig u. Wien, Bibliogr. Institut., 1905. M. 5

8vo, pp. 362; maps, plans.

This edition has been thoroughly revised by Herr Fr. Kucharz, with the help of members of the various Alpine Clubs.

Egli, Paul. Beitrag zur Kenntniss der Höhlen in der Schweiz. Inaugural-Dissertation z. Erlangung d. Doktorwürde . . . Zürich.

8vo, pp. 86; plate.

Zürich, Zürcher & Furrer, 19

- Ekman, Sven.** Die Phyllopoden, Cladoderen und freilebenden Copepoden der nord-schwedischen Hochgebirge. Ein Beitrag zur Tiergeographie, Biologie und Systematik der arktischen, nord- und mittel-europäischen Arten. Inaugural-Dissertation z. Erlangung d. Doktorwürde . . . zu Upsala. 4to, pp. 170; plates. Naumberg a. S., Lippert, 1904
- Fries, Rob. E.** Zur Kenntniss der alpinen Flora im nördlichen Argentinien. Nova Acta reg. Soc. Sc. Upsaliensis; ser. iv, vol. 1, N. 1. 4to, pp. 205; map, plates. Upsala, Berling, 1905
- Galzin, Dr E.** Les froidures graves. Prophylaxie—premiers soins. Paris, Charles-Lavauzelle [1905] 8vo, pp. 131.
A practical work, by a doctor of a regiment of 'chasseurs alpins,' on the effects and treatment of the bad results of severe cold, such as may be met with during army manœuvres amongst the high Alps.
- Grant, Madison.** The Rocky Mountain goat. New York, Zoological Soc., 1905 8vo, pp. 36; ill. Reprinted from the ninth Annual Report of the Society. An interesting, well-illustrated, monograph on the 'oreamos,' one of the 'rupicaprinae,' and so related to the chamois, though called a 'goat.'
- Grindelwald.** Winter Life in Grindelwald. Interlaken, Schlaefli [1905] Obl. 8vo, pp. 48; ill.
A pamphlet describing Grindelwald.
- Habel, Paul.** Die Hohe Tatra. Sieben Farbendrucke und sechsundzwanzig Holzschnitte nach Aquarellen von E. T. Compton. Leipzig, Weber [1905]. M. 10 Folio, pp. 6; map, plates.
The coloured plates are very fine reproductions of sketches by Mr. Compton. They are most excellently printed, closely resembling original watercolours. The size of the plates varies from 11" x 8" to 18" x 7". Each is mounted on dark grey cardboard 17" x 12". These and the uncoloured plates and pages of text lie loose in a purple grey cardboard portfolio bearing a coloured plate of a sketch by Mr. Compton. Altogether a fine work.
- Haglund, Emil.** Ur de högnordiska vedäxternas ekologi. Akademisk Afhandling. Uppsala, Appelberg, 1905 8vo, pp. 77; plates.
- Henry, Abbé.** L'Alpinisme et le Clergé Valdôtain. Notes parues en feuilleton dans le *Duché d'Aoste*. Aoste, Imprim. cathol., 1905 4to, pp. 47; ill.
This was written for the 34th Congress of the C.A.I. at Aosta. It deals historically with the hospitality shown to climbers by the clergy of the district and with the expeditions performed by them and their published works thereon. The mention of the names of those concerned is sufficient to recall the important part played by them in mountaineering: Monseigneur Duc, Canon Carrel, Canon Chanoux, Canon Chamonin and the Abbés A. Gorret, Vescoz, Bonin, Bovet, Christillin, Clapasson, Rey, Bionaz, A. Carrel, and the author: portraits of all of whom are given.
- Hosie, A.** China, no. 1. Report by Mr. A. Hosie, His Majesty's Consul-General at Chengtu, on a journey to the eastern frontier of Tibet. Presented to both Houses of Parliament . . . August 1905. London, Wyman, 1905. 1/3 Folio, pp. 86; map.
- Jenny, Dr Heinr. Ernst.** Die Alpendichtung der deutschen Schweiz. Ein literar-historischer Versuch. Bern, Gustav Grunau, 1905. Fr. 3 8vo, pp. 173.
This is a most interesting bibliography and critical treatment of the many poems and novels written about the Alps since the days of Haller. The amount of alpine poetry written in German is certainly very considerable.

- Joanne, Paul.** Collection des Guides-Joanne. Paris, Hachette.
Pyénées. 1905
 8vo, pp. 59, xlii, 384; maps, plans.
 This edition has been revised by M. Monmarché from the 1900 edition, which was entirely re-cast by him and M. Boland.
- — — **Savoie.** 1905
 8vo, pp. 53, xxii, 477; maps, plans.
 The 'Guides-Joanne' are bound in detachable sections. But the arrangement of information is not suited altogether to this method of detachment. The information on inns, cabs, etc., is given in the Index only (which forms the first section) in the case of many places, so that if the traveller carry only the section dealing with one district, he will find himself without information as to inns, etc., in the district. There is something to be said for putting hotel information in the Index, but probably most travellers find the method of arrangement of Baedeker's Guide-books a much more convenient one, especially nowadays, when 'Baedeker' and 'Joanne' are bound in sections. An addition we would propose to these guide-books is that there should be an index map to the sectional maps; and an alteration, that the 'carte des routes' be moved from its position among the advertisements, where it is likely to be overlooked.
- Junk, W.** Meine Alpenfahrt. Mit Zeichnungen von Lucian Bernhard. Berlin, Modern. Humorist. Verlag, 1905. M. 3
 Folio, pp. 58; 3 col. plates.
 Doggerel verses on climbing, such as;—
 'O welch schönes Leben
 Ist das Steigerleben,
 Wenn der Klettergreis ist mang uns mang
 Trotzend allen Wetter
 Gleichviel wohin klettern
 Kannst Du, ist das Seil genügend lang.'
- Kürsteiner, Dr W.** Das alpine Rettungswesen in der Schweiz. Wissensch. Mitteilungen d. schw. alpinen Museums in Bern, Nr. 1.
 8vo, pp. 28; map, plates. Bern, 1905. C. 55
- Loewy, Dr A.;** see Zuntz, N.
- Macculloch, J. A.** The misty isle of Skye. Its scenery, its people, its story. Edinburgh and London, Oliphant, 1905. 4/- nett
 8vo, pp. 320; map, plates.
 Many, both of those who already know the charms of the Skye hills and of those who are yet looking forward to acquaintance with them, will welcome this delightful work. The spirit of the island breathes through it and, to such extent as photography will allow, the tones of the light and shade on its hills and waters are here reproduced. Visitors to Skye will echo what the author says in the chapter on 'Mountains';—'The geologist finds in them the most remarkable group of volcanic rocks in Britain. They tax the mountaineer's strength and foot and eye, as much as do the Alps. And to the mere lover of nature they are eternally wonderful. . . . In summer sunshine or on a clear frosty day in winter, every corrie, every pinnacle, every ridge is seen in microscopic detail. . . . When a brilliant winter sun shines on the snowy mantle which descends on them so easily, the massive peaks shimmer away into the opalescent sky and lose all their ruggedness and all their weirdness. . . . They are hidden from view by clouds and mists, until the wind springs up and the wrack of clouds is driven among the peaks, to be torn and shattered by the serrated edges, which emerge black and frowning out of the whirling cloud masses.'
- Merzbacher, Dr Gottfried.** The Central Tian-Shan Mountains 1902-1903. Published under the authority of the Royal Geographical Society.
 8vo, pp. ix, 285; map, plates. London, Murray, 1905. 12/ nett

Meyers Reisebücher; see *Deutsche Alpen*.

Millington, P. To Lhasa at last. London, Smith, Elder, 1905. 3/6 nett
8vo, pp. x, 200; frontispiece.

Müller, Dr Fr.; see Zuntz, N.

Natal. Climbing Natal by Rail and Road.

Sq. 8vo, pp. 30; plates. Durban, printed by Singleton [1905]

A government publication; well illustrated.

The highest point of the Drakensberg, the range described in this pamphlet, reaches over 12,000 ft. Some fine views of the range are here given. The best time for visiting the Drakensberg are the months of early winter, May and June. Mr Anderson, the Government geologist, contributes notes to his brochure, from which we quote the following;—

‘To the mountaineer this range presents many declivities and rock-faces which are inaccessible to ordinary climbers. Numbers of isolated pinnacles, buttes, precipices, etc., occur, but usually in out of the way localities which would try the best nerved and most experienced of mountain climbers. . . . There is admirable scope here for local mountaineering. . . . The base of the range is so far off the beaten track that only parties with organised transport can undertake the climbing of the most dangerous parts. There are, however, many difficult heights within easily accessible distance of the main railway and farming districts with fairly good roads, which could be conveniently reached for a day or two’s climbing.

‘The rock-faces consist chiefly of shales and sandstones. . . . The shales are exceedingly friable and disintegrate, even on a more or less vertical face, into very small fragments, which form a most treacherous foothold. The sandstones are also exceedingly friable and present more or less rounded contours on exposed, disintegrated surfaces. They are well jointed, but the joints do not, as a rule, penetrate to great depths. The sandstones and shales usually form the most important pinnacles and rock-masses, and are therefore the rocks which are most likely to be negotiated in climbing. The basalts on their outcrops are generally much decomposed, and owing to the fact that the climate is so dry, the decomposed material on these outcrops does not get washed away, which would leave a clean hard rock-surface, as is the case in all temperate and sub-arctic climates. . . .

‘In the days of the now extinct Bushman, it is said to have been marvellous with what facilities these small, wiry freebooters made their way up into the inaccessible recesses of these mountains. But where these nimble and fearless mountain pigmies could go with safety and impunity the ordinary white man dare not follow, unless he is imbued with the courage and experience of a trained mountaineer.’

Copies of this pamphlet may be had, gratis, on application to the Assist. Secretary, 23 Savile Row, London, W.

Nielsen, Dr U.; see Ruge, Dr S., *Norwegen*, 1905.

Outram, James. In the heart of the Canadian Rockies.

New York and London, Macmillan, 1905. 12/6 nett

8vo, pp. xii, 466; maps, plates.

Rawling, Captain C. G. The Great Plateau. Being an account of exploration in Central Tibet, 1903, and of the Gartok expedition, 1904–1905.

8vo, pp. xii, 324; maps, ill.

London, Arnold, 1905. 15/- nett

Much of the ground described here has been hitherto unexplored. Captain Rawling’s party travelled from Lhasa to Simla by the valley of the Brahmapootra (to its source) and past Lake Manasazowar.

Rekstad, J. Fra Jostedalbræen. Bergens Museums Aarbog 1904, No. 1.
8vo, pp. 95; 30 plates. 1904

- Richardson, E. C.**, Edited by. *Ski-running*. Dedicated to the Ski Club of Great Britain. Second edition. London, Cox, 1905. 2/6 8vo, pp. vi, 116; ill.
- Ruge, Dr Sophus, and Dr Ungvar Nielsen.** *Norwegen*. 2. Aufl. Land und Leute: Monographien zur Erdkunde . . . hgg. von A. Scobel, III. Bielefeld und Leipzig, Velhagen & Klasing, 1905. M. 4 4to, pp. 151; maps, ill.
A general description of Norway, with good illustrations of scenery on every page.
The other volumes in this series of Alpine interest are, nos. 4 and 5, 'Tirol' and 'Die Schweiz': each M. 4. These are in the Alpine Club library.
- Sherzer, William H.** *Glacial studies in the Canadian Rockies and Selkirks*. Smithsonian Expedition, Season of 1904. Preliminary Report. City of Washington, Smithsonian Instit. 6 May 1905 8vo, pp. 453-496; ill. Reprinted from *Smithson. Miscellaneous Collections*, vol. 47, part 4.
This contains reports on the following glaciers; the Victoria, Wenckchemna, Wapta, Illecillewaet and Asulkan. The illustrations are numerous and very clear.
- Switzerland.** *Dictionnaire géographique de la Suisse*. Publié sous les auspices de la Soc. neuchâteloise de Géographie. 10me fascicule, comprenant les livraisons 105 à 116 (tome iii — 13-24). Lugano, Lac de—Morgins, Pas de. Neuchâtel, Attinger, 1904 Sm. folio, maps, ill.
- Tyndall, John.** *The glaciers of the Alps*. A narrative of excursions and ascents. London, Routledge; New York, Dutton [1905]. 1/- Sm. 8vo, pp. xii, 207; ill.
A volume of 'The New Universal Library.'
- Vosges.** *Ballon d'Alsace, Bussang, St-Maurice, Vosges méridionales*. 2me. édition Revue & Augmentée. (C.A.F. Section des Hautes-Vosges.) 8vo, pp. 167; map, ill. Belfort, Devillers [1905]. Fr. 1.75
- Wagnon A.** *Guide de la Vallée du Trient. Excursions—escalades de la Dent-du-Midi au Montblanc*. 3me édition. Genève, Jullien, 1903 8vo, pp. 213; map, ill.
- Zuntz, Dr N., Dr A. Loewy, Dr Fr. Müller, Dr W. Caspari.** *Höhenklima und Bergwanderungen in ihrer Wirkung auf den Menschen. Ergebnisse experimenteller Forschungen im Hochgebirge und Laboratorium*. Berlin, etc., Bong & Co., 1906. M. 18—M. 20 4to, pp. xiv, 494; plates, etc.
A short historical retrospect is followed by a résumé of the general climatic conditions holding at high altitudes. Then come details of the experiments carried out by the authors, with much reference to and discussion of authorities, on such matters as; Influence of high altitude on muscular work, on condition of blood, on breathing mechanism, on action of the heart, on perspiration and temperature of body, on the nervous system: outfit for climbing; mountain sickness: provisioning for climbers; etc.

Older Books.

- André, Aug.** *Sur nos monts*. Genève, Fick, 1895 8vo, pp. 138.
Contents:—Salut aux Alpes, Souvenirs et élévations, Sur la Dent du Midi, Les cabanes d'Orny, Aux femmes alpinistes, etc.
- [**Budworth, Joseph.**] *A fortnight's ramble to the Lakes in Westmoreland, Lancashire, and Cumberland*. By a rambler. London, Hookham, 1792 8vo, pp. xxvii, 267.
This copy has MS. notes by the author.
The author did a good deal of climbing in the time. A second edition of this work appeared in 1795, and a third in 1810.

- C., T. H.** ; see [Townshend, C. H.]
- Figuiar, Louis.** Earth and Sea. London, etc., Nelson, 1875
 Boy. 8vo, pp. xii, 715 ; ill.
 A translation, with additions, by W. H. Davenport Adams of 'La terre et les mers,' Paris 1864. This translation was first published in 1870. pp. 89-212, The mountains of the world : pp. 269-327, Glaciers : pp. 387-474, Volcanoes.
- Fortnight's Ramble, A,** 1792 ; see [Budworth, J.]
- Gachot, Edouard.** A travers les Alpes. Paris, Flammarion, [c. 1900]
 8vo, pp. 312 ; ill.
 La Mer de Glace : Le St Bernard : Le Gothard : Treib et le Rutli : Pilatus-Kulm : etc.
- Gleanings of a Wanderer,** 1805 ; see Wanderer.
- Grataroli, Dr G.** De regimine iter agentium . . . Basileae, 1561
 Extracts from this, which was probably one of Simler's authorities for his remarks on alpine dangers, are given in 'La Montagne', C.A.F., November, 1905.
- Gray, Thos.,** Journal of northern tour ; see [West, T.], Guide to the Lakes.
- Housman, John.** A topographical description of Cumberland, Westmoreland, Lancashire . . . ; comprehending . . . a Tour through the most interesting Parts of the District ; . . . Carlisle, Jollie : London, Law, etc., 1800
 8vo, pp. xii, 536 ; maps, plates.
 p. 118, Borrowdale : 'the threatening aspect of those awful barriers . . . the tremendous rocks.'
 p. 119, 'The straits of Borrowdale replete with hideous grandeur . . . sublimely terrible.' He quotes largely from Gilpin and from Young.
 ——— (Portion revised). A descriptive tour, and guide to the lakes, caves, mountains, . . . in Cumberland, Westmoreland, Lancashire, . . . Carlisle, Jollie ; London, Law, 1800
 8vo, pp. vii, 226 ; 2 plates.
 This is a portion of the larger work. It reached an eighth edition in 1817.
- [Hutton, Rev. John],** Tour to the caves 1780 ; see [West, T.], Guide to the Lakes.
- Journal kept during a summer tour,** 1852 ; see [Sewell, E. M.]
- Küttner, Chas Gottlieb.** Travels through Denmark, Sweden, and Norway, etc., in the years 1798 & 1799. London, Phillips, 1805
 8vo, pp. 200. Forms part of vol. 1 of Phillips' 'Collection of voyages and travels.' A translation of 'Reise durch Deutschland, Dänemark, Schweden, Norwegen,' Leipzig, 1801.
 Norway, Tyrol, etc.
- Mignan, Captain R.** A winter journey through Russia, the Caucasian Alps, and Georgia ; thence across Mount Zagros, . . . into Koordistaun. London, Bentley, 1839
 2 vols, 8vo.
- Olafsen and Povelsen.** Travels in Iceland : performed by order of his Danish Majesty. . . . Translated from the Danish. London, Phillips, 1805
 8vo, pp. 162 ; plates.
 This forms part of vol. 2 of Phillips' 'Collection of voyages and travels.' A translation of 'Reise igiennem Island, . . . Sorøe, 1772,' by Eggert Olafsen and Bjorne Paulsen.
- Otley, Jonathan.** A concise description of the English Lakes, and adjacent mountains ; with general directions to tourists ; . . . 4th edition. Keswick, published by the author : London, Richardson, etc., 1830.
 8vo, pp. viii, 180 ; map.
- Petit, Victor.** Souvenirs de Cauterets et de ses Environs. Bagnères-de-Luchon, Dulon [c. 1850]
 Obl. fol., 14 lith. plates.
 The plates are very good.
- Phillips' Collection of voyages and travels ;** see Küttner, Olafsen, Wales.

- [Sewell, Miss E. M.] A journal kept during a summer tour for the children of a village school. By the author of 'Amy Herbert.' . . . In three parts. 3 vols, 8vo. London, Longmans, 1852
- Part 1, From Ostend to the Lake of Constance. pp. 124.
 Part 2, From the Lake of Constance to the Simplon. pp. 193.
 Part 3, From the Simplon through part of the Tyrol to Genoa. pp. 203.
 This work was also published in the same year in one volume.
- Sport.** Pictorial Sport and Adventure . . .
 4to, ill. London & New York, Warne, n.d.
 pp. 70-74, The hero of Mont Blanc, Jacques Balmat : pp. 304-307,
 Hunting the chamois.
- Studer, G.** Ueber Eis und Schnee. 1869-1883
 4 vols, 8vo.
 A copy in original paper covers, which belonged to the late Mr. William Mathews, has been added to the library.
- Tastu, Madame Amable.** Voyage en France. Tours, Mame, 1852
 8vo, pp. 335; map, plates.
- [Townshend, C. H.] A descriptive tour in Scotland; by T. H. C.
 Brussels, Hauman : London, Whitaker, 1840
 8vo, pp. x, 395; lithographs.
 'A new edition' appeared in 1846: and an earlier version at Newcastle in 1839.
- Wales.** A tour in Wales and through several counties of England, . . . performed in the summer of 1805. London, Phillips, 1806
 8vo, pp. 182. Forming part of vol. 3 of Phillips' 'Collection of voyages and travels.'
 The author ascended Snowdon.
- Walker, A.,** Description of caves 1779; see [West, T.], Guide to the Lakes.
- Wanderer.** Gleanings of a wanderer, in various parts of England, Scotland, & North Wales. made during an excursion in the year 1804 . . .
 London, Phillips, 1805
 8vo, pp. 132. Forming part of vol. 2 of Phillips' 'Collection of voyages and travels.'
- [West, T.] A guide to the Lakes, in Cumberland, Westmoreland, and Lancashire. By the Author of The Antiquities of Furness. The second edition, revised throughout and greatly enlarged.
 8vo, pp. viii, 291. London, Richardson, etc., Kendal, Pennington, 1780
 The first edition appeared in 1778, the only edition during the author's lifetime, and the work reached an 11th edition in 1821.
 In the 'Addenda' of this volume are printed,
 pp. 195-196, Dr. Brown's description of the vale and lake of Keswick.
 pp. 199-225, Thos. Gray's Journal of his northern tour.
 pp. 230-1, A. W.'s description of Dunald-Mill-Hole, 1760; taken from the Annual Register for 1760.
 pp. 232-237, Adam Walker's Description of caves in Yorkshire; taken from the General Evening Post, Sep. 25, 1779.
 pp. 238-269, Tour to the caves, in the West-Riding of Yorkshire, now first printed: also published separately. [The author was the Rev. John Hutton, vicar of Burton in Kendal, who lived 1735-1811.]
 The quotation, from Mr. [George] Cumberland, on the back of title-page is interesting:—'In truth a more pleasing tour than these lakes hold out to men of leisure and curiosity cannot be devised. We penetrate the glaciers, traverse the Rhone and the Rhine, whilst our domestic lakes of Ulls-water, Keswick, and Windermere, exhibit scenes in so sublime a stile, with such beautiful colourings . . . that if they do not fairly take the lead of all the views in Europe, yet they are indisputably such as no English traveller should leave behind him.'
 Fifth edition. 1793
 8vo, pp. xii, 291; map, 2 plates.

Club Publications.

Alpine Journal: . . . by members of the Alpine Club. Edited by George Yeld. Vol. 22, nos. 163-170. London, Longmans, 1905
8vo, pp. 632; plates.

American Geographical Soc., New York. Bulletin, vol. 37, No. 12. December, 1905
Contains the following:—

- pp. 703-716: O. T. Crosby, From Tiflis to Tibet.
- pp. 727-729: A. Heilprin, Uniformity in mountain elevations.
A criticism of Daly's article, q.v. under 'Pamphlets.'
- p. 734: The height of Mt Whitney.

As the result of measurements made by the U.S. Geol. Survey last year, Mt Whitney is now determined to be the highest mountain in the U.S., 14,499 feet. Mt Rainier is 14,363 and Mt Shasta 14,380.

Austrian Alpine Club. Österreichische Alpenzeitung, Nr. 677-702. 4to. 1905

Among the articles are;—

- K. Blodig, Die erste Ersteigung d. Dôme de Rocheford u. d. Aig. de Rochefort.
- H. Hoek, Besteigung des Cerro Tacora.
An ascent in the Andes in February 1904.
- G. Hasler, Zwei neue Zugänge zum Finsteraarhorn.
- O. Schuster, Aus der Pizzongruppe.
- F. Reichert, Aconcagua.

An expedition in the beginning of 1904 and ascent in 1905.

Austrian Tourist Club. Österr. Touristen-Zeitung, vol. 25. Wien, 1905
Folio, ill.

Among the articles are;—

- J. Rabl, Adalbert Stifter und die Alpen.
A criticism of his paintings.
- K. Eekschlager, Der Triglav.

Berlin: Akadem. Alpen-Verein. II. Jahresbericht. 1905
8vo, pp. 15.

C.A.F. La Montagne. Revue Mensuelle. Maurice Paillon, Rédacteur en chef. Volume 1 (1904-1905). Paris, Plon-Nourrit, 1905
8vo, pp. xxiv, 600; plates.

This takes the place of the 'Annuaire' and the 'Bulletin Mensuel du C.A.F.'

Among the articles are;—

- H. E. Beaujard, L'Aig. de la République.
- F. Blazer, Escalade du Brec de Chambeyron.
- J. Bregeault, La Conquête de Chamonix.
- W. A. B. Coolidge, Les Cols de la Maurienne en 1667.
- H. Durand, De Miage au Mont-Blanc.
- C. Flahaut, Les hauts sommets et la vie végétale.
- G. Flusin et P. Lory, Spéléologie alpine.
- G. Ledormeur, La Crête de Yéons.
- M. Paillon, Le médecin Grataroli et les Origines de l'Alpinisme.
- J. Ronjat, L'utilité de la boussole et du piolet.

— **Hautes-Vosges**; see Vosges [1905], under 'New Books.'

— **Section Lyonnaise.** Revue alpine, 11^e Année. 1905
8vo, pp. 404; plates.

Among the articles are;

- A. Lavirotte, Nos tétras.
- D^r Payot, Document sur la première ascension au Mont Blanc.
Photographed copy of an attestation by two visitors at Chamonix in 1786 that they saw through glasses Balmat and Paccard together on the summit of Mont Blanc.
- W. A. B. Coolidge, Deux Cols dans le massif de Méanmartin.
- Le Col de la Leisse et les Queccés de Tignes.

Quinze jours au sommet du Mont Blanc, 20 juin-4 juillet 1905.

MM. Millochau and Stéfank remained for astronomical purposes for a fortnight and did not suffer in health.

E. Gaillard, Les crêtes qui dominent le Vallon d'Aussois.

C.A.I. Bollettino, vol. 37, no. 70.

Torino, 1905

The articles are :—

A. Ferrari, I rifugi del C.A.I.

An elaborate article of 262 pp., describing the various huts, with illustrations and plans.

E. Canzio, ecc., L'Aig. Verte nella catena del Monte Bianco. Prima ascensione pel versante Ovest.

E. C. Biressi, Castore e Lyskamm, Ascensioni senza guide. Lyskamm, prima traversata italiana delle due punte e prima traversata senza guide.

E. Tolomei, Alla Vetta d'Italia, prima ascensione della vetta più settentrionale della Grande Catena Alpina spartiaque.

G. Dainelli, Negli Alti Tatra.

— **Rivista Mensile**. Vol. 24. Redattore: Prof. Carlo Ratti.

8vo, pp. 496; ill.

1905

Among the articles are ;—

G. Dumontel, Alla Bessanese: una nuova via.

C. Restelli, Il gran Fillar, Mte Rosa.

E. C. Biressi, La Dent Panachée.

E. Questa, La parete N.E. dell' Aig. méridionale d'Arves.

A. Hess, Monts-Rouges de Triolet.

Catalonia. Butlleti del Centre Excursionista de Catalunya, 15. Nos. 120-131.

8vo.

Barcelona, 1905

Among the articles are ;—

J. Armangué, Trascant per l' Alt Bergadà y per la Serralada Pirenenca del Mitzjorn.

C. V. Torras, Excursió al Pich de Balandrau o Malandrau.

Cte de Carlet, Del Segre à l'Ariège à travers l'Andorra.

Club alpino fiamano. Liburnia. Rivista bimestrale. Anno IV.

1905

8vo, pp. 158.

Club alpino siciliano. Sicula, Rivista bimestrale, anno ix, 6 nos.

Gennaio-Dicembre 1904

Club escursionisti di Iesi. L' Appennino Centrale. Bollettino bimestrale.

Redattore L. F. de Magistris. Vols 1 and 2.

1904, 1905

8vo, pp. 96 and 104.

Among the articles are ;—

Vol. 1. R. Ponzelli, Salita invernale al gran Sasso d'Italia.

D. Matteucci, Gita scolastica al M. Rossa.

A. Felcini, Dalla sommità della Rossa.

Vol. 2. D. Matteuci, Gita scolastica al M. Sanvicino.

L. F. de Magistris, Nel gruppo del M. Catria.

— Gita invernale a Mte Maggio.

D.u.Oe.A.-V. Mitteilungen.

1905

Folio, pp. 290.

Among the articles are ;—

R. A. Hermann, Die Montes luna, ein deutsches Gebirge, Gletscherbeobachtungen am Hintereisgletscher, etc.

G. Becker, Die Hochalpenunfälle 1904.

E. Oberhummer, Die Erschliessung des Tian Schan.

— **Zeitschrift**, Band 36.

Innsbruck, 1905

Imp. 8vo, pp. viii, 400; maps, plates.

Among the articles are ;—

E. Oberhummer, Die Entwicklung der Alpenkarten im 19. Jahrhundert.

- A. C. F. Ferber, Die Erkundung des Mustaghpasses im Karakorum-Himalaya.
 An expedition in September 1903 by Messrs. Honigmann and Ferber.
- H. Hoek, Bergfahrten in Bolivia.
- E. Tewes, Aus den Alpen von British Columbia.
- K. Blodig, Zwischen d. Saaser- u. Maltvisp.
 — Aus den Bergen d. Klostertals.
- E. Wiepmann, Der Nordgrat d. Weissmies.
 — Der Ortlergruppe.
- D.n.Os.A.-V. Asch.** xvii. Jahresbericht . . . über die Tätigkeit im Jahre 1904. 8vo, pp. 16. 1905
- **Baden-Baden.** Satzungen. 8vo, pp. 7. 1900
- **Detmold.** Satzungen. 8vo, pp. 4. n.d.
- Mitglieder. 1905
- **Essen.** Satzungen. 8vo, pp. 7. 1901
- **Frankfurt.** Bericht. 8vo, pp. 39. 1905
- **Freiberg i. Sachsen.** Satzung. 8vo, pp. 7. 1904
- Verzeichnis d. Mitglieder u. Bücherverzeichnis. 1906
- 8vo, pp. 8.
- **Halle.** Katalog über Zeitschriften u. Bücher der Bibliothek. 1904
- 8vo, pp. 10.
- Satzungen. 8vo, pp. 12. 1900
- 2 post cards, col. views of Königspitze with Halle'sche Hütte. n.d.
- Tarif d. Halle'sche Hütte. 1905
- Führer durch das Suldenthal. 8vo, pp. 23; ill. 1902
- Bericht . . . für die Jahre 1896 bis 1900. 8vo, pp. 37. 1900
- Berichte 1901-1905. 8vo, annual. 1902-1906
- **Krefeld.** Statuten. 8vo, pp. 4. n.d.
- Bücherverzeichnis. 8vo, pp. 10. 1905
- x. u. xi. Jahres-Bericht, 1903 u. 1904. 1905
- **Alpenvereins-Sektion "Oberland"** in München. Satzungen. 1904
- 8vo, pp. 12.
- Jahresberichte, 1-6; 1899-1904. 1900-1905
- 4to and 8vo, ill.
- Friuli.** In Alto. Cronaca bimestrale d. Soc. alp. friulana. Anno 16.
 Folio, pp. 80. Udine, 1905
- Among the articles are:—
 G. De Gasperi, Sulle Prealpi Clautane.
 G. Crichiutti, Florula della Valle de Raccolana.
- Marama.** A Record of mountaineering in the Pacific North-west. Vol. 2, no. 4.
 8vo, pp. 185-284; plates. Portland, December, 1905
- Among the articles are:—
 H. Gannett, Lake Chelan and its Glacier.
 H. F. Reid, Glaciers of Mount Hood and Mt Adams.
 The Rainier outing of 1905.
 R. L. Glisan, Ascent of the Three Sisters.
 M. Banks, Bibliography of the Cascade Mountains.
- München.** Akad. Alpenverein. XIII. Jahresbericht. 1905
- 8vo, pp. 77.
- Among other first ascents by members, there are described by Dr. Günther von Saar various first ascents made in July last by him and his companions in Spitzbergen. The following guideless first ascents were made:—
 Zeltberg, 815 m.; Zwischenkofel, 860 m.; Weisswand, 1150 m.; De Geer's Peak, 1350 m.; Klaas-Billenspitze, 1020 m.; Westl., Östl. u. Mittl. Schwarzwandgipfel; White Peak, 2600 ft.; Johannisberg, 1100 m. On general conditions for climbing in Spitzbergen Dr. Günther writes;—"The treacherous, soft summer snow on the colossal glaciers is best crossed on snow-shoes. The temperature varies

between—in July and August— -5° and $+22^{\circ}$ C. There is abundance of game for the larder. Good water is easily obtained. Expeditions are a question of endurance and provisioning."

Out of 2226 expeditions recorded as made (1904-5) by members, 2178 were guideless.

München. *Alpenkränzchen Berggeist München.* Berichte, 2, 3, 4, 5.

8vo. 1901-1904

Each number contains the lists of ascents for the year by members. Founded 1900.

— — Statuten. 8vo, pp. 13. 1903

'Seinen Zweck sieht der Verein in der Pflege des Alpinismus, hauptsächlich der Hochtouristik.'

Pyrenées. *Bulletin Pyrénéen*, publié avec le Concours des Sections pyrénéennes du C.A.F., de la Soc. d. Excursionnistes du Béarn, etc. Années ix et x, 1904-1905 : nos. 43-54. Pau, Garet, 1905

8vo, pp. 536; ill.

Among the articles are ;

A. Meillon, Esquisse toponymique sur la Vallée de Caunterets.

L. Briet, La Vallée d'Aspé.

H. Spont, La marche en montagne.

L. Briet, La crevasse d'Escoain.

P. Labrouche, Le refuge du Balaïtous.

Comte H. Russell, L'art de graver les Pyrénées.

L. Briet, Voyage au Barranco de Mascun.

Brun, Autour de Gavarnie.

E. Rayssé, Balaïtous ; première ascension, 1825.

P. Labrouche, Les Pics d'Europe.

Royal Geographical Society. *The Geographical Journal*, vol. 26.

8vo, pp. viii, 762; maps; ill. July to December, 1905

Of alpine interest are the following articles ;—

Aug., pp. 153-179: R. Enock, The Upper Marañon.

— pp. 180-187: H. Pearse, Moorcroft's visit to Lake Mansarowar in 1812.

Sep., pp. 272-307: P. H. H. Massy, Exploration in Asiatic Turkey, 1896-1903.

Oct., pp. 369-395: C. H. D. Ryder, Exploration from Gyantse to Simla via Gartok.

Rucksack Club, Manchester. *Third Annual Report.* 1905

8vo, pp. 50; plates.

Contains, *inter alia* ;—

W. Heap, A new climb in Skye.

P. S. Minor, The western gullies of Tryfaen.

J. Uttley, Guideless in the Tödi.

S.A.C. Clubhütten-Kärtchen, Nr. 1-9. Bern, Francke. C. 10 each

These are small portions of the Swiss map, giving the immediate surroundings of the Club huts. They are intended for carrying in the pocket. There are 26 sectional maps on the 9 sheets.

— **Alpina.** *Mitteilungen d. S.A.C. XIII. Jahrg.* Redigiert von Dr. E. Walder. Zürich, 1905

Folio, pp. 188.

— **Sections Romandes.** *L'Écho des Alpes*, 41. Genève, 1905

8vo, pp. 464; ill.

Among the articles are ;—

R. Hofmann, Les Aiguilles Rouges d'Arolla.

E. Monod-Herzen, Première ascension de l'Edelspitze.

— Le Cervin par l'arête de Z'Mutt.

R. de Gérard, Trois premières dans les alpes fribourgeoises.

C. Périllat, Aux grandes Jorasses.

J. Gallet, Les montagnes de Conches.

- E. A. Des Gouttes, Coxe et Ramond. *La Suisse et les Pyrénées au xviiième siècle.*
 A. de Salverte, *Le Pigne d'Arolla.*
 E. L. Sallaz, *Dans la Cordillère des Andes.*
 Climbing in the Chilian Andes, 1903-4.
 R. Walther, *La Table.*
 An ascent of Table Mountain in July 1904.
- Ski Club of Great Britain (1903).** Year-book. Vol. I., No. 1. Edited by E. Wroughton. 8vo, pp. 46. London, Cox, 1905. 1/-
 Contains;—
 Ski-ing in Britain, Norway, Switzerland, &c.
 Military Ski-running.
 Rules.
 List of Members.
- Soc. Alp. d. Giulie.** *Alpi Giulie. Rassegna bimestrale.* Anno X. 8vo, pp. 164. Trieste, 1905
 Among the articles are;—
 N. Cobol, *Sull' orografia delle "Giulie alpine."*
 E. Boegan, *Grotte presso Monfalcone.*
 — *Le sorgenti d' Aurisina.*
 A. Russag, *In Val di Genova.*
- Soc. d. Alpinisti Tridentini.** *Bollettino dell' Alpinista, Rivista bimestrale,* anno 1. Luglio, 1904; Giugno, 1905.
 Folio, pp. 116.
- Soc. de Géographie.** *La Géographie. Bulletin.* Tome xi, 1^{er} Semestre, 1905. Roy. 8vo, pp. 504; maps, ill. Paris, Masson, 1905
 The only article of alpine interest is;—
 pp. 435-446; *Explorations glaciaires accomplies en France pendant l'été 1904.*
- Soc. Rododendro. Paganella.** Numero unico edito dal Comitato pel ' Rifugio Albergo della Paganella,' promosso dalla ' Soc. Rododendro.' Trento, Soc. Tip. Ed. Trentina, 1905
 Folio, pp. 35; ill.
- Soc. d. Touristes du Dauphiné.** *Annuaire,* 30. 2^{me} Série, Tome 10. 8vo, pp. 261; map, plates. Grenoble, Allier, 1905
 Among the articles are;—
 M. Goybet, *Excursions sans guide en Oisans.*
 H. Ferrand, *Une Collective à la Porte Romaine et au Col de l'Alpe.*
 — *Une Collective au Col d'Aussois, le Rateau et la Pointe de l'Echelle.*
 Jacob, Chas. et Georges Flusin, *Etude sur le glacier Noir et le glacier Blanc, massif du Pelvoux; avec carte.*
 This is reprinted as a separate pamphlet: see *Glaciers, under 'Pamphlets.'*
- The Winter Alpine Club.** *Notice of Formation.* Manchester, November, 1905
 A notice of formation of a club for winter sports in Switzerland.
- Pamphlets and Magazine Articles.*
- B., P. V.** *L'alpinisme et les accidents alpins en 1904.* In *Bull. Touring Club de Belgique*, vol. 11, no. 9. Septembre, 1905
 4to, p. 266.
- Baillie-Grohman, W. A.** *Hunting the Rocky Mountain goat.* In *Century Ill. Mag.*, New York, vol. 29, No. 2. December, 1884
 8vo, pp. 193-203; ill.
- Blümcke, A., und S. Finsterwalder.** *Zeitliche Änderungen in der Geschwindigkeit der Gletscherbewegung.* In *Sitzungsb. d. math.-phys. Kl. königl. bay. Akad. d. Wissensch. München.* 1905
 8vo, pp. 109-131.
- Bourgogne, J.** *En Tarentaise.* In *Le Monde Illustré*, Paris, no. 2527. 2 septembre, 1905
 Folio, pp. 572-573; ill.

- Chamonix.** Chamonix et Thonon, Raffin, 1905
8vo, pp. 40; ill.
'Ce Guide est offert gracieusement par le Syndicat des Hôteliers de Chamonix.'
- Czirbusz, Dr Géza.** Das Czárku-Gebirge. In *Abrégé Bull. Soc. hongroise de Géogr.* Budapest, 1904
8vo, pp. 46-60.
- Daly, E. A.** The accordance of summit levels among alpine mountains: the fact and its significance. In the *Journ. of Geology*, University of Chicago, vol. 13, no. 12. February-March, 1905
8vo, pp. 105-125.
— see Heilprin, *under American Geogr. Soc.*
- Dickinson, G. L.** Euthanasia: from the Note-book of an alpinist. In the *Independent Review*, London, Unwin, vol. 7, no. 27. December, 1905
8vo, pp. 476-486.
- Finsterwalder, S.;** see Blümcke, A.
- Flusin, G.;** see *Glaciers: Commission française.*
- Freshfield, D. W.** On mountains and mankind.
Washington, Govt. Printing Office, 1905
8vo, pp. 337-354. From the Smithsonian Report for 1904: no. 1615.
This is printed from the author's revised copy of his address at the Cambridge meeting of Brit. Assoc. in 1904.
- Gavet, Jules.** Quelques excursions dans les grottes des environs de Marseille. 8vo, pp. 47; ill. (Marseille, par souscription, Imprim. du Journal) 1900
- Gavet, Paul.** Essai sur la spéléologie des Alpes-Maritimes.
Nice, Malvano, 1901
8vo, pp. 23; plates. Reprinted from *Annales Soc. d. Lettres, Sc. et Arts d. Alpes-Maritimes*, 1900.
These two presented by Dr Guebhard.
- Glaciers.** Commission française des glaciers. Etude sur le Glacier Noir et le Glacier Blanc dans le massif du Pelvoux. Par MM. Charles Jacob et Georges Flusin. Rapport sur les observations rassemblées en Août 1904 dans les Alpes du Dauphiné. Avec le concours de la S.T.D., du Ministère de l'Agriculture et du Ministère de l'Instruction publique.
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- Ménélik, A. N.** Un 14 Juillet dans les Alpes. Besançon, Carriage, 1905
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A trip from the Saas Valley into Italy by some members of the Jura Section of the C.A.F.
- Mountaineering of to-day.** in Blackwood's Mag. no. 575. May, 1905
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- Nilsson, Dr Ashbjörn.** Schnee-Schuhe, Ski. München, Deutsche Alpenzeitung, 1906
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- Panorama des Vierwaldstätter-Sees und seinen Umgebungen.** Plan pittoresque du Lac des Quatre-Cantons et de ses environs. Lucerne, Däniker, n.d.
From steel-plate, 18" x 8½".
- Penther, Dr Arnold.** Eine Reise in das Gebiet des Erdshias-Dagh, Kleinasien. Abhandl. d. k. k. geogr. Ges. in Wien, vol. 6, no. 1. Wien, Lechner, 1905
4to, pp. 48; map, plates.
Dr Penther visited the volcanic summit of Erzas Dagh, the highest in Asia Minor, in 1902.
- Pfannl, Dr Heinrich.** Von meiner Reise zum K₂ in den Bergen Baltistans. In Mitt. d. k. k. geogr. Ges. in Wien, vol. 47, nos. 7 and 8. 1904
8vo, pp. 247-260.
- Ramsauer, F.** Die Alpen in der griechischen und römischen Literatur. Programm d. k. humanist. Gym. Burghausen f. d. Schuljahr 1900/1901.
8vo, pp. 71. Burghausen, Russy [1901]
- St Bernard.** La nuova strada del Gran San Bernardo. In Riv. Mens. d. Touring Club italiano, vol. 11, no. 8. Agosto, 1905
Folio, pp. 259-267; ill.
The article is interesting chiefly for the reproduction of several old views of the hospice. This number of the 'Rivista' contains also a view of the unveiling of the statue of St Bernard on the 13th of July of last year by the Bishop of Aosta. This statue is a reproduction of the bronze statue erected on the Little St. Bernard in 1902. The Bishop ascended to the unveiling in a motor!
- Sidebotham, Wm.** The Pyrenees. In Cassell's Mag., London. May, 1905
8vo, pp. 653-658.
- Stenico, Dr Vittorio.** Ricordi Alpini sulla Valle di Genova. Reprinted from 'Alto Adige.' Trento, Scotoni e Vittì, 1904
8vo, pp. 10; ill.
- Stankovits, E.** Die mittlere Höhe der über das Gebirgssystem der Karpaten verlaufenden höchsten Linie. In Bull. Soc. hongroise de Géogr., Budapest, vol. 32, 8. 1904
8vo, pp. 128-132; plate.
- Urquhart, W. J.** Davoseries. Davos-Platz, 1904
8vo, pp. 80; ill.
- The Davos Sketch-Book. Davos Printing Co. [1904]
8vo; 32 plates.
- Davos Doings. Zurich, Brimner [1904]
Obl. 8vo; 20 plates.

Map.

La Chaîne du Mont-Blanc. Carte au 1/50,000ème dressée sur l'ordre d'Albert Barbey, Président de la Section des Diablerets du C. A. S., par X. Imfeld, d'après les relevés, les mensurations et la nomenclature de Louis Kurz, 1896. Edition de 1905 avec courbes de niveau équidistantes de 50 mètres.

This is the map of 1896 with the addition of contour lines. Members of the Alpine Club may obtain it from Monsieur Barbey, Lausanne, for Fr. 8 unmounted and Fr. 10 mounted. Booksellers' prices are in each case Fr. 2 higher.

ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 3s., can be obtained from all booksellers, or from Messrs. Stanford, Charing Cross.

THE LIBRARY CATALOGUE is now printed, and may be obtained, bound in cloth, on application to the Assistant Secretary, 23 Savile Row. Price 3s. ; postage 4d.

THE ALPINE CLUB OBITUARY IN 1905.—H. C. Foster (1896), G. W. Stevens (1872), H. E. Buxton (1864), E. F. Stapleton (1892), W. Fowler (1864), C. J. Joly (1895), Dr. Martino Baretta, Honorary Member.

MEMORIAL TO FRANÇOIS DÉVOUASSOUD.—We have received the following note from Mr. Douglas Freshfield: 'I had not intended to ask for any help towards the erection of a suitable and lasting memorial over F. Dévouassoud's grave; but several of his old friends have expressed their wish to take part in whatever is done, and their belief that others may have the same feeling. It seems to me difficult and undesirable to settle on the form of the memorial until we know the exact position of the grave with relation to others and to the neighbouring ground. My prolonged absence from Europe has prevented me from getting this information hitherto, but I hope to obtain it before long. Meantime François's family are content to wait, and I hope contributors may be. I will receive and acknowledge (at 1 Airlie Gardens, W.) any contributions sent, and will arrange that a photograph of whatever memorial may be erected shall be forwarded to each contributor.'

TORLOSA.—This fine peak, near Aconcagua, has been ascended by Mr. A. F. Wedgwood.

THE CAUCASUS.—The first two volumes of M. de Déchy's sumptuous work on the Caucasus (Berlin: Dietrich Reimer) have already appeared. We hope to say more of them in our next number.

REVIEWS AND NOTICES.

The Central Tian-shan Mountains, 1902-1903. By Dr. Gottfried Merzbacher. Published under the authority of the Royal Geographical Society. (London: John Murray. 1905.) 8vo. Pp. ix and 285; with Illustrations and a Map.

THIS very interesting and well written volume is a record of scientific exploration rather than of mountain-climbing. Dr. Merzbacher, however, by no means neglected the latter, and took with him first one, then a second Alpine guide; but his primary aim was to make their craft subservient to securing a thorough knowledge of this grand mountain region rather than to win

distinction by ascending a few of its culminating summits. Nevertheless he was much in the snow world, traversing glaciers and passes, and not seldom attaining heights varying from 14,000 ft. to 16,000 ft. In this remote mountain chain, far from civilisation, the climber has to encounter more than the usual difficulties, among the chief of which, as might be expected, are supplies and transport. For expeditions above the snow line porters can hardly be obtained, and Dr. Merzbacher, himself a good judge of mountain work, remarks that the ascent of the highest peak in the Tian-shan—Khan-tengri, about 24,000 ft.—would have to be organised by the Russian Geographical Society and backed up by the Government to have a reasonable chance of success. The peak itself, he thinks, after examining it from both sides, cannot be easy. A pyramid of marble, rising some 6,000 ft. above the last snow saddle, which can be readily reached, it is formed of beds disposed one above the other like the tiles of a roof. Chimneys are wanting; ledges and terraces, so far as can be judged from below, are hardly discoverable, except a little beneath the summit; and the arête leading thither promises to afford not a few obstacles. Yet this is the least unpromising line of attack.

Dr. Merzbacher's party—for he was accompanied by Herr Hans Pfann, of Munich, and Herr Hans Keidel, of Freiburg in Baden, a young but experienced geologist—received much friendly assistance from the Russian authorities, and notwithstanding the natural difficulties of the country have made important additions to the work accomplished in the Tian-shan by their predecessors, Sven Hedin, Von Kaulbars, Ignatieff, Krassnoff, and Semennoff, with other Russian travellers. The present volume does not claim to be more than a general account of the expedition; the measurements and observations, the geological and other collections, have yet to be worked out. They first undertook, in 1902, a series of expeditions on the northern side of the central *massif*—that crowned by Khan-Tengri—to explore its valleys and glaciers. As the autumn drew on they crossed the watershed by the well known Musart Pass, the height of which they place at about 11,500 ft. Its summit is an almost level plateau, but the descent on the southern side, down an icefall of the Jiparlik Glacier, is really difficult. Dr. Lansdell gave a vivid description of it in 'Chinese Central Asia,' and Dr. Merzbacher, speaking as an experienced climber, says this could not be surmounted by caravans without the aid of the guards posted below, who 'excavate regular staircases in the icy pinnacles,' and even thus 'the skeletons of pack animals, strewn about in large numbers, show how great are the perils of the passage despite all aid.'

Then they studied the geology of the hill region between the central chain and the Tarim river before going into winter quarters at Kashgar, where earthquakes were frequent, and next year, as soon as the season permitted, they crossed into the Kok-ahni valley (running parallel with the watershed), and returned to the northern face of the Tian-shan by the Bedel pass (about 13,000 ft.), higher but less difficult than the Musart. Thence they made their

way to Lake Issik-kul and devoted the rest of their time to exploring the valleys and plains radiating westward and northward from the central massif, and revisiting some places already examined in order to replace a set of photographs unfortunately lost.

The most important geographical result of Dr. Merzbacher's work is to demonstrate that Khan-Tengri is not situated on the *main* watershed of the Tian-shan, but rises from a spur which projects from it far to the S.W. Thus the true nucleus of the central chain is not Khan-Tengri, but a grand lofty mountain range, to which the explorers, when first they came upon it from the N., gave the name of the Marble Wall. The geological results are also important. The rocks constituting the chain exhibit almost everywhere contortions and dislocations not less important than those of the Alps. These rocks, as in the latter mountains, are of various ages from Archæan crystallines to post-Tertiary gravels, which were deposited by the rivers still cutting down into the massif, but among those of intermediate date strata of carboniferous age are very frequent. Besides these intrusive deep-seated rocks, such as granites, occur in great force and have often greatly metamorphosed the neighbouring sedimentaries. The glaciers are large, the largest exceeding forty miles in length, but they were once much more extensive. The Tian-shan mountains afford almost everywhere, no less distinctly than the Alps, indisputable evidence of a past age of ice. Numerous photographs enable us to judge of their grand scenery. The descriptions are terse and interesting, and the book is a valuable addition to our knowledge of this grand and comparatively inaccessible chain.

Josias Simler et les Origines de l'Alpinisme jusqu'en 1600. Avec Illustrations et Cartes. Par W. A. B. Coolidge, &c. &c. (Grenoble: Allier Frères. 1904; and to be had of Mr. Quaritch, 15 Piccadilly, London. Price, 20s.)

'Prodigious!' is the adjective which will best express the feelings of the man of average strength and prehensile grasp who is fortunate enough to receive the *édition de luxe* of this portly and strangely proportioned volume. Most possessors even of the ordinary edition will, we fancy, after gazing for a few days at Mr. Coolidge's monumental work, follow the present writer's example and send it off to their binder to be bisected, an operation which the arrangement of the text happily renders not impossible. In all other respects—save perhaps a somewhat intricate system of pagination, and consequently of indexing—the volume does credit to its producers. The printing in particular is of singular excellence.

The first point that must strike even an 'indolent reviewer' who does not penetrate beyond prefaces and tables of contents will be how great a tree has grown from a small kernel. It is amusing to put the first or second 'Simler' (A.D. 1574 and 1638) beside the last. The title tells its own tale, even were it not confirmed by the preface. An annotated edition of 'De Alpihus' was planned; what has emerged from the printing press is a treatise and collection of documents relating to the 'Origins of Alpinism' up to the year

1600. Mr. Coolidge's antiquarian knowledge and enthusiasm have led him to surround Simler's text with a broad and sedulously laboured frame of Alpine lore, historical, topographical, biographical, and mountaineering, such as probably he alone could have constructed. His book reminds us, in some respects, of the late Sir Henry Yule's delightful 'Marco Polo.' Here too the results of a lifetime of research among out of the way authorities and unpublished manuscripts are poured out in profusion in voluminous notes. We take what we are given with gratitude. Yet it is difficult not to wish that Mr. Coolidge would digest his vast store of knowledge into some independent form that would be likely to attract a greater number of intelligent readers. As it is he has furnished a banquet of information which will doubtless be eagerly resorted to by mountaineers and also by the tribe of bookmakers who live and flourish on the labours of others.

The 'bill of fare' put before us is indeed varied. To begin with, we have a reprint and translation of Conrad Gesner's delightful letter on 'The Admiration of Mountains.' This is followed by an interesting sketch of Alpinism up to 1600, including lists of peaks and passes climbed or crossed before that date, with comments on the implements employed by the early mountaineers and on their way of looking at mountains. It is curious to find our King Henry VI. complaining that his subjects suffer on the Great St. Bernard from 'floods, avalanches, and swamps.' The Great St. Bernard seems to have been the English Pilgrim's Pass. Our readers will remember the reference in an Anglo-Saxon charter to the 'bitter blasts of its glaciers' ('glacierum'). The translation seems allowable, as the Grindelwald glaciers are called Glaciers Superior and Inferior in A.D. 1246. We now approach Simler himself. We have chapters on his life, on the sources of his treatise, and its bibliography. These lead the way to the text, which is printed in the original Latin, with a French translation on the opposite pages. It is followed by 130 pages of notes. The final 260 pages are devoted to eighteen 'Pièces Annexes' with the 'notes' on them of the indefatigable editor. These are, with one exception, reprints, or first prints, of documents relating to mountain ascents prior to A.D. 1600. Moses is left out, but we range from an ascent of Hæmus, B.C. 181, by Philip of Macedon to an ascent of the Rochemelon in 1588 by the Seigneur de Villamont. The novelties are an account of the Bernese Oberland, by T. Schöpf, written in 1577, and a very minute description of the Passes of the Val d'Aosta, put together in 1691-4 by Philibert-Amédée Arnod, a judge at Aosta, which contains an account of the first attempt to reopen the traditional Col du Géant. The original text of the account of the ascent of the Wonder of Dauphiné, the Mont Aiguille, is for the first time printed from the MSS. preserved in the Archives du Département de l'Isère at Grenoble: the originals have been reproduced by photography; one is given with the ordinary edition and several with the *édition de luxe*. With regard to the early ascents of Pilatus (A.D. 1515, 1555, 1717) it

is to be noted that they were not ascents of any point on the highest ridge. The Pilatus of the fathers of mountaineering was the Gnepstein (6,300 ft.), a grassy hill on the west of the site of the once famous lake. We find also the familiar ascent of Mont Ventoux by Petrarch in 1336, the ascents of the Stockhorn and Niesen by B. Marti in 1557, an ascent of the Stockhorn, made in 1586 and told in mock heroic verse by a Swiss scholar who called himself Rhellicanus, and several scraps from the classics.

It is difficult to pick and choose where there is so much room for choice, and we must leave Mr. Coolidge's readers to do so, each for himself according to his particular taste or interest. The mountaineer will probably turn first to Mr. Coolidge's own sketch of early Alpine travel above the snow line, and particularly to the minute details as to the Pennine Passes. But Simler's text is very good reading, and there is hardly a page in the book in which some curious information does not lurk.

I confess that I always differ from our learned colleague with the greatest reluctance. If he will pardon an African comparison, I feel like a poor shot aiming at an elephant with the conviction that his sport is too likely to end in his being trampled under foot. Simler discusses at length 'the Pass of Hannibal.' It is rash, perhaps, to recur to a subject on which feeling runs strangely high among the learned. Yet until some reasonable ground has been shown for disregarding what I consider the obvious and only natural sense of the passage from Varro, accepted in this country by the late Mr. W. T. Arnold and other classical scholars, I shall stick to the second pass from the Sea, the pass over which Napoleon planned 'a Route Impériale from Spain into Italy,' the Col de l'Argentière. Nor does Mr. Coolidge satisfy me that the *Saxum Album*, *Rupes Alba*, and *Scez Blanc* of three documents prior to the middle of the fifteenth century refer to Mont Blanc. In my opinion the scribe of the Act of Donation of A.D. 1091 probably had in his mind not the natural geographical limits of the Vale of Chamonix, such as Mont Blanc and the Aiguilles Rouges, but the boundary marks between the territory of Chamonix and those of neighbouring communities on the principal approaches to it, and the scribes of later documents were content to copy him. I believe the 'Saxum Album' to have been a rock on the left bank of the Arve, nearly opposite the Diosaz torrent. There is such a rock (and a *Says Nigrum* as well) not far from Servoz. I further hold that 'saxum' and 'rupes' and 'scez' are not terms likely to have been applied to a mass of snow and ice. I am in no way shaken in this opinion by the fact that from the days when Strabo described τὰς χιόνας καὶ τοὺς κρυστάλλους of the Caucasus to the present time in the heart of Africa glaciers and crystals have been confounded by men of letters, mediæval scientists, and simple savages. Mr. Coolidge himself tells us that 'up to the commencement of the eighteenth century the great mountain was called "Les Glacières" or "Montagne Maudite."' Where was the name 'Mont Blanc' lurking between 1481 and the commencement

of the eighteenth century? The map in which Signor Uzielli fancied he had seen 'Roches Blanches' cannot be found, or rather the words cannot be found on it. The temptation to carry back the name to the eleventh century is obvious, but I must decline to yield to it. Mr. Coolidge, I may add, has recently discovered that the 'Mont Blanc' mentioned in Arnod's Report on the Passes of the Val d'Aosta in 1691 refers to two hamlets near Champorcher, and has not, as he here assumes, anything to do with the Monarch of the Alps.*

Next as to Leonardo da Vinci's much discussed Alpine excursion. As long ago as 1892—having ascertained that the expression used by Leonardo 'between Italy and France' might, when he wrote, have included the Valaisan Alps—I abandoned my suggestion of Monte Viso, quoted here. I may point out that on the ridge separating Val Sesia from the Biellese the Italian survey shows not one Monte Bô, but two Monte Bôs and also a Monte Bose. The highest summit is now a 'view point' and provided with a hut, and may possibly have been the Monboso visited by the great artist.

But enough of minute criticism where there is so little to criticise. Taking a broad view of the facts laid before us, we are struck with the extensive use of the byeways of the Alps in early times. The main passes were made by Nature and remained in vogue until our generation learnt to burrow under them.† But long before that date the improvement in communications had gradually concentrated traffic. Carriage roads first drew the countless streams of intercourse into a few channels. The old mule passes were neglected and became hardly known by name beyond their immediate vicinity. Commerce left them. The longer way round was recognised to be the quicker and the safer way there. The 'Commercial Mountaineer,' with his alpenstock and his snow spectacles, so graphically described by Simler, has long been extinct, unless the smugglers sometimes met on a remote glacier may be considered as a surviving species of the genus.

I may take this occasion to point out that quite recently, in the November number of the monthly Journal of the French Alpine Club, the probable source of some at least of Simler's hints to these merchant adventurers above the snow line has been indicated. In 1561, thirteen years before Simler, Grataroli, a physician, born at Bergamo, who practised chiefly at Basle, published a work with the following title: 'De regimine iter agentium, vel equitum, vel peditum, vel navi vel curru vel rhedâ viatoribus et peregrinatoribus quibusque utilissimi libri duo.' The author, among other and more primitive preservatives against snow-blindness, recommends 'glass or crystal spectacles.' With regard to foot gear he writes as follows: 'Si super juga montium ac super glaciem ambulare

* See Mr. Coolidge's notes, *Jahrbuch des Schweizer Alpenclub*, vol. xxxvii. p. 247; and vol. xl. pp. 352-3, for various statements cited above.

† See that excellent and too much forgotten book Brockedon's *Passes of the Alps*, illustrated edition, 1828-9.

cogimur, ubi non de casu solum, sed de præcipitio agitur, levis res, cum industriâ, nos tutos reddet; calceis enim subligantur chalybeæ cuspides ferreis laminis junctæ ac continuæ, quæ quadrilateram formam referunt, ut ubique jam ferè venales extant.' 'If we are forced to traverse mountain ridges and ice, where it is a matter not only of a tumble but of a fall, there is an easy means, with care, of ensuring safety. This is to fasten under the boots iron plates, with steel spikes, made of one piece, covering all the sole, and square in form, such as can now be bought almost everywhere.'

This practical advice of the first writer on mountain equipment still holds good. To the natives of the Himalaya now, as to those of the Alps in the sixteenth century, the hobnailed boot is unknown. An explorer will do well to consider and act on Dr. Grataroli's advice before taking his coolies on to treacherous slopes. He will probably save their lives and possibly his own, and he will double his chance of success in any high ascent he may be eager to attempt.

The volume is illustrated by facsimiles of the engraved portraits of several of the authors annotated, and has also plates representing the triptych deposited by Rotario d' Asti on the Rochemelon in A.D. 1858, and the Roman arch at Susa. D. W. F.

I Rifugi del Club Alpino Italiano. Storia e descrizione illustrata con elenco dei Rifugi costruiti in Italia da altre Società Alpine. Con 114 vedute e 30 disegni di piante, ecc. Da Dr. Agostino Ferrari. Torino: Club Alpino Italiano. (Sede Centrale.) 1905.

This valuable and interesting volume of nearly 300 pages (extracted from the 'Bollettino' of the C.A.I. for 1904-1905, vol. xxxvii. n. 70) is the work of Dr. Agostino Ferrari, of Turin, assisted by Drs. A. Bossi, of Milan, G. Chiggiato, of Venice, and E. Abbate, of Rome. We commend it heartily to all who purpose climbing amongst Italian Alps, especially to those who climb without guides. A study of its pages will be found a valuable help both in the planning of a tour and in the search for the desired refuge at the end of a long day's work. The volume, as stated above, is freely supplied with illustrations, most of them being of excellent quality, while to judge of the help they provide to the traveller we have only to turn to p. 117, 'Monte Rosa from Tagliarferro,' where the route to the Capanna Valsesia is indicated, or p. 191, 'The Ortler Group, from Monte Confinale,' which indicates the way to the Capanna Milano.

It should be stated that the information given is not confined to the Alps. The Apennines are represented by more than a dozen refuges, of which the most interesting is that on p. 254, the 'Rifugio al Gran Sasso d' Italia.' The Corno Grande in the background seems to beckon mountain-lovers to ascend it. Etna has two refuges, the 'Cantoniera Alpina Meteorologica,' at 1,880 mètres—4 hrs. from Nicolosi—and the 'Casa Etnea' (consisting in part of the old 'Casa degli Inglesi'), at about 2,942 mètres, about 7½ hrs. from Nicolosi and 1½ hr. below the summit of the great volcano. It

will thus be seen that this volume is of much interest and likely to be a great help to all who purpose climbing in Italy, whether in the Alps or Apennines. We offer our hearty congratulations to Dr. Ferrari and his helpers on the successful completion of their task.

As showing the growth of the C.A.I. it may be of interest to state (we quote from the introduction) that in the 'Bollettino' of 1882 the Club contained 3,600 members and possessed 30 refuges, while at present it has more than 5,500 members and 100 refuges.

La Chatne du Mont-Blanc. Carte au $\frac{1}{50000}$ ème dressée sur l'ordre d'Albert Barbey par X. Imfeld, Ingénieur, d'après les relevés, les mensurations et la nomenclature de Louis Kurz et d'après les documents existants. Kummerly Frères: Berne. 1896. Edition de 1905.

This excellent map was very favourably noticed in this 'Journal' on its appearance in 1896.* Contour lines have now been added, as have the names of a considerable number of peaks—*e.g.* the Aiguille Mummery, between Les Courtes and the A. de Triolet; the A. de l'Amône, one of the points of the Aiguilles Rouges de Dolent; the Pointe de Pré de Bar, and the Pointe de Domino, both between the Mont Dolent and the A. de Triolet; the Pointe des Papillons, between the A. de Triolet and the A. de Talèfre; the A. de Tronchey, the Pointe Luigi Amadeo, the A. Joseph Croux, and the Col Emile Rey.

These names do not exhaust the list. We feel much gratitude to MM. Barbey, Imfeld, and Kurz, for we have found this map of the greatest help on many occasions. We heartily wish it the continued success which it deserves.

The Yorkshire Ramblers' Club Journal. Volume II. No. 6.
(London: T. Fisher Unwin.)

This number maintains the high standard which its editor, Mr. Thomas Gray, has led us to look for. In variety and in quality it is alike interesting. *Place aux dames.* Mrs. E. P. Jackson gives an excellent account of winter mountaineering in 1888 in the Grindelwald district. Mr. W. Anderton Brigg and the Rev. L. S. Calvert carry us with them to the Eastern Alps, the latter to the Kleine Zinne (from Cortina), the former to Pontresina, the Bernina, the Disgrazia, the Ortler, the Adamello, and the Cevedale. Of the last expedition the writer says: 'We proposed to take a guide for the Cevedale, and spoke to one of them, but he said we must have at least four, one for each Herr; such was the rule. So of course we did without; nor was there the slightest need for any.' Norway is treated of by Mr. J. A. Green in 'A Holiday among the Horungtinder' and by Mr. Harold Ræburn in 'Slogen: a Day on the Seaward Face.' Sir John N. Barran treats of 'Man-hunting among the Mountains,' and Mr. T. S. Booth supplies a paper on 'Mountaineering Reversed,' to which sport the Yorkshire Ramblers have so devotedly given themselves; he treats of 'Jockey Hole and Rift Pot.' A note

* *Alpine Journal*, vol. xviii. pp. 285-6.

on the Geological Features of the latter Inferno is furnished by Mr. Harold Brodrick.

There are some excellent illustrations, *e.g.* of the Cevedale and Königspitze, of the Kleine Zinne, of Store Skagastölstind. We are pleased to notice a satisfactory increase in the numbers of the Club.

CORRESPONDENCE.

THE HIGHEST CLIMBS ON RECORD.

To the Editor of the ALPINE JOURNAL.

SIR,—In the November number of the 'Alpine Journal,' on pp. 626–628, Messrs. Collie and Garwood criticise the use of the term 'record' in the title of a paper by myself which appeared in the 'Alpine Journal' of August 1905.

May I be permitted to say I used the term 'record' after mature reflection, having read Mr. Graham's account as well as what Mr. Freshfield and others have written on the subject, and being somewhat conversant with what has been said in different parts of the world concerning Mr. Graham's claim? The foot note on p. 506 states clearly my reason for such use, which does not commit me to any opinion as to whether Mr. Graham did or did not make the ascent claimed.

Further discussion of the possibility, the probability, or the reality of that ascent seems to me to be futile, since under the circumstances and so long after the event no satisfactory conclusion appears likely to be reached, and the question will probably remain a matter of individual judgment. The best way to lay some of the ghosts that have sprung up in connection with it would be for some one to make the ascent of Kabru, in which case certainty would take the place of speculation regarding them.

An important fact, which cannot be ignored, is that Mr. Graham's claim is disputed. It has been disputed from the first, and Mr. Freshfield's elaborate and carefully written arguments have failed to convince mountaineers in general, as well as others, of its credibility. As doubtful and disputed results are not usually placed against acknowledged ones, why should an exception be made to the rule in this case? On this ground I think the word referred to is properly and justifiably used.

The letters of Messrs. Collie and Garwood leave the matter just where it stood before. Nothing is added to what Mr. Freshfield, whom both writers cite as authority, has already said. If Mr. Graham's account appears to them convincing they are perfectly justified in believing it, but their belief does not prove that Mr. Graham climbed Kabru, or that his disputed ascent should stand as a *fait accompli*.

May I call attention to three points in these letters? (1) Professor Collie states that Mr. Graham climbed 20,000 ft. on A 22,

and reached 22,700 ft. on Dunagiri, showing that he was capable of climbing to nearly 23,000 ft. without suffering very greatly from altitude, as evidence that he might climb to 24,000 ft. on Kabru.

If it be true that he had no barometer—and even if he had one he had no corresponding readings at a measured lower station to compare its readings with—what is to be judged as to the accuracy of these two altitudes? They are simply estimates, which may be wide of the truth and ought not to be admitted as evidence in the argument.

(2) Sir Martin Conway is not the only 'competent authority' who holds an opinion adverse to Mr. Graham's claim. Col. Waddell, who has a right to be considered a good authority on the topography of as well as other matters pertaining to Sikkim, devotes considerable space in his book 'In the Himalaya' to contesting Mr. Graham's ascent. Prominent members of the Indian Survey, and among them some of its highest officials, whose knowledge of the circumstances attending Mr. Graham's Sikkim expeditions, and of the region around Kabru, as well as their professional attainments, entitles their opinion to weight, have expressed their disbelief in decided terms. Germans, whose ability to analyse and weigh evidence cannot be called inferior to that of other peoples, refer to the matter as a 'dunkle Frage.' And, finally, among leading Alpine guides, who have learned of circumstances unknown to the general public through means of information peculiar to their craft, there is a sentiment of incredulity based on reasons that appear worthy of consideration.

(3) Mr. Garwood states that Mr. Freshfield and he camped for several days in 'immediate proximity' to Kabru, and 'agreed that there was no special obstacle to an ascent having been made.' It does not follow that because they camped near the mountain they could correctly estimate the obstacles it might offer to an ascent. It is by no means always easy even for experienced mountaineers to determine from below what obstacles will be encountered on a mountain towering thousands of feet above them, especially if the surface of the mountain be broken. Kabru might present inaccessible spots that could not be seen at all, or, if seen, could not be identified as such from its base, or even higher up.

There are three sharp rock aiguilles standing over half a mile apart on a high spur running out to the Biafo glacier which, when viewed from the ice for a long distance, appear to rise close together from the base, and to form the apex of a single pyramidal peak.

I have ascended a considerable number of high Himalayan summits, all of which were previously studied from different points as carefully as possible, and in every case difficulties were met with that were not apparent during reconnaissance. The more one climbs on Himalayan peaks the less confidence has one of one's ability to judge beforehand of the obstacles their recesses may offer. Trial affords the only proof.

WILLIAM HUNTER WORKMAN.

Bombay : January 5, 1906.

PROCEEDINGS OF THE ALPINE CLUB.

THE ANNUAL GENERAL MEETING of the Club was held in the Hall on Monday evening, December 18, the Bishop of Bristol, *President*, in the chair.

The following candidates were balloted for and elected members of the Club: H. E. G. Bartlett, J. E. Croasdaile, W. H. Ellis, J. H. Hollingsworth, W. Sedgwick, S. F. Staffurth, J. W. Stein, P. A. Thompson, J. L. Tod-Mercer, E. A. Wilson.

The PRESIDENT declared the following officers duly elected for 1906: Mr. Wm. Cecil Slingsby, Vice-President, in place of Mr. Walter Leaf, whose term of office had expired; Mr. E. H. F. Bradby, Honorary Secretary, in place of Mr. A. L. Mumm, who did not offer himself for re-election; Messrs. Alfred East, R. A. Robertson, and C. H. R. Wollaston as new members of Committee in place of Mr. E. H. F. Bradby, and of Messrs. R. N. Arkle and G. W. Prothero, whose term of office had expired. The President, Vice-President (Mr. J. H. Wicks), and the other members of Committee (Messrs. J. J. Withers, Captain J. P. Farrar, H. V. Reade, and H. Priestman) being eligible were re-elected.

On the motion of Dr. W. A. WILLS, seconded by Sir MARTIN CONWAY, Messrs. J. H. W. Rolland and R. L. Harrison were elected auditors.

Mr. C. T. DENT moved that a hearty vote of thanks be passed to Mr. A. L. Mumm for the work he had done as Honorary Secretary of the Club. Mr. Dent was sure that every member would agree that there was no one to whom the Club owed more than to its Honorary Secretary. The duties of the post were arduous, and Mr. Mumm had performed those duties for more than the usual period. Seldom had the duties of the office—and he knew from experience how hard they were—been carried out with more tact, judgment, and quiet efficiency than by Mr. Mumm.

Mr. CHARLES PILKINGTON had great pleasure in seconding the motion that the heartiest thanks were due by the Club to Mr. Mumm.

The motion was carried by acclamation.

The PRESIDENT referred to the losses which the Club had sustained by the death of members during the past year. Lieut. Martin, one of the youngest members (who had been a member for so short a time that his name did not even appear on the printed list), had died of fever in Western Africa. The Club had also lost Mr. H. C. Foster, a keen climber, elected in 1896; Dr. Collier, of Manchester, elected in 1893, well known to most North Country members, and an excellent mountaineer; Mr. G. W. Stevens, elected in 1872, and Mr. F. J. Stevens, elected in 1899; Mr. Brocklehurst, an old member devoted to the Alps, who for the last two or three years had suffered from a long, sad illness; and Mr. H. E. Buxton, who had been elected in 1864 on the same night as the speaker. In Mr. Alfred Williams, elected in 1878, the

Club had lost a very remarkable man. The pictures exhibited on the walls carried him (the speaker) back to the days of his youth in a way that no other pictures of mountain scenery had done. It was a remarkable fact that Mr. Williams was in his seventieth year when he went out to study the Himalayas, and his Himalayan pictures showed what a man of that age could do in surmounting the great difficulties inseparable from such an undertaking. The family had kindly presented one of the pictures to the Club as a souvenir. The President went on to say: 'Last of all I wish to refer to the death of Mr. C. E. Mathews, one of the original members. This is not the place to pronounce an eulogium on him. It had happened that I was to stay with Mr. Mathews on October 23, to deliver a lecture on subterranean ice, and just as I was starting for Birmingham I received a letter to say that Mr. Mathews was very ill. He died before I arrived in Birmingham, and I was the first person to refer to his death at a public meeting. Mr. Mathews was only a few months younger than myself. The minds of many members are so stored with knowledge and love of Mr. Mathews that words are not needed to express their feelings. The Club were represented at the funeral by Mr. Horace Walker and Sir Martin Conway.'

The PRESIDENT also announced the death of Dr. Richter, editor of the 'Erschliessung der Ostalpen,' who was elected an honorary member some years ago. The death of Mr. Sandbach Parker should also be mentioned, though he was not a member of the Club, as he had, with his two brothers, made serious attempts on the east side of the Matterhorn in 1860 and again in 1861.

The PRESIDENT then announced that the Committee had elected Lord Curzon and Sir Francis Younghusband as honorary members.

The PRESIDENT said that he wished to mention a matter which he had that evening discussed with some of the older members of the Club. There were no galleries at the Whitehall Rooms, but at the Hôtel Cecil there was gallery accommodation for a considerable number of ladies. The possibility of admitting ladies to the speeches after dinner had long been considered. He was prepared on his own responsibility to provide coffee and ices for about fifty ladies at the dinner the next night, if there was not a strong opinion against his trying the experiment. If it was tried it would be for the Club to say whether it should be continued. After some discussion the President said that he could not put any resolution on the subject, as no notice had been given; but he would ask those who were not willing to have the experiment tried to hold up their hands. A sufficient amount of unwillingness being indicated, the President said that he would not try the experiment.

The thanks of the Club were offered to Mr. Macdonald for two photographs of New Zealand mountain scenery presented by him.

Mr. HORACE WALKER said that he would like to make a suggestion that the Club should erect a memorial to Mr. C. E. Mathews, who had been one of the founders of the Club. It was not for him to

say what form the memorial should take, but he suggested to the Committee that they might consider the advisability of erecting something under the shadow of Mont Blanc.

Mr. CHARLES PILKINGTON supported the suggestion. Mr. Mathews was not only connected with the Alpine Club, but was also one of the founders of the Climbers' Club, and had assisted the Rucksack Club, the Yorkshire Ramblers' Club, and the Scottish Mountaineering Club. He would be very glad to help in perpetuating Mr. Mathews's memory.

Mr. SLINGSBY said that one of the great virtues of their beloved friend Mr. Mathews was that of keen sympathy with all climbers. He remembered how many years ago, when he was a young climber, he had received much help and encouragement from Mr. Mathews. On the occasions when Mr. Mathews came to the Yorkshire Ramblers' Club he proved a great source of strength. He would not forget the warmth with which Mr. Mathews was received by that Club at their dinner in February last. He was to have given a lecture to them on the very night on which he died. Mr. Mathews was a many-sided man. He was of a very romantic nature, and in losing him the Club had lost a man whose like they would not see again.

Mr. A. J. BUTLER said that he was with Mr. Mathews in Wales in August. Mr. Mathews was then as fresh as ever in walking and talking. One evening during a walk with six barrels he shot five rabbits, which he carried home himself. It was difficult to believe that shortly afterwards he was dead. Mr. Mathews had loved the Club to the last day of his life.

The Rev. WALTER WESTON read a paper on 'Mountaineering and Mountain Clubs in Japan,' which was illustrated by lantern slides; a hearty vote of thanks was accorded to him for his paper.

THE WINTER DINNER of the Club took place in the Grand Hall of the Hôtel Cecil on Tuesday evening, December 19, at 7 P.M., the Lord Bishop of Bristol, *President*, in the chair. Three hundred and forty-three members and guests sat down, among the latter being the Lord Bishop of London, the Right Hon. Lord Methuen, Lord Justice Vaughan Williams, Mr. Justice Warrington, Sir James Bourdillon, Major Sir H. W. Barlow, Bart., Professor Walter Raleigh, Dr. J. Kingston Fowler, Rev. H. Russell Wakefield, Mr. Owen Seaman, and Mr. F. Carruthers Gould, &c. &c.

AN EXHIBITION of Alpine paintings by the late Mr. Alfred Williams was held in the Hall of the Club from Tuesday, December 5, to Saturday, December 23, 1905. Refreshments were provided on the afternoon of the day of the Winter Dinner, December 19.

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TOWARDS RUWENZORI.

By DOUGLAS W. FRESHFIELD.

(Read before the Alpine Club, March 6, 1906.)

WHEN I last read a paper before the Club—it was on Kangchenjunga—my companion reproached me with being dull. I am afraid I shall be duller to-night. If so, you must put the blame on your Secretary, who has forced me to tell the story of a failure. My only hope is that I may be instructive; this is always the last hope of dulness. I trust that I may be able to give my successors some of the information Mr. Mumm and I failed to get last summer as to how best to approach the Mountains of the Moon.

I had better, perhaps, at once defend myself for using this term. I am of course aware that the identification has been, and is still, disputed by geographers of reputation. I have read what the learned Mr. Ravenstein, and the first conqueror of Kilimanjaro, Dr. Meyer, have to say on the subject. But they fail to convince me. I find that Herodotus reports the existence of pygmies, that Ptolemy describes a snowy range feeding two lakes as the source of the Nile; in the Harleian Atlas (A.D. 1536) I see the *Silva Lunæ* planted beside the *Montes Lunæ* (Stanley's forest and Ruwenzori) close to one of these lakes; I am referred to Arab chroniclers who describe snow mountains and the inconveniences of climbing them. In the face of these authorities it seems to me quite incredible that nothing was known, that no tradition or report had reached Egypt or Europe, concerning the heart of Africa, and that so many of its natural features were described and depicted by a process of happy invention, or what might be called telepathic geographical inspiration. I state my own conviction crudely. I shall not trouble you with a discussion

which might be spun out by irrelevant learning to as great a length as that on 'The Pass of Hannibal.'

While I am dealing with nomenclature I had better explain the principles on which I shall employ modern names. It may be incorrect to speak of Ruwenzori as a single peak, but see no reason whatever for declining to speak of 'the Ruwenzori Range.' The name rightly, or wrongly, has been accepted in European usage, and any change now would be vexatious. As to particular peaks I must decline altogether to follow Dr. Stuhlmann in affixing to them the names of German savants whom I fear not to know argues oneself unknown. I shall prefer the native names employed by Sir Harry Johnston to others because, as the head of the Government of the Protectorate, he had the best right to establish a nomenclature. I trust that in this region we may not have to protest against the further introduction of the names of European celebrities, princely or scientific. Our maps are already blotted with too many—and that in inhabited countries where there is little excuse for them. Herr Grauer's intentions are courteous, and I trust he will not think me the contrary if I suggest that it would be a mistake to name a relatively insignificant rock after the sovereign of the British Empire.*

I have spoken of Government. This may serve as the place to point out that a question has arisen as to what Government the different parts of the Ruwenzori Range are properly subject to, Great Britain or the Congo State. Lord Salisbury, who was fond of short cuts in African politics, agreed to take the 30th meridian of E. longitude as the provisional frontier line. This was at that time laid down on maps as running along the W. base of Ruwenzori and bisecting Lake Albert Edward. Corrected observations have since shown that it cuts the eastern spurs of the range, and thus would give the crest of the chain and the whole of the lake to the Congo State. If this artificial boundary line were accepted as permanent, local trouble and loss must result. It would cut off our vassal, the King of Toro, from a salt-producing district which is his chief source of revenue; it would exclude our commerce from the waterway of the western Nile, it would block another bit of the Cape to Cairo route. To the native tribes the question is one of much concern. One of the chiefs has recently shown his anxiety to remain a British subject by tendering in advance to the Government of the Uganda Protectorate the whole house-tax

* See *post*, p. 143.

for his tribe. To the Alpine Club it is also a matter of legitimate concern. We cannot afford to give away any more African snows, to have to show passports for Ruwenzori. The case is clearly one that calls for the attention of our former President, the author of the Access to Mountains Bill.

All those who know the district will, I believe, agree in urging that the time has come when negotiations should be entered into for substituting the boundary provided by Nature for an inconvenient and artificial line that disregards local features, commercial interests, and tribal limits. We must trust Mr. Bryce to see, when the Mixed Commission anticipated by the Belgian authorities meets, that the frontier line is drawn in a way agreeable to the inhabitants of the country as well as to the members of the Alpine Club.

The following extract from an article in the 'Mouvement Géographique' for October 29, 1905, by its editor, M. A. T. Wauters, Secretary-General to the Congo Railways Company, would seem to show that there should be no difficulty in coming to an amicable and satisfactory arrangement :—

'La frontière politique qui sépare l'Etat Indépendant du Congo du colonie anglaise de l'Uganda coupe le massif du Ruwenzori en deux portions d'inégales superficies : la partie nord-est, la plus importante, se trouve dans la sphère d'influence anglaise : la partie sud-ouest, qui comprend les contreforts en pente vers le lac Albert-Edouard, est située sur le territoire de l'Etat.

'Cette limite purement géographique est provisoire : il viendra un moment où elle devrait être précisée sur le terrain par une expédition mixte. Telle quelle est elle a été fixée par diverses conventions et documents, notamment la déclaration de neutralité adressée aux puissances le 1^{er} août, 1885, la carte officielle en 5,000,000 dressée par M. Friedericksen et annexée aux "Protocoles et Documents de la Conférence de Berlin," enfin l'arrangement de 20 mai 1892, conclu avec l'Angleterre.

'La limite est indiquée par un pointillé spécial sur le croquis joint à cette étude et qui a été mis au courant des dernières observations reçues en Europe. A l'ouest du lac Albert et du cours moyen de la Semliki elle est formée par la ligne de faite des bassins du Nil et du Congo jusqu'à sa rencontre avec le 30^{me} méridien ; elle est continuée vers le sud le long de ce méridien qui coupe la grande forêt de l'Aruwimi à ses confins orientaux, la Semliki à peu près vers le milieu de son cours et le lac Albert-Edouard à son extrémité nord-est près du poste

anglais de Katve.' (The writer has here given the uncorrected position of the Meridian.)

I must assume that all my readers want to go out to Ruwenzori, or, at any rate, to know how they can best go should they want to. If you embark at Marseilles or Brindisi it takes from sixteen to twenty days to reach Mombasa through the Suez Canal. The Austrian steamers are the best, the English the slowest; there are also fair French and German boats. A white town situated on an island between two fine harbours, blue bays framed in palm forests, Mombasa is a characteristically tropical port.

In 1883 I feared I was signing a death-warrant in drawing up the instructions to Joseph Thomson to find a way to the great lake between Kenia and Kilimanjaro. A most unassuming railway station is now the starting-point of a train which performs in 48 hrs. the journey of 580 miles which used to take three months. This line is one of the most marvellous products of British enterprise. A wedge run into the heart of a scarcely discovered continent, it crosses two ridges, one of which is as high as the top of the old St. Gotthard carriage-road, 8,300 ft. But to the traveller an even greater attraction than the scenery is the fact that the best part of Noah's Ark promenades about the line, and that Adam and Eve may be seen watching the trains pass. Deer, antelopes and zebras in herds, jackals, hyænas, baboons, ostriches, giraffes, all these we saw close at hand, and on our way down the train pulled up to give us a better view of a lioness who calmly trotted beside it, caring no more for Mumm and his rifle than her ancestors did for a certain prophet.

The Victoria Nyanza is reached at the head of the Kavirondo Gulf, whence a luxurious steamer carries visitors to Entebbe, the capital of the Uganda Protectorate. The northern lake-shores are low, hills of 300 to 400 ft., but they are exquisitely wooded. The open spaces are as green as English meadows, and the giant ant-heaps add to the illusion by their resemblance from a distance to haystacks.

Entebbe is in a situation of singular beauty. The town, a group of villas and a street or bazaar, has been planted on the steep side of a wooded peninsula and looks out east and south over a labyrinth of bays and islands towards the centre of the great inland sea. Its site has been more or less cut in a primæval forest, and in the villa-gardens English roses blossom round the trunks of the tall smooth-stemmed giants of Africa. The sunrises are the peculiar glory of Entebbe.

The surface of the lake has at all times a greenish hue, at dawn it shines like a translucent emerald floor, the islands become bars of the deepest sapphire, the grove that still lines the water's edge forms a dark frame to the luminous landscape, while the white-robed natives in the foreground resemble the figures of a dream. I never enjoyed any sunrises so much ; I ought perhaps to add that one of their charms was that I could see them from my bed.

Beyond Entebbe civilised communications come to an end. Here the traveller first learns what 'going on safari' means. He must organise a caravan and procure tents and provisions. He will find a great deal ready to his hand, but he may do well not to rely too exclusively on the local resources of Uganda. The language difficulty is considerable, unless one of the party can talk Swaheli—which, like Latin in the Middle Ages in Europe, is a means of intercourse between the superior natives throughout East Africa. We solved it by engaging a young Englishman, who had come up from Natal to try his luck under the Equator, to act as our interpreter and the controller of our caravan of sixty Uganda natives.

Before we set out on our journey I may take the occasion to say once for all that the maps of the Intelligence Department of the War Office, though good round Lake Victoria, are practically useless in the interior. They are compilations from the itineraries of early explorers, and fail to indicate even the line taken by the beaten postroad from Kampala to Toro and the Upper Congo, or to give the names by which the halting places are now known. Ruwenzori is shown by conventional contours having no reference to Nature. There is no respectable map of Ruwenzori in existence. The early travellers were misled by the idea that it was volcanic and indicated a vast crater in its centre. Stanley's guesses were accepted by stay-at-home cartographers as indisputable, and his successors' work distorted in order to make it fit in with them. Mr. Moore and Mr. Scott Elliot* have each contributed some fragments of observation. A German cartographer has plotted out in detail Dr. Stuhlmann's discoveries on the W. side of the chain.† But all the work done has been somewhat amateurish, and I regret that I have nothing to add to it. For surveying in such a region time and fair weather

* *A Naturalist in Mid Africa.* By G. F. Scott Elliot. London, 1896. *To the Mountains of the Moon.* By G. E. S. Moore. London, 1901.

† *Mitteilungen der Geographischer Gesellschaft in Hamburg* (vol. xvii.), 1901.

are essential. I trust that the expedition sent from the British Museum to spend a year on the mountain may be able to produce an authentic map of its central group. The Government, I am glad to learn, are taking up seriously the mapping of the Protectorate as a whole.

Either from Entebbe or Kampala it is 200 miles, or 12 days' good marching, more generally 14, to Fort Portal, the British post a few miles from the northern spur of the Ruwenzori Range. A march varies from 14 to 20 miles and covers two stages, at each of which is a rest-house or hut, protected by a fence. The day's journey begins at daybreak and is as a rule completed by noon. Towards evening a troupe of villagers comes in with the carriers' food, unripe bananas, and much bargaining goes on. If there is a chief of any importance in the neighbourhood he brings a present, poultry or a lamb, and expects something in return. Strange to say, we found the most acceptable gift to be writing-paper and envelopes. Among the old aristocracy of Uganda it is apparently held a high distinction to be a man of letters!

It is worth while to visit Kampala, a ride of 4 hours in a rickshaw from Entebbe. The former capital of Uganda is in one respect like Rome: it stands on several hills. On one hill is the English Station; on another the royal palace, in old days the scene of the many atrocities of King Mwanga, now the residence of his grandson, a boy of thirteen. He has an English tutor to teach him lawn tennis and football, and hacks his subjects' shins instead of cutting off their ears and noses. So quickly does the old order change in Darkest Africa. A long street lined with the high fences of chequered bamboos that enclose the residences of the nobility of Kampala leads to the Protestant cathedral. It is called a cathedral, but it is no more like a real cathedral than, let me say, a colonial bishop is like the real thing. The building is constructed almost entirely of reeds and has a vast thatched roof which is fine in colour and impressive from a distance. It is said to be capable of accommodating 2,000 worshippers. Perhaps the best idea of it will be given by describing it as a gigantic Gothic summer-house. On a more distant hill stand the important buildings of the Roman Catholic Mission, which does good work throughout Uganda in encouraging agriculture and spreading the rudiments of civilisation. There is no visible town, except the bazaar, a long row of well-furnished booths. In the early morning it is a very pretty sight. 'White cotton nightgown country' Uganda might then be called. The shining figures, in their flowing robes, reminded me of the inhabitants of

the Celestial City in some old Florentine picture. The illusion vanished when on nearer approach the colour of their faces became visible.

The walk or ride (we were successful in hiring two mules at Entebbe) to Fort Portal may be roughly divided into three sections. The scenery in each differs, and each has its distinctive character. We began by traversing an upland region cut by shallow valleys. In their flat bottoms are not streams but swamps, from which foul water oozes out to the N. to join the Nile. Here as elsewhere Africa gives one the idea of the work of a 'prentice hand. The architect of the Uganda plateau omitted to give it any sufficient general slope to carry off its drainage. On the heights are many hamlets and banana groves, in the hollows either exquisite little samples of tropical forest, or, more often, fields of papyrus covering stinking, stagnant mud. These the path traverses on narrow causeways.

After a large shallow lake, crowded with islets (Lake Isolt), has been passed on the left, our second stage is reached. The hills become bolder and more individual, about the size of English downs, the valleys wider and less insanitary. There is a good deal of bush, but no continuous forest. Here (as old travellers say) there be many fierce lions. Within an hour I marked the tracks of five on the path as I was walking ahead of the caravan one morning. The only objects I encountered, however, were a Roman Catholic missionary, travelling with a donkey, a hammock and a bicycle, and an official from the Upper Congo, to which Uganda is now, thanks to the railway, the direct postal route. A few hours later I was thrown from my mule, and a good deal hurt, so that I had to be carried in a litter for several days.

After another five or six days the country assumed a more varied aspect. The hills were no longer scattered without apparent design or connection. Something like a continuous range rose in front. We were approaching the edge of the high Uganda plateau, the watershed between the streams flowing to the Victoria Nile and to Lake Albert Edward. The pass which we crossed at the head of a very pretty flowery valley was a mild affair, comparable with the Col di Colma between Varallo and Lago d'Orta.

From this point we might have seen Ruwenzori; but we did not, that excitement was reserved for two days later, when we were camped in the vicinity of a mission station called Butiti. The spot is 17 miles (one day's march) from Fort Portal and about 40 miles from the snows. Hence we had the

view, denied to our predecessors, which Sir H. Johnston drew from imagination and inserted in his book. His fundamental idea was sound, but he was misled by trying to incorporate the legends of cartographers.

The prospect before us was a striking one. In the immediate foreground stood bold green hills; beyond them we looked across a rolling country to a long range, rising from low foothills at either end, ridge behind ridge, to its final comb of shining snow. The vision, welcome as it was, was rather fascinating than sublime. The precipices and ice-fields were not, like those of the Himalaya, built up on a scale to excite awe; the general effect of the range was such as the European traveller is accustomed to. We might have been looking at a bit out of the panorama from the Superga.

There was one point that struck us even before we began to analyse the details of the heights. There was no doubt whatever as to the highest visible peak, no more than there is in the case of Mont Blanc when seen from Geneva.

Starting from the S. the first snow lay in streaks on a massive rock I may distinguish provisionally as the Southern Peak; a broad snowless depression, obviously meant for, and as we subsequently learnt, used as a pass, divided it from a bold comb of rock and ice, Sir H. Johnston's Kiyanja.* Its distinctive outline was at once recognisable as the reverse of that shown on the right of Dr. Stuhlmann's fine photogravure taken at the head of one of the valleys on the opposite side of the range. From its base a glacier-clad ridge stretched to the dominating summit, a shapely snow-peak of a most inviting aspect occupying the position of Sir H. Johnston's Duwoni. It reminded me in its proportions of the Weisskugel and looked quite as easy. There seemed nothing to prevent anyone armed with an ice-axe from walking straight up the snow-ridge from the saddle at its southern base. Moritz Inderbinnen was delighted, he planned another route for the descent. Misgivings were banished; we all began to count our chickens prematurely.

To the N.W. of the highest summit was a second slightly lower top. This double peak is shown in Stuhlmann's illustration, and also, I fancy, in a woodcut in Stanley's "In Darkest Africa," vol. ii., representing 'the tallest peak of Ruwenzori' seen from the N.W. But where was the Saddle Peak seen by Stairs and afterwards inserted in maps as 12 to 20 miles to the N. of the central group and equal to it in height? For

* See illustrations.



Tallest peak of Ruwenzori from the N.W.
(Stanley)



Ruwenzori from the S.W.
(Dr. Stuhlmann)



D.W.F. del.

Duwoni and the Portal Range from Butiti

the moment a neighbouring hill prevented us from answering this question. But an hour later I saw from the path the complete range. North of and close to the double peak were three or four inferior snow-sprinkled rock-teeth; some of these no doubt were the summits seen by Stairs. Further N. the crest soon became rounded and green. In short, the Saddle Peak seems to be an African Mt. Iseran.*

It may be well to pause here, and before approaching it nearer, to give an outline sketch of the character of the Ruwenzori Range according to our present knowledge. It has already a considerable literature, but some of its explorers have employed phrases which I think they would hardly have hazarded had they been brought up in the traditions of this Club. To compare Ruwenzori with the Alps or Caucasus is to risk giving a very exaggerated impression. Its snows have been said to rival those between Mt. Blanc and the St. Gotthard, a distance of 100 miles. Between the Simplon and the Gries would be nearer the mark. The glaciers of Ruwenzori cover, I believe, about 12 miles; they certainly do not cover more than 20 out of the 60 that, reckoning in its lowest foothills, make up the range. I should roughly divide the chain as follows: at either end 12 miles of low foothills, 20 miles for high ridges green to the top, and 16 at most for Alpine peaks and glaciers.

I desire to speak with all respect of Dr. Stuhlmann, who did very good work, and has given us our best picture of what is probably the finest aspect of the central snows. But it is a singular instance of the blindness of some scientists *suprà crepidam*, that the Doctor and his critics (with one exception, whom I will not name) did not recognise as glaciers the glaciers in his photograph, or realise the fact that he had established Ruwenzori's claim to be the mother of the Glaciers of the Nile, described by Ptolemy.

Mr. Moore was, I think, the first to go up to and describe the Mubuku glaciers, and he read a paper to the Club on his excursion (vol. xxi.). He attained the crest of the chain at a height of nearly 15,000 ft. My friend Sir H. Johnston,

* In all Mumm's photographs from this spot the distance has unfortunately failed to appear. I give, therefore, a facsimile of an outline I took of the highest peak from Butiti, with two views of it from different quarters borrowed from Stanley's and Stuhlmann's books. Views of the Southern Peak and Kiyanja taken by Mumm in the Mubuku Valley will also be found in this number. [For the first three views we are indebted to the courtesy of the Royal Geographical Society.—EDITOR, A. J.]

to whom we are indebted for a fascinating and beautifully illustrated description of the whole Protectorate, has given a detailed narrative of his climb up the Mubuku to the glaciers at its head. In 1901 Mr. Wylde, 'with the aid of entrenching tools,' climbed for an hour above the end of the glacier to a height he estimated at 15,000 ft. No measurement, however, seems to have been taken.*

The main point on which I differ from Sir H. Johnston is as to the height of the mountain. He guesses it as 20,000 ft., an estimate formed on his impressions of the scenery at the head of the Mubuku Valley. I cannot help surmising that his patriotism unconsciously impelled him to raise it above the great dome, the dome of Kilimanjaro, which in a fit of misplaced and unrequited generosity we gave away to the Kaiser.

In this discussion we have now several data to start from. The level of the upper terrace of the Mubuku Valley has by repeated measurements been shown to be about 13,000 ft., the base of its glacier 13,500-600 ft. Mr. Moore, Mr. Tegart, and Mr. Wollaston have separately got heights of about 15,000 ft. for points on the watershed at the head of the glacier. I confess that I find it hard to believe that the rise from the valley bottom to the ridge is only 2,000 ft. But I cannot dispute these combined observations, and I must suppose that, like Sir H. Johnston, though in a somewhat less degree, I was misled by the well-known magnifying and distorting powers of mist. The third datum is the height of 16,600 to 16,700 ft. obtained by trigonometrical measurement by members of Colonel Delmé-Radcliffe's Frontier Survey for a peak in the range. The question (which we cannot answer without fuller details) is, which peak? From the S. and S.E. the highest peaks are often obscured by the southern peak, which is several hundred feet lower, and it is, therefore, very possible that the southern peak was the point measured. In this case the highest peak will probably prove about the height I first guessed, 17,000 to 17,500 ft. But if the gap on the Mubuku watershed is really only 15,000 ft., and Kiyanja only 16,150 ft.,† the highest peak may be not more than 16,500 ft., the height Mr. Tegart assigns to it. It must not be forgotten, however, that Dr. David ‡ claims to have climbed to 16,700 ft. on the western slope of the mountain. But until he furnishes further details this altitude must be taken with reserve.

It may plausibly be argued that a chain under the Equator must rise to more than 17,000 ft. in order to send down

* See *Geographical Journal*, vol. xix. p. 86.

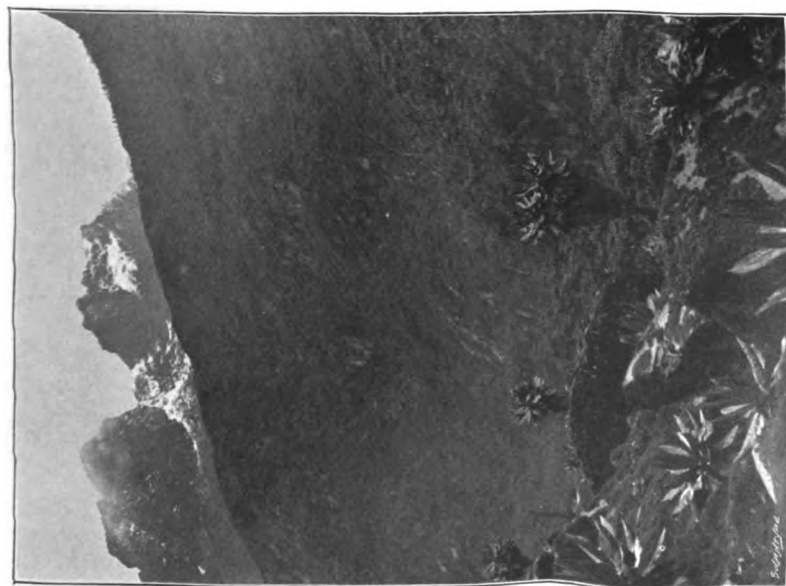
† See pp. 145, 6.

‡ See *Globus*, vol. 86.



Swan Electric Engraving Co.,

KIYANJA.



Photos by A. L. Mumm.

THE SOUTHERN ROCK PEAKS. FROM THE FOOT OF THE MUBUKU GLACIER.

glaciers to 13,500 ft. I thought so myself until I went to the spot. But now, after suffering from the rainfall and observing the pall of wet mist, which hangs for weeks over the loftier ridges, I can easily believe that perpetual humidity and frequent absence of sunshine may be efficient causes for the descent of the ice to a comparatively low level. In this connection I may quote a fact recorded in the 'Geographical Journal' for March last. On the slopes of Ruwenzori a temperature of 39° Fahrenheit has been recorded at 3,670 ft., while no equally low temperature has been recorded on Kilimanjaro at 6,200 ft.

The snow-line is another matter on which my predecessors' ideas have, I venture to think, got somewhat mixed. A snow-line is not where snow sometimes falls, or where *névé* turns into ice, but where snow lies all the year round. Snow often falls on Ruwenzori down to 12,500 ft.—perhaps lower—but trees grow up to 14,400 ft. That is about the height where snow lies permanently in gullies and hollows. There is not, as in the Alps, a broad bare space between the forests and the snows. When we were in Toro the only continuous snows were those between Kiyanja and Duwoni; the outlying rock-peaks were only flecked.

It was a rare day in more ways than one, the last of our journey to Fort Portal. As our path wound over the shoulders of high downs I recognised the black serrated crest of the Portal Peaks, buttressed towards the plain by the army of green hills which divides the basins of the Wimi and Mubuku torrents. We lost the view by plunging into a dark wood, a sample of the famous forest beyond the Semliki in which Stanley wandered. In one place the brushwood was torn and the path pounded by the recent passage of a herd of elephants. Toro is the home of elephants. It is also a land of streams. In the thickest of the grove we heard the welcome sounds of running water and came on a considerable torrent, tearing its way through the tropical greenery.

Fort Portal is finely situated on a hill in open country, a few miles from the northern spur of Ruwenzori. It consists of a fort, a large camp of beehive huts occupied by the Nubian garrison, a few Indian stores, and one or two official residences. The Collector, Mr. Haldane, was unluckily absent, but by his kindness Mumm and I were installed in comfort in his house. From the balcony there is a very pretty view along the range, but the central group is hidden and only a few snow patches are visible on its northern outliers and one white speck in the extreme S.

Fort Portal is over 5,000 ft. above the sea, the valley of

the western Nile is under 3,000 ft. It is a pleasant, almost level, walk of 2 hrs. past a small lake full of wild ducks and water-lilies and over a level grassy upland to the brink of the escarpment of the Semliki Valley. From a hillock to the left of the pass there is a most impressive view. In the foreground the last spur of Ruwenzori makes its plunge into the deep-lying trench through which the Nile wanders in wide curves on its way to the Albert Lake. The plain is green and apparently cultivated in parts, burnt up and red in others, dotted everywhere with acacia groves. Opposite rises the long range which forms the watershed of Africa, breaking down in cliffs to the Lake, the waters of which shimmer faintly in the far distance.

Two miles from Fort Portal on the opposite hill lives a black king, Kasagama by name, whom the Government recognises and supports. He has for neighbours a colony of Church of England missionaries, with their wives and children, who live in comfortable houses with pleasant gardens. Under the instructions of the Collector and through the able hands of his Katakiro, or Prime Minister, the king organised our transport for Ruwenzori. The missionaries proved valuable sources of information as to climate and paths. Mr. Maddox, one of them, has been up to the glaciers, and is a keen climber, though inexperienced. I left him an ice-axe, and I trust he may make good use of it.* By him and by the native chiefs we were repeatedly assured that there are two dry seasons on Ruwenzori, mid-summer and mid-winter. Then, they said, it is much colder on the mountain, and the higher swamps are frozen. The dryness can, however, only be relative, since Mr. and Mrs. Fisher, the plucky missionary lady, and the Austrian—Herr Grauer—who attempted the mountain after us with Mr. Tegart and Mr. Maddox, met with broken weather in January.

The British Museum party, of whom our member Mr. A. F. R. Wollaston is one, seem, however, to have been more fortunate a week or two later, and we look forward with great interest to fuller accounts of their doings. Whatever escapes them in the way of summits will doubtless fall before the stupendous expedition led by the Duke of the Abruzzi, which all mountain-lovers will be glad to learn includes Signor Vittorio Sella.

(To be continued.)

* Mr. Maddox was subsequently one of Herr Grauer's party in 1906. See *post*, 'Further Attempts on Ruwenzori,' p. 148.

THE DENT BLANCHE FROM THE WEST, AND THE BREITHORN
JOCH.

BY O. K. WILLIAMSON.

(Read before the Alpine Club April 8, 1906.)

MY feelings to-night in bringing to your notice two expeditions which we made last summer are somewhat akin to those which might be experienced by a chaperon escorting two damsels to a dance, having indeed little fear as to the future of the elder (to whom I may liken the Dent Blanche), who is already well known, albeit she is appearing in a somewhat unusual garb; but, on the other hand, deeply anxious for the success of the younger (represented by the Breithorn Joch), seeing that the latter is making her *début*.

After spending a few days in the Lötschenthal last July, Henry Symons and I with our guides—Jean Maitre and Pierre Maurys—crossed over to Ober Steinberg, that delightful spot at the head of the Lauterbrunnen Valley, taking the Lauterbrunnen Breithorn *en route*, having as our object the reconnoitring and attack of one of the peaks between the Tachingelhorn and the Jungfrau by a new route. We then proceeded critically to examine the same with a Zeiss field-glass, but were reluctantly forced to agree with our guides that the proposed ridge was, owing to the slabbiness of its steep rocks, probably impossible.

It now clearly behoved us to find something to justify our presence here. Failing a new route up a peak, it seemed to us that an untrodden pass would be a worthy object of ambition, and scanning the ridge between the Grosshorn and Lauterbrunnen Breithorn on that glorious summer morning, my eye was arrested by a Col, that between the latter peak and the summit, 3,387 m. on the Siegfried map.* This, always provided that it could be reached from the side of the Lauterbrunnen Valley, and likewise if it should afford a means of escape on the south side, would be a new pass across the main chain of the Bernese Alps.

This idea was no sooner conceived than I discussed the matter critically with the other members of our party, with the result that they were as eager as I was to attempt the expedition, and Jean went so far as to express an opinion favourable to our chances.

* Peter Baumann informs me that this peak is locally named Zuckerstock or Zuckerstöckli.

A brief summary of the passes across the ridge just mentioned may not be out of place. Taking them in order, from north-east to south-west, they are:—The Roththal Sattel (3,857 m.), the depression between the Roththal Horn and the Jungfrau, although it was reached simply in order to ascend the Jungfrau thence and was not crossed as a pass, was first reached from the west or Roththal side by a difficult and dangerous climb by Messrs. L. Stephen, R. J. S. Macdonald and F. Craufurd Grove, with Melchior and Jacob Anderegg and J. Bischoff in 1864. The Lauithor (3,700 m.), the gap between the Gletscherhorn and the Gespensterhorn, was first crossed in 1860 by Messrs. John Tyndall and F. Vaughan Hawkins, with Ulrich Lauener and Christian Kaufmann. These passes, especially the first-mentioned, are dangerous from avalanches. The Gletscherjoch, between the Ebnefluh and Gletscherhorn, does not seem to have been reached from the north. The Ebnefluhjoch (3,750 m.), between the Mittaghorn and the Ebnefluh, was first traversed by Messrs. J. J. Hornby and T. H. Philpott and Mr. F. Morshead, with Christian Almer, Christian Lauener and Jacob Anderegg in 1866. The work appears to have been very difficult. The Mittagjoch (3,704 m.), between the Grosshorn and Mittaghorn, was reached from the north in 1880 by Herr H. Dübi, with Fritz Fuchs and Fritz Graf. The Schmadrijoch (3,311 m.), between the Grosshorn and Lauterbrunnen Breithorn, was first crossed (from the south side) by Messrs. J. J. Hornby and T. H. Philpott with Christian Almer, Christian Lauener and Jacob Anderegg, in 1866. The descent on the north side was effected by the rocks of the Grosshorn and a steep glacier. The Wetterlücke, between the Tschingelhorn and Lauterbrunnen Breithorn (3,159 m.), was first crossed (from south to north) in 1864 by Mr. A. W. Moore, with Christian Almer and Anton Eggel. This beautiful pass is frequently traversed nowadays. Thus it will be seen that since the last of these passes was crossed for the first time, a quarter of a century had elapsed.

In reading the accounts of first ascents by mountaineers of a past generation, one is struck by the extraordinary preference exhibited for avalanche-swept couloirs over ridges. To the modern climber this is hard to understand. Besides being, from the nature of things, far safer, a ridge climb would seem to be incomparably superior, as regards variety of scenery, to that on a face or in a gully.

To return to our proposed expedition. The second day following our arrival at Ober Steinberg saw us relapse into

that condition of restive repose caused by the advent of bad weather. The same fact will serve to explain a lamentable interest in the culinary proceedings which was also observable. That evening, however, the outlook was sufficiently promising to impel us to make plans for an early start next morning. We agreed that it was not worth while to camp out, as the furthest suitable spot for this purpose that we knew of was not more than about two hours distant from Ober Steinberg.

We were awakened about 1 o'clock on the Monday morning to find doubtful conditions of weather and to the necessity of solving that most difficult problem as to whether these were good enough to make it desirable to start. This problem having been solved in a negative sense (to my secret joy), I retired to bed once more, leaving my companion to finish his breakfast and study Shakespeare. Of course, as soon as it was too late to start it became obvious that the day would be a brilliant one. This was occupied by a morning stroll and a bathe in the Oberhorn See and afterwards by a delightful walk along the hillside to Mürren. On the way back, during which Symons again insisted on having a bath in a stream, the peaks at the head of the valley and those bounding the Roththal, seen soaring above the evening mists, presented a weird and marvellously beautiful appearance, reminding us of photographs we had seen of Himalayan peaks.

The situation of Ober Steinberg, facing the great wall from which rise the peaks to the south and east, is truly a magnificent one. For this reason alone, the spot deserves to be better known. We found the Hotel Ober Steinberg, moreover, simple it is true, but comfortable. That evening we decided that there was no excuse for further sloth, that the conditions were now sufficiently good to justify our expedition, and that stern duty would necessitate our start on the following day. Although there had been nearly two days' bad weather, there was but little fresh snow to be seen on the mountains.

Our plan was not only to cross the pass, but also to ascend the Grosshorn *en route*. How absurd this idea was the sequel will show. Strolling out to have a look at the peaks after dinner with two Englishmen, who had arrived that evening, some such conversation as this took place:

'What expedition are you planning for to-morrow?' 'We think of trying the Grosshorn.' 'Which way do you attack that?' 'The natural way would be from the Schmadrijoch.'

'What is the route to the Schmadrijoch?' The way was indicated. 'We shall look out for you on that slope at such and such a time.' Now we, of course, had not the remotest idea of going over the Schmadrijoch, neither had we the slightest intention of divulging our plans. Hence the above, perhaps, excusable deception.

About six hours later, or, to be accurate, at 2 A.M. on Wednesday, July 26, in perfect weather, the four members of our party solemnly marched out from the hotel and proceeded in single file along the narrow path leading to the Oberhorn See. I know not whether any member of our Club can honestly say that he enjoys this part of an expedition. I will confess that to say so would be, as regards myself, a 'terminological inexactitude,' and that my temper at this time of day (or night) is at its worst.

Leaving the Oberhorn See on our right, and climbing up in the dark execrable slopes of the moraine of the Breithorn glacier, we descended on to the glacier.

A few words of description will make clear our further route. Running northwards from the wall supporting the upper glacier, which itself arises from the névé immediately under the ridge extending from the Zuckerstock to the Lauterbrunnen Breithorn, is a secondary ridge of rock, which at its northern extremity (marked on the Siegfried map as 2,316 m.) falls abruptly to the Breithorn glacier. We were now exactly opposite to the end of this ridge, and our intention was to mount the glacier to the E. thereof, and finally to ascend to the secondary ridge itself, near the point where it abuts on the main wall, and so to reach the upper glacier.

Daylight was fast approaching as we halted to rope. We now diverged to the right from the Schmadrijoch route, and ascended the glacier with ease by slopes which after the commencement were quite gradual. Turning to the right we reached the col immediately S. of the highest point of the secondary ridge. It was now considered desirable to refresh the inner man. I felt in that condition of semi-moroseness, the usual result of an early morning start before one's mental and physical activities have received the stimulation of any real difficulties. We expected that the problem of the practicability of the ascent to the pass would be solved within the next few hours. Turning once more to the right, Pierre cut steps up a short and narrow couloir of snow. About this time we were first greeted by the morning sun. To the left

of this couloir we took to easy rocks. A steep wall of rotten rock, some 20 ft. in height, now demanded careful treatment. It may, perhaps, be doubted whether experience tends to make one climb rock of this sort more quickly, although undoubtedly the experienced mountaineer will climb it far more safely than the novice. It led us up once more to a continuation southwards of our secondary ridge, which we followed without difficulty to the upper glacier. At this point we erected a stone boy. We now traversed snow slopes to the right below a conspicuous overhanging sérac, and turned sharply to the left, now proceeding in a S.E. direction towards the foot of the final slope leading up to our col. I do not remember having ever seen more impressive scenery than what greeted us hereabouts, the Breithorn being striking beyond any description. The peak as here seen rises from the glacier in a great fluted wall of quite uncompromising steepness. Consisting in the main of ice, the face is made up of shallow couloirs, separated by ribs, with here and there rocks jutting out from them. We made rapid progress, and felt considerable satisfaction at the fact that no crevasses presented any serious difficulties. The slope steepened up before we reached the bergschrund guarding the final wall that stretches between the Zuckerstock on the left and the Breithorn on the right, and we here paused to plan our final attack.

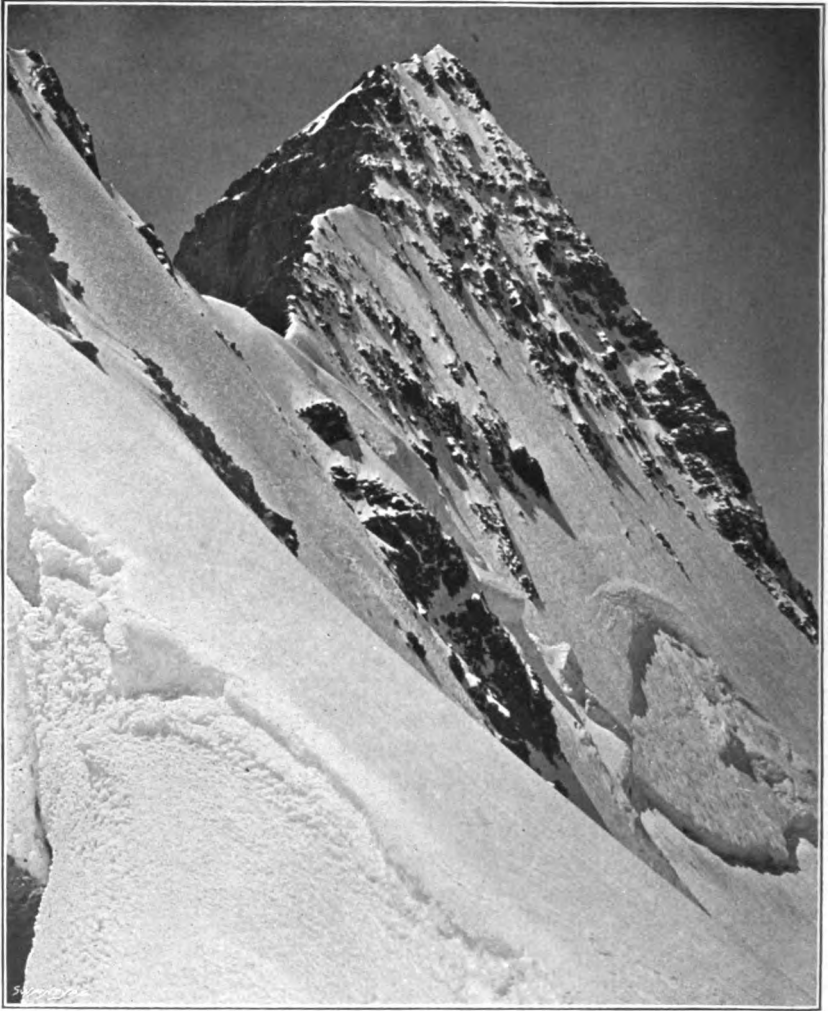
At only one spot did there appear any probability of our being able to cross the schrund, which elsewhere was of most formidable width. At the point in question it was narrow and was partly choked by snow; these advantages, however, being counterbalanced owing to the fact that the upper lip was at a considerable height vertically above the lower. The slope above was of its kind the most formidable that I have ever had the luck to climb. Of similar nature to that forming the northern face of the Breithorn, it also was of very considerable steepness. From just below the bergschrund I carefully measured the angle of the slope with a clinometer, and found that from the foot to the highest point visible, probably two-thirds or three-quarters of the distance from the foot to the top of the slope, this was exactly 65° . Above the bergschrund the slope rose for some feet in hard ice, which then gave place to more or less continuous patches of the calcareous rock of which the range here is composed. These extended upwards for the greater part of the height of the slope in a flattened, ill-defined rib. Up this we proposed to climb. Further to the left of these rocks the slope appeared to consist of bare ice, leading up to the Zuckerstock. The sun

was now just touching the topmost rocks, but we neither saw nor heard any signs of falling rocks on this side of the pass.

We now placed ourselves on the lower lip of the bergschrund, and Pierre proceeded to climb up me, and, standing on my right shoulder, was enabled to reach the upper edge and started to cut steps in the slope above.

Mr. Dent, in his Alpine classic, 'Above the Snow-line,' speaks of the bergschrund as 'a god-send to writers on mountaineering in search of material to act as padding.' On this occasion, however, we thought fit to reverse the natural order of things, and acted as padding to the bergschrund, stowing ourselves away in its recesses and admiring the gigantic icicles dependent from its upper edge. After a time a distant 'Venez, Monsieur,' called upon us to follow, and we one at a time emerged on to the ice-slope. By the time that the last man had fairly started on the slope, Pierre had reached the lowest rocks. These we negotiated with extreme care, owing to the steepness of the slope, not that they were in themselves difficult, but they were not of the nature upon which one could place implicit reliance. Moreover they had a covering of fresh snow. A well-defined rock platform was soon reached, and from here we climbed continuously up the rib, the angle becoming less steep, till we finally emerged on the ice-slope above the rocks and ascended this for a short distance. Above us the snow covering faded away, and to avoid the bare ice we had to traverse horizontally to the left a few yards, some jutting knobs of rock affording welcome hand-hold. Owing to the excellence of the steps which Pierre was manufacturing, ample time was afforded to us here to contemplate the glorious scene around us, whilst the music of the Schmadribach Fall, thousands of feet below, was broken rhythmically by the ring of Pierre's axe. A few steps down the slope, which here consisted of snow, were taken, followed by a short further traverse, and we ascended hard snow at an angle of 65°. This soon commenced to ease off, and in a few steps our leader looked over on to the Valais side and directly after we were all together at the top of the wall which falls away to the Jägi glacier.

We had taken nearly three hours from the bergschrund, having consumed nine from Ober Steinberg, one of which had been spent in halts, and estimated the height of the final slope as about 700 ft. Owing to the almost complete absence of wind, the temperature had been ideal, although during the greater part of the time of the ascent of the ice-wall we had been in shade. What a view greeted us as we looked back !



O. K. Williamson, photo.

Swan Electric Engraving Co.,

**THE LAUTERBRUNNEN BREITHORN,
FROM BREITHORN JOCH.**

and in truth we were just in the frame of mind to enjoy it. To the left was the noble Lauterbrunnen Breithorn, in the opposite direction the equally formidable northern slopes of the Grosshorn; beyond this again, the shapely peak of the Jungfrau reared herself above the bare rocky slopes bounding the Roththal. Away to the west we recognised such old friends as the Blümlisalp, Altels and Balmhorn, and the grandeur of these peaks was enhanced by contrast with the quiet beauty of the northern view. In this direction the eye seemed to sweep the whole upper Lauterbrunnen Valley, whilst far away to the left we were able to recognise Berne. Beyond this, the plains of N. Switzerland and the Schwarzwald faded away in the blue haze of distance.

In the opposite direction across the Lötschenthal rose the Aletschhorn and Schienhorn. Beyond these some Zermatt peaks closed the vista in this direction. Looking down the slope which we had just ascended, we were greatly struck by its formidable appearance and, had we reached the col from the opposite direction, should certainly never have contemplated descending these northern slopes. The col itself is a saddle of snow a few feet in width, from which fall away southwards precipitous rocky slopes to the Jügi glacier. 'Round the strait pass, whose perilous edge shows like an evil dream.' Judging from the height of the Zuckerstock, that of the pass must be almost exactly 11,000 ft. An hour and a half passed in enjoyment, only marred by the necessary labour of photography and by the discovery that a certain porter of Ried, whom we had engaged to bring over to Ober Steinberg certain delicacies, including a tin of peaches, for our proposed expedition, had himself taken possession of them (he had returned to Ried with a friend of mine some days previously); and at 12.30 we started for the descent.

The direct route down to the glacier was voted out of the question. It was accordingly decided to descend obliquely to the left. Walking along the good snow of the ridge in 10 min. we reached the top of the Zuckerstock, 3,387 m., and continuing eastwards arrived at the base of a large rectangular rock tower. We now started our climb down the southern wall. The work here resembled that met with during the ascent of the Lauterbrunnen Breithorn by the ordinary route, the rocks being loose but not difficult; they were, as on the N. side, partly covered by fresh snow. Bearing on the whole slightly to the left, we, after a time, descended a gully followed by a short chimney. This gave an enjoyable scramble. Climbing down the right-hand wall of it we

dropped upon the upper edge of a snow-slope, which was separated from the rock wall by a fissure. This slope, which was of no great height, stretched horizontally for a considerable distance, dividing the rock face into two parts.

Here I endeavoured to obtain a photograph of the curious antics exhibited by the two last members of the party, but could find no suitable spot on which to place the camera, so waited, 'lying on the snow like any other fly.' Traversing the snow-slope obliquely to the left, we now once more reached rock. This was of different character from that above, being granite or something similar, and had the further advantage of being dry and free from snow. Climbing down the slabs the angle steepened as we approached the glacier, and the climbing became most enjoyable. A point was reached where a council of war had to be held, and when (as usual on similar occasions) we had abundant opportunities for studying the *patois* of the Val d'Hérens.

It was, owing to the fact that the glacier sloped away to the east or left, desirable to strike it as high as possible in the opposite direction where the rock wall was of necessity of less height. To the right, however, there seemed to be a cut-off owing to the smooth glacier-worn rocks, and the majority decided against a chimney below us. Finally a route to the left was decided upon, and afforded the best rock-climbing of the day, reminding me forcibly of the Mont Blanc aiguilles. A ledge leading downwards, affording in the crack between it and the overhanging rock above good hand-hold, was followed, the cameras being here responsible for some gentle remonstrances. Enquiries from Jean, who was leading, as to the nature of the work below, elicited merely that monosyllabic sound of deprecatory evasiveness which is one of his distinctive characteristics. Near the lower end of this crack was a convenient resting-place where the hinder members of the party anchored themselves in turn, whilst those in front descended to the extreme end of the fissure. Swinging ourselves over a wall of rock 6 or 7 ft. high to the right, we thus reached the bergschrund. We had occupied 4 hrs. excluding halts from the pass. We now trudged rapidly down the Jägi Firn, for the crevasses gave us no difficulty as they were well bridged over, and, once more joining the Schmadrijoch route, reached the right moraine, at which we freed ourselves from the encumbrance of the rope, and descended some easy slabs to the lower glacier. Halting for photographic reasons, and in order to take a last look at our pass and the Grosshorn, we descended along the right-hand side

of the glacier to the Löttschenthal, which we reached just about the time that 'the western waves of ebbing day roll'd o'er the glen their level way.'

Here Symons, according to his wont, took a bath in the icy Lonza, whilst the rest of us refreshed ourselves with milk. It was dark ere we reached Blatten, and the intricacies of that village were such that it was only after a prolonged rest on a tree-trunk in the 'High Street,' during which our guides, at the expense of much vernacular, succeeded in lighting the lantern, that we were able, owing to previous experience, to rescue ourselves from what might have been an unromantic end to our expedition. We then tramped steadily on to Ried, which we reached at 10.5 P.M., having occupied 20 hrs. including halts, or about 16 hrs. of actual going. An all too short night followed, owing to the necessity of packing, for we were to leave Ried early next day.

The expedition had been, owing to its great variety, to all of us one of unqualified enjoyment, and if this paper induces any members of the Club to repeat it, one principal object of its author will have been achieved. The weather had been perfect, and we had, moreover, observed no signs of falling stones.

To those who cross the pass in the future we would advise first that the pass should be crossed, as in our case, early in the season, for, not to speak of the difficulties of the final ice slope in the autumn, the Jägi glacier might present serious obstacles to those descending it late in the day. And, in the second place, that it should be taken from N. to S., for in a descent it would be extremely difficult to hit off the point of crossing of the northern bergschrund. We suggest the name Breithornjoch.

The beautiful scenery of the Löttschenthal, till now unaffected by the inroads of the modern tourist and rendered more fascinating by its prosperous villages and large corn-fields, has for me a great attraction.

The Dent Blanche.—The following week we had an unsuccessful quest of a new way up the southern peak of the Dents des Bouquetins, a peak, I may parenthetically remark, of such difficulty that since its first ascent by Mr. A. G. Topham, in 1894, it does not appear to have been once climbed. Although, however, we climbed no peak, we had some remarkably fine rock scrambling. The chief incident which remains impressed on my memory was the descent of the final wall to the Italian Za-de-zan glacier, during which my companion chose that particular moment when he

was completely immersed in a waterfall, down which lay our route, to deliver to me a carefully reasoned discourse on some important questions of the day.

A day or two later we walked round to Ferpècle, intent upon the W. ridge of the Dent Blanche at the first favourable opportunity. In driving up the Val d'Hérens the previous week we had noticed that the mountain was exceptionally 'dry,' and it was clear that many seasons might elapse before we should be again afforded another such opportunity. Jean Maitre had for many years past been anxious to attack the peak by this route, and had, I believe, once confided to me a secret hope that it might become the favourite way up from the Evolena side.

I would now in a few words remind you of the various routes on this side of the mountain. The W. or Ferpècle arête of the mountain separates the extremely precipitous northern wall from the S.W. face; the latter may be considered as being divided into two parts; namely, that which falls away from the S. arête and the portion between it and the W. ridge, the second being in reality a gigantic couloir narrowing from below upwards. The south-eastern wall of this couloir is exceedingly steep, and is separated from the remaining part of the S.W. face by a well-marked rib. (On looking at the mountain from Evolena this rib cannot be distinguished from the W. arête.) This description will be clear on examining a photograph of the mountain from the Aiguille de la Za. It should also be mentioned that the W. arête does not start from the summit itself, but articulates with the short snow ridge which runs northwards from the latter. It was by a combination of the S.W. face and S. arête that the peak was first climbed in 1862 by Messrs. T. S. Kennedy and W. Wigram with J. B. Croz and a porter. The second ascent was made in 1864 by Mr. J. Finlaison with Christian Lauener and Franz Zurfluh by the S.W. face, the party having reached the foot of this at about its central point. Owing to the unsatisfactory nature of the rock the party kept dividing their attentions between ribs and gullies, and Mr. Finlaison compared the process to the dancing of a bear on hot plates. In this climb the face is either ascended direct to the top or else the S. arête is struck about 20 min. below the summit. There appears to be some risk of falling stones by this route. It was not till 1876 that Mr. F. Gardiner made the first recorded ascent by the S. arête, the route which is now usually followed. In 1884 Mrs. E. P. Jackson and Dr. K. Schulz, with Alois Pollinger and J. J.



O. K. Williamson, photo.

THE DENT BLANCHE, FROM COL D'HERENS ROUTE.

Swan Electric Engraving Co.,

Truffer, climbed the W. arête for the first time, using the ridge for the descent.

The note in the 'Alpine Journal' states that they 'followed the W. arête in its entire length to the southern branch of the glacier de la Dent Blanche. . . . It is described as very long and difficult.'

In the 'Oe.A.-Z.' * Dr. Schulz says: 'Vom Ferpèche-Gletscher aus durch die Mitte der süd-westlichen Wand, direct zum Gipfel erstiegen . . . abstieg über den bisher noch nie betretenen westlichen Grat nach Ferpèche. Wegen bedeutender Schwierigkeiten wurde auf diesen Grat in einer Höhe von ca. 4,000 m. bivouakirt. Am 25. August war es sehr schön; am 26. früh trat Nebel und Schneesturm ein. Aufbruch, 6 h. Der ganze w. Grat wurde bis zu seiner letzten sehr steilen abfallenden Erhebung verfolgt, dann auf der s. Abdachung desselben unter grossen Schwierigkeiten abgestiegen und ein südlicher Seitenarm des Glacier de la Dent Blanche erreicht. Ferpèche, 5 h. Nachmittags.'

In the 'Mitteilungen d. D. und Oe. A.-V.' 1884, p. 291, Dr. Schulz says they descended the W. ridge 'bis zum letzten Thurm. Die Überschreitung des westlichen Grats ist sehr lang und schwierig, jedoch dem gewöhnlichen Weg über den südlichen Grat im Falle der so häufigen Vereisung desselben vorzuzeichnen. Der westliche Grat hat keine vereisten Platten.' †

Alois Pollinger, senior, has kindly marked for me on photographs the route taken. This shows that the party followed the arête itself (with the exception of a short traverse on to the S. side at the scene of the 1899 accident) until they were below a steep, nearly vertical portion of the arête, near the junction of the middle and lower thirds, where they left the ridge to descend by the S. side. Of subsequent ascents and descents by this route the only ones I have heard of have been as follows: An ascent by Mr. Schintz with Alois Pollinger, senior and junior, in 1893. On this occasion the point at which the 1884 party left the ridge was reached by ascending the northern slopes. An expedition guided by Alois Pollinger, senior, of an unknown date, on which the same route as that taken by the first party was followed.

The terrible accident during the ascent of 1899, resulting in the death of Mr. O. G. Jones and three guides and the

* 1884, p. 267.

† I am indebted to Mr. Coolidge for the references to these two accounts.

wonderful escape of Mr. F. W. Hill, will be fresh in the memory of you all. In his account of the accident,* Mr. Hill implies that the party followed the ridge except for one traverse on to the S. side to the point where the accident occurred. He speaks of 'steep slabs broken and easy occasionally, but on the whole far too smooth,' and of places where the leader had to be pushed over an overhanging rock.

In 1904, Mr. Oppenheim and Alois Pollinger, junior, and Heinrich Pollinger descended by this route. Alois Pollinger, junior, has kindly indicated for me on photographs the routes followed on the occasion of this descent and on that of Mr. Schintz's ascent, and shows that these coincide with the route followed by the first party down to the point at which they left the ridge. I am told, though I have no details, that Mr. Eckenstein has descended the mountain by this arête.

Ferpècle is, like Ober Steinberg and Ried, 'a charming spot,' quite unspoiled as yet. Although the weather had been unsatisfactory for a few days, there was but little fresh snow to be seen on the peaks around, and August 3, the day after our arrival there, was perfect.

Our plan was to camp out under some rocks at the foot of the W. ridge and to start at daybreak the following morning. We made all our arrangements, including the engaging of a porter to accompany us as far as the sleeping-place, and 'slowly climbed the many-winding way,' soon after mid-day, reaching the bivouac before 5 in the afternoon in 3½ hrs. This is on the S. side of a ridge of rocks known as the Rocs rouges, which stretch W. from the foot of the W. arête of the Dent Blanche, and is near the foot of the latter. It consists of a low-pitched cave. To the S. it is protected from the glacier air by a high moraine. We were quite glad to escape from the severe heat in the shelter afforded by the cave. Our route was to lie up the glacier which lies on the uppermost shelf immediately under the S.W. face of the mountain, and Pierre Maurys started to cut steps up the ice-fall, so as to save time on the morrow.

It would seem that to become an adept in the art of rock-climbing is the chief aim of the modern mountaineer, but surely proficiency in snow and ice craft is at least equally important, especially for the would-be guideless climber. Admitting that most amateurs cannot hope to be anything like equal to a good guide in the matter of step-cutting, they could do much to diminish this inferiority by a little

* *Alpine Journal*, vol. xix. p. 591.

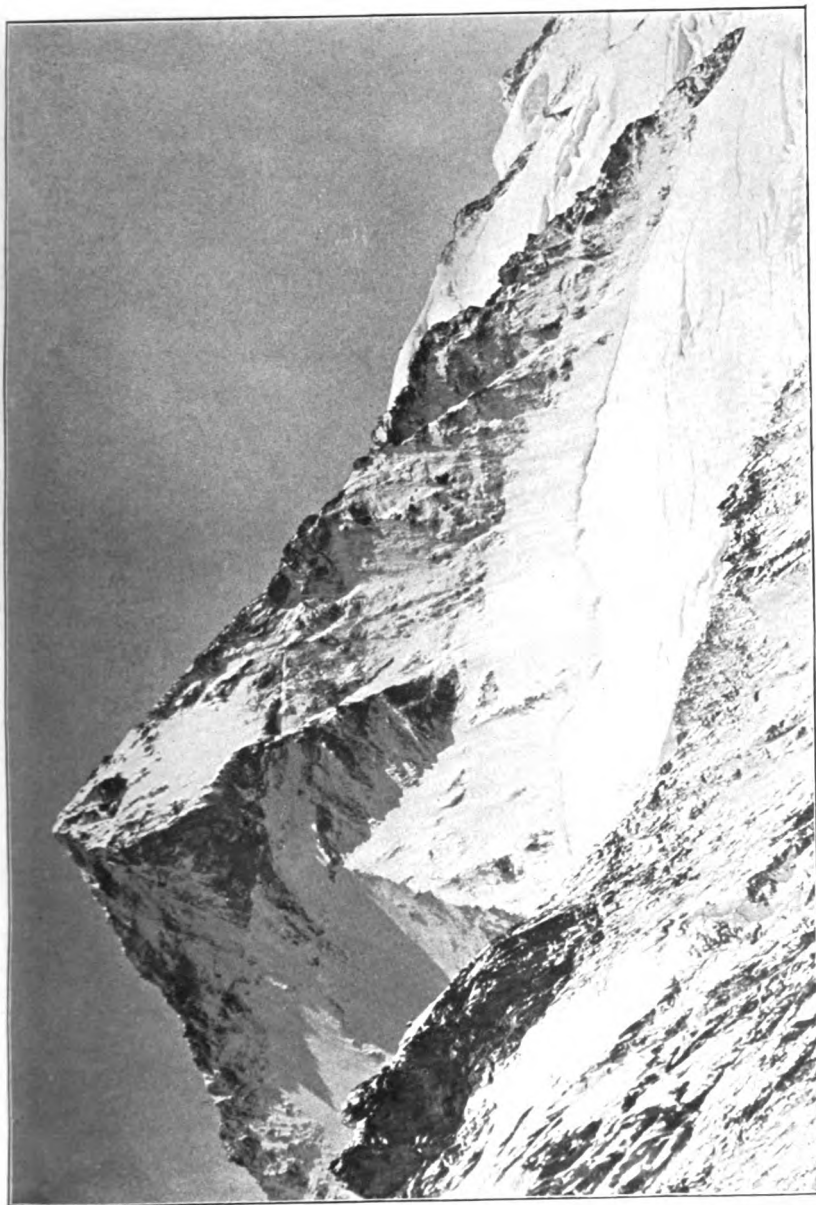
systematic training. An hour or two spent wood-chopping during leisure hours would do much to develop the necessary muscles, or better still, why should not the Alpine Club provide, in these days of artificial ice, a frozen surface which with its solid substratum could be tilted up to any angle and thus afford to its younger and more enthusiastic members opportunities of learning and practising the art of step-cutting on slopes of all degrees of steepness?

After an excellent supper on fried bacon, we turned into our goose-down sleeping bags, the only bar to a perfect night's rest being the occasional dripping of water from the roof of the cave. Next morning, after breakfasting and packing our sleeping-bags and cooking apparatus for the porter to take back to Ferpècle, we started at 4.5 A.M. in perfect weather, and after roping ascended the glacier by gentle slopes in a S.E. direction. The slope steepened, we bore to the left, and passed rapidly under an overhanging sérac and along an ice ridge. A jump now landed us on the gently sloping névé above the ice-fall. We ascended, keeping, roughly speaking, parallel to the base of our peak, until we were almost at the level of a nearly horizontal shelf in the mountain wall, well shown in photographs, which strikes the W. arête immediately below that vertical portion to which I have alluded in the description of the first descent. After a few minutes' rest, we reached at 6.15 A.M. the rocks of our peak at the base of the gigantic couloir above-mentioned. A few minutes up easy rock brought us to the above-mentioned ledge. Fragments of rock of all sizes were scattered hereabouts, but throughout the day we saw no falling stones. We now ascended the rock wall in a direction on the whole directly upwards. Above the ledge the loose rocks rapidly disappeared and the climbing became more interesting. Zig-zagging to and fro, a pretty traverse to the right round a buttress brought us to the foot of a truly sporting slab, which our leader negotiated to the right whilst we made the direct ascent. Above this a steep wall of unreliable dark grey rock, made sufficiently easy, however, by good ledges, led us to the foot of a chimney. This afforded us a splendid climb of 20 or 30 ft. in height and landed us at 8.35 A.M. in a well-defined notch * in the W. arête at no great distance to the E. of the above-mentioned vertical portion.

* This point is at the centre of the right-hand (W.) ridge in the photograph of the peak taken from the W. Pointe de Mouri, and at the junction of the middle and lower thirds of the left-hand (W.) ridge in that taken from the Col d'Hérens route.

The terrifically steep N. face of the Dent Blanche down which we now gazed is familiar to all who have crossed the Col du Grand Cornier, and is one of the most imposing precipices in the Alps. 'The sudden deeps; where slip or fall brings swiftly crashing end.'

Here a halt for breakfast was taken. Jean now made the remark that the Dent Blanche was a particularly bad mountain to be on during bad weather; seeing that, although there was some wind, the sky was cloudless, this oracular utterance, although doubtless true generally, appeared to us not specially applicable to the present circumstances. Starting again at 9.5 we now clambered along the ridge itself, traversing for a few steps on the N. side, then following the actual crest, and then again turning to the S. side. This kind of thing continued for less than an hour, the traversing being mainly on the S. side, but always being near the actual crest. The climbing was enjoyable but not really difficult, being somewhat similar to that met with on the E. ridge of the Weisshorn. We now reached a point where we first obtained a view of the wall of rock looming several hundred feet above us which was the scene of the accident to Mr. Jones's party. Up till now the climbing had been nearly entirely on firm red rock. We now traversed, more or less horizontally, into the great couloir on our right, having for the next hour or two to negotiate slabs of friable dark grey rock. Having reached the centre of the couloir, we crossed it, and with frequent exhortations from Jean to 'aller doucement,' ascended an ill-defined rib on the side of the couloir opposite to the W. arête. On account of the steepness and smallness of the holds, great care was necessary, although the technical difficulties were not great. 'While fast I clung where treacherous stone no foothold more allowed.' The summing up of the situation, to judge from sundry remarks emanating from our senior guide, was that the locality was a 'sale endroit.' The angle steepened and small fragments of ice playfully skipped past us, going as near as possible without touching us, reminding us of a similar experience affecting a certain lean cat alluded to by the editor of the ALPINE JOURNAL in a former number. One's attention was more or less divided between the look-out for fragments from above and the more urgent need of attention to the holds. In fact, it was impossible here not to recognise painfully one's inferiority to certain extinct animals in that the back of one's head was unprovided with an eye. It was now necessary to cross the couloir again to the left



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THE DENT BLANCHE, FROM THE WEST POINTE de MOURTI

O. K. Williamson, photo.

at its narrowest point. Above and opposite to us towered the ill-omened Gendarme. The slabs here, although sound, were steeper than ever, and were wet owing to the melting of the snow above. The leader proceeded carefully to the rope's length. 'Est-ce que vous êtes solide, Pierre?' 'Non, Monsieur, mais il faut que vous viendrez,' was the reply. Thus it came about that for some minutes, whilst the whole party was on the slope, the leader could get no satisfactory anchorage. Reaching the rocks on the opposite side of the gully, we climbed straight up these and once again breathed more freely. Then leftwards a few minutes over easy rocks at a comparatively gentle angle brought us to the ridge just above the Gendarme at 11.55 A.M.

A short halt was now taken, as we felt fairly confident that, although we were still a considerable distance from the summit, all serious difficulty was past. Above this level there was a small amount of fresh snow on the mountain. We now followed the broad snow crest of the ridge itself. This was succeeded by alternate snow and rock to the right of the crest, the side of which here merges imperceptibly into the S.W. face. A steep ice-slope with some rocks jutting out from it brought us once more to easy snow and rock, by which in a few minutes we reached the short snow arête which runs northwards from the top, and walking along this at 1.49 P.M. we arrived at the summit, having occupied 1½ hr. from the time that we passed the Gendarme, or about 8½ hrs. actual going from the sleeping-place.

A long rest followed, during which we consumed a much-needed meal, then walked by the ordinary route down the S. arête. The slabs below the great tower were in first-class condition, and the whole descent corresponded pretty accurately with my recollections of it twelve years before. On account of the risk of falling séracs we thought it better to avoid going down by the upper glacier, which we had ascended in the morning, so tramped along the Wandfluh ridge until we reached the S. side of the point (8,912 m.). Clouds had been gradually collecting ever since mid-day, and these now treated us to some superb sunset effects behind the dark Perroc ridge.

We had, indeed, ample leisure to study the artistic side of mountaineering whilst waiting for Pierre to cut steps down the crest of an ice-ridge, which were necessary before we could reach the easy rocks leading down to the Ferpèche glacier. Down this Jean led us in the fast gathering darkness with that masterly skill which excited our admiration

and envy, threading his way among the crevasses at a trot, although the details of the glacier were of necessity unknown to him, seeing that he had not been on it for two years. We thus reached the 'dry' glacier below just as the last gleam of daylight was vanishing. Jean's cautions to us as we stepped over a few small crevasses by lantern-light resembled the exhortations of a conductor on the 'twopenny tube.'

Right glad were we on reaching the moraine to cast off the rope. By the (to me doubtful, seeing that one of my companions effectually screened me from it) aid of the lantern we traversed the hill-side on that night of inky darkness, crossed streams which in number seemed to approach the infinite, and it occurred to me that a well-known terse saying of Mr. Mantalini's would have very inadequately expressed the situation. How interminable seemed the descent from Bricolla, and how execrable that most wretched apology for a path! To cut a long story short, however, at 12.55 A.M. on August 5, we re-entered the Hôtel du Col d'Hérens, and were soon experiencing that soundest of sleep known only to the tired mountaineer.

That same night the threats of bad weather were fulfilled, and were destined to result in a most unusually heavy fall of snow on the peaks, as we discovered during an ascent of the W. Pointe de Mourti on August 7; so we were able to congratulate ourselves on having accomplished the climb when we did, as it would probably not have been again possible any time during the succeeding fortnight.

One word as to our route. Our climb up to the point of striking the ridge was a good sound rock-climb, and we can recommend it from this point of view, although it is probable that there is at times risk from falling stones. To judge from Mr. Hill's remark that from the place where the accident occurred it would have been impossible for him to descend, the route followed by his party must be more difficult than ours up to the point where we left the ridge to make the long traverse in the couloir.

This latter part of the expedition, we feel bound to state emphatically, as will be gathered from the above description, that we are unable to recommend. It seems quite probable that the best way of turning the Gendarme during an ascent may be that adopted by Mr. Hill. During the descent I understand that the direct route over the Gendarme is taken by the aid of a spare rope.

I must not forget the guides. They worked together on all occasions admirably, and it would be hard to give Pierre

greater praise than is implied in saying that he is a worthy pupil of his uncle, Jean Maitre.

I cannot agree with those mountaineers who are content with having 'done a peak,' and would deem it a waste of time to repeat the ascent. To me the want of novelty in a second expedition is more than compensated for by the recollections called up of incidents of bygone days, linking one as they do with memories of the past; and I should be well content to spend all future climbing expeditions wandering among the rocky buttresses and over the shapely snow arêtes of the Lady of the White Tooth.

THE AIGUILLE BLANCHE DE PÉTERET.

By E. T. COMPTON.

'UNE montagne où l'on ne s'est pas un peu cassé la tête, les Anglais n'y viennent plus,' declared the immortal Bompard. This indispensable qualification does not, fortunately, as yet belong to the Aiguille Blanche de Péteret, but that noble peak possessed until quite lately another and perhaps unique attraction. It had in due course been ascended from two different sides, but *no one had ever descended*—at any rate more than about a hundred feet from the top—it having been treated, in spite of its 4,000 odd mètres, simply as a stepping-stone to Mont Blanc.

My friend Dr. Blodig and I arrived last summer at Courmayeur with the determination to give the Aiguille her due as an independent peak, making her the goal of our ascent, provided only we could establish one *conditio sine qua non*—namely, that, at an hour not too late in the afternoon, stones ceased to fall in dangerous quantities on the line of ascent.

Our first day, July 18, was accordingly spent in reconnoitring from the opposite ridge of the Mont de la Brenva. The weather was thundery, and therefore only too favourable to *chutes de pierres*; but, as far as we observed, there was comparative silence as soon as the sun left the east flank of the mountain. Moreover we were rejoiced to see that the central part of the glacier at our feet was apparently less crevassed than our predecessors had found it, and that the bergschrund, that skirts the rock buttresses, appeared to offer no very serious obstacle. One other important point we especially wished to decide was how to reach, if possible before daylight, the débris-covered slopes on the near side of the Brenva glacier without having to tackle the

smooth rock slabs at its foot, which had given Dr. Pfannl's party a good deal of trouble at the start. Descending by a steep, stony couloir on the south side of the ridge, we were able to trace a practicable route up the next rib as far as a grassy terrace that seemed to lead without interruption round the brow overhanging the bed of the glacier nearly on a level with the patch of rock in its icefall, known as the Moulin Graynot. Thus encouraged we returned in drizzle by the left moraine to Entrèves and Courmayeur.

The next day being still doubtful, we reconnoitred the approaches to Mont Brouillard from the Miage, but, the weather improving towards evening, we hurried back and completed our preparations for an early start before going to roost with the fowls.

The first throbs of the shrill clarion—not of Chanticleer, but of my pocket alarum—brought us both to our feet at 11.30, and precisely at midnight our heaviest boots clattered up the silent street, each footfall accentuated by the clank of crampons outside our sacks. At 1.25 we stole past the chalets of the Brenva Alp and followed a faint path through steepish woods on the slope facing the moraine, crossed our couloir of two days before, and, scaling the broken, partially wooded face on its west side, easily reached the grassy terrace, which we followed to the polished bed of the stream which drains the eastern branch of the Brenva glacier. The moon had just gone behind the Mont Chétif, and we could not tell, until close to it, whether we should be able to cross at the only point it seemed possible to reach. Comparatively level slabs and a shallow swirl made this perfectly easy, and we soon found ourselves well up on the bluff between the two branches of the glacier, where we seated ourselves for our first meal, eagerly scanning meanwhile the cliffs and couloirs of our mountain. From here, of course, they appear far less precipitous than from high up on the opposite ridge, but still, in places, suggestive of interesting work by-and-by.

At 7.30 we left the half-submerged medial moraine and, keeping to the well compressed and nearly level stretch, steered for a triangle of steep névé at the foot of the Dames Anglaises, glancing back frequently to get bearings for the return course.

Two hours and a half sufficed to reach the far side, and the condition of the slope was so good that, shod with crampons, we were able to reach the bergschrund without cutting a single step. Güssfeld's sleeping place remained far away on our left. After some search we found a cunningly contrived curtain, whose hem just swept the lower lip of the schrund.



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**AIGUILLE BLANCHE
de Péteret.**

This Blodig managed to scale, whilst I secured him with the rope from a safe niche, and we now knew that our way was open—only too exposed, in fact. From the cliffs above there had already come more than one warning missile, but now not a minute elapsed without their deadly music. We hurried on, keeping to the right towards the impending rocks of the aiguille itself, with one eye constantly on the watch for the threatening black spots that grew in the transparent blue over our heads and often had to be dodged. At last they became so frequent that we were forced to remain under the shelter of a ledge, in hopes the volleys would cease when the sun got round to the Fresnay side. Not till 2.40 did it seem prudent to proceed, but there was no time to spare if we were to cross the dreaded couloir and reach a place of shelter for the night before darkness overtook us. The couloir begins some three hundred feet above the spot at which we struck it, at the foot of the perpendicular rock wall, so well seen in Donkin's view from the Col du Géant. At about an equal distance below us it plunges into space, and, at an immeasurable depth, the crevasses of the Brenva glacier look like a tattered net spread over a marble pavement.

To our delight there was abundant snow in first-rate condition across nearly the whole width, and we were able to rush across without using our axes, save for a couple of steps in the central channel, where no stones came at the time, though recent marks proved what a lively traffic there had been during the heat of the day.

We now expected to find disagreeably rotten rock interspersed with snow couloirs, as described by Dr. Pfannl, but we had evidently crossed the great couloir a good deal lower down than his party had, and we had all the more to ascend, but firmer rock on a broad rib. For a long while we looked in vain for the sleeping place which that party had improved. We took two lines of march, and I had ascended some distance up the enormously steep and rather insecure rocks, and was about to call Blodig to inspect a possible cranny, when a shout from him brought me across the face in such haste that I dislodged a mass of stones, and was in mortal fear he might be unable to get out of their way. However he was safe enough behind a pile of blocks, and triumphantly held up the white cream jug mentioned in Pfannl's account as left behind.

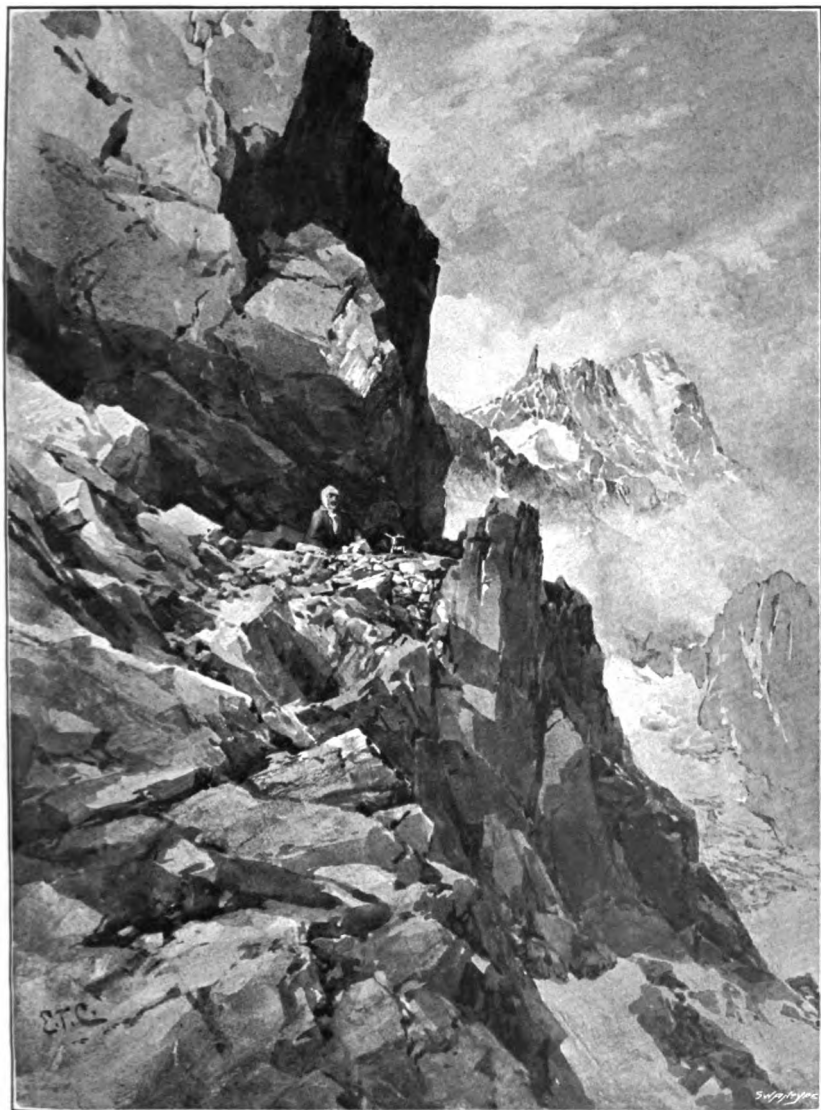
A few stones had been built up to widen and level a ledge under a slightly overhanging block, but we found it too narrow for two to lie abreast, and one of us proceeded to

arrange a second berth a few feet lower down, whilst the other fetched water from the nearest snowfield and made tea. Thus it was already quite dark before we were through with our domestic arrangements, which had left us hardly a minute to enjoy the wondrous beauty of the dying day and all the grandeur around us. I shall not dwell on the hours of endurance through which our aching muscles took prints of each many-cornered stone in our narrow berths, whilst summer lightning flickered over the Lombard plains and the constellations followed each other in tardy procession across the sky. After a while the outline of the Grandes Jorasses became more clearly defined against a pale light, and the waning moon rose, fantastically bisected by the Matterhorn. She was still the reigning luminary when, after a hasty meal, we packed away our sweaters and the thin waterproofs we had slept in with all surplus provisions, &c., having quite decided to return the same way.

The rocks, though steep, afforded, in their then dry state, delightful climbing, and our long pointed crampons gave sufficient grip on the snow ribs and gullies. Having the whole morning before us—for we could not think of venturing over the stone-raked face before 2 P.M.—we gave ourselves up to the enjoyment of the climb and the view, watching the oft-admired but ever new miracle of awakening day and the gradual disappearance of the mysterious shades of night from the world below us. Ever since leaving the great couloir we had deposited strips of scarlet paper at doubtful spots, and continued to do so to the last rocks. After a couple of hours the broad rib began to narrow away, and we soon found ourselves at the edge of the final ice-slope and judged the summit could not be far to the right of the bit of cornice directly above us.

The sun had been shining on this slope long enough to soften the thin coating of snow that still covered most of it, and this, at an incline of some 55° , was not quite welcome; still the crampons took hold of the ice after a kick or two, and the axes had hardly any work. At last we stepped on to the cornice, and a few minutes later the summit was ours.

Extraordinarily impressive—almost appalling—is the mass of Mont Blanc, still towering far above us in a sheer wall, fretted with ice and streaked with apparently perpendicular couloirs, its foundations buried in the Fresnay glacier, far below. A dizzy causeway coped with a beautifully curved cornice leads across to the great yellow buttress on our right, giving access to the upper arêtes and the *calotte* of Mont



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CAMP ON AIGUILLE BLANCHE de PÉTERET.

Blanc de Courmayeur. In the opposite direction the Aiguille Noire rears its dark head in front of the bluer shadows of Mont Chétif and the Cramont, whilst the receding chain of Mont Blanc from the Mont Maudit to the Jorasses is bathed in full sunshine.

Our descent, after the rather perilous passage of the first ice-wall, went merrily enough—in fact rather too carelessly, for, following our train of red signals, we overlooked the spot where we ought to have turned aside to the sleeping place, and only discovered our mistake when confronted with the couloir, whence of course we had to return for our impedimenta.

The loss of time was really of little consequence, for we were still obliged to wait over an hour for the batteries to cease firing, and did not reach the glacier till 5 P.M., and had to pass a second night, this time on grass, at the foot of the Mont de la Brenva, reaching Courmayeur for breakfast next morning.

A more delightful expedition for an efficient party under favourable conditions it would be hard to find, but if those conditions should change, or any accident occur after passing the critical zone, it is easy to see that the consequences would be most serious. In bad weather the traverse of Mont Blanc would be bad enough, but less desperate, to my thinking, than the descent to the Brenva glacier.

SIX WEEKS IN THE LILLOUET DISTRICT, B.C.

By O. J. BAINBRIDGE.

Give me the sport which calls a man
To some far off and lonely land,
Where cold, unconquerable peaks
And crevassed glaciers sternly guard
Impenetrable forest land;
Where safe recesses hide the lair
Of silvertip and grizzly bear,
Where 'skeeto' ridden swamps conceal
The loon, the wild duck, and the teal.
And tho' the yellow pine and fir
Are monarchs of the forest drear,
Perchance an avalanche has made
An open and refreshing glade,
Where gentler vegetation grows,
The alder, mountain ash, and rose.
There would I pitch my tent . . .

SOME apology is needed for the inclusion in the ALPINE JOURNAL of a paper which does not record the ascent of any peak. No useful addition can be given to the descriptions of those who have made the intricacies of travel in

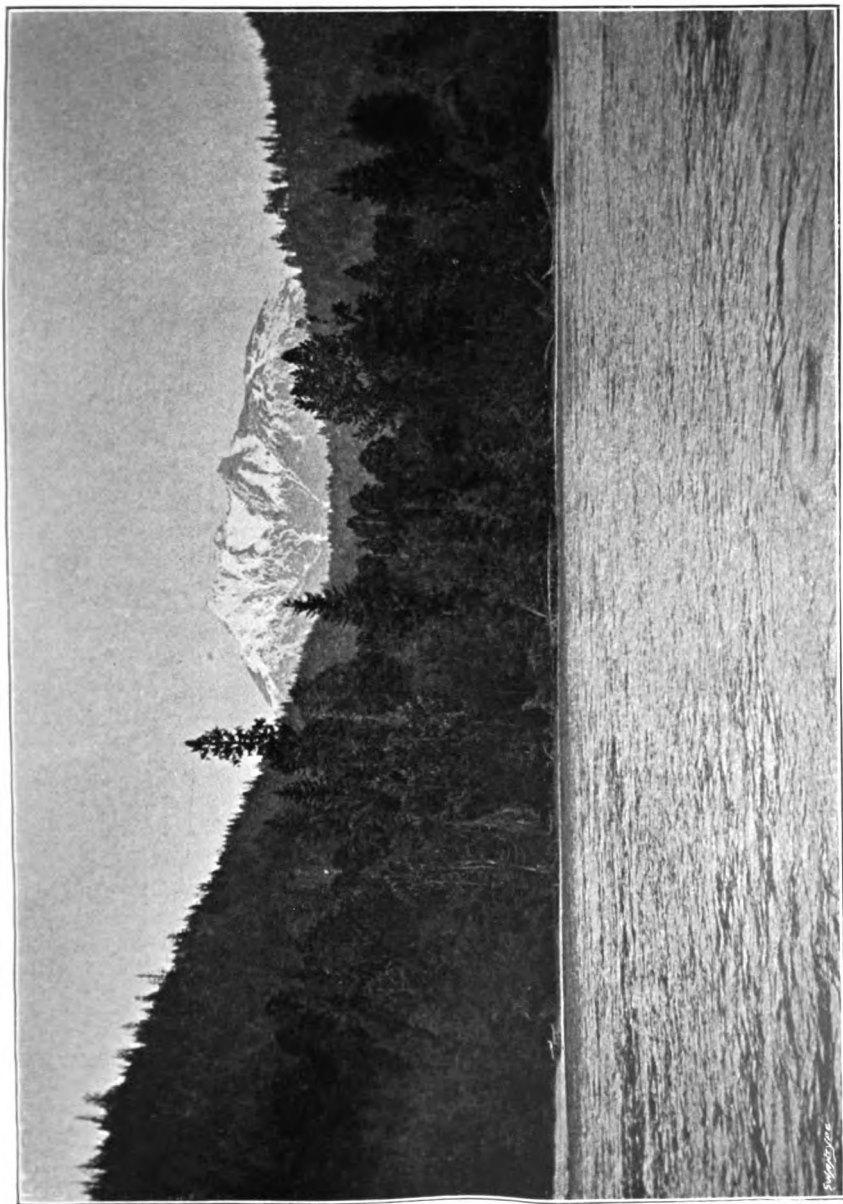
the brush the foreword to more purely mountaineering record. Only the consideration that no one else has, as far as I know, given his impressions of travel in the Cascade Range, has induced me to offer any contribution to a subject which has been so fully dealt with by other members of the Club.

The opportunity, so long anticipated, of making an expedition among the mountains of British Columbia came when, in the early summer of 1904, I found myself in Vancouver. Too early in the season for climbing, the occasion was sufficiently auspicious for a journey in the brush, and I decided to make Lillouet a starting-point for an expedition, which I hoped would give me a sight of snow mountains in the Cascade Range, and incidentally add to my collection of big-game trophies.

A 47-mile drive from Lytton on the C.P.R. brought me to Lillouet on May 10. Situated on the banks of the Fraser River, this little township is typical of many other mining camps which have enjoyed more activity in the past than they are experiencing in the present. A few scattered houses, an hotel, and one or two stores, with an Indian settlement close by, are all that remain of what was once an active camp in old alluvial mining days. A boom, nine years ago, was followed by inevitable reaction, and Lillouet remains, pending the occurrence of a fresh outburst of activity, a mining centre, whence prospectors go out into the brush, and a centre for sporting expeditions.

I was fortunate enough to secure the services of 'Billy' Manson, a celebrated hunter in the district, and on May 12, with an outfit of six horses and provisions for two months, we made our first march along the north shore of Seaton Lake. Twenty miles of beautiful surroundings brought us to a point where the trail, passing over the northern range, descended into Bridge River Valley. Late in the day we made our first camp, by the side of the trail which leads to the Lorne Mines, and here was my first introduction to camp life in British Columbia.

We were by no means remote from civilisation in the Bridge River Valley, as occasional prospectors' encampments testified; and I spent several very delightful days fishing in the river or making excursions into the forest. Blue grouse provided sport for the pistol, and sometimes we returned with the addition of a mule deer to our bag. Above us on the hillside the glass disclosed bighorn and goats, while the early summer blossoms and the varied colours of the sprouting foliage rendered the place a charming picnic ground.



Swan Electric Engineering Co.,

MOUNT PENROSE.

O. J. Bainbridge, photo.

May 20 found us 15 miles further up the valley. Now could be seen two fine peaks of the Cascade Range and the country which we hoped would conceal the haunts of the grizzly bear. Perhaps we were rather shorthanded on the march, as, with the horses to be found in the morning and the packs to be prepared, and the cooking to be done, we found that all our time was taken up. We really needed an extra man.

One more march and we were no longer to derive the benefit of the Government trail, as a ferry across the river marked its terminal point on the N. side of our valley, and from our third camp, which was situated at this point, we made our first expedition to the haunts of the grizzly on the lower slopes of Mount Penrose, the only peak with a recorded ascent in the Cascade Range. The trail, such it was, was rough, and gave us some idea of the work we had to expect in the valley which was our destination.

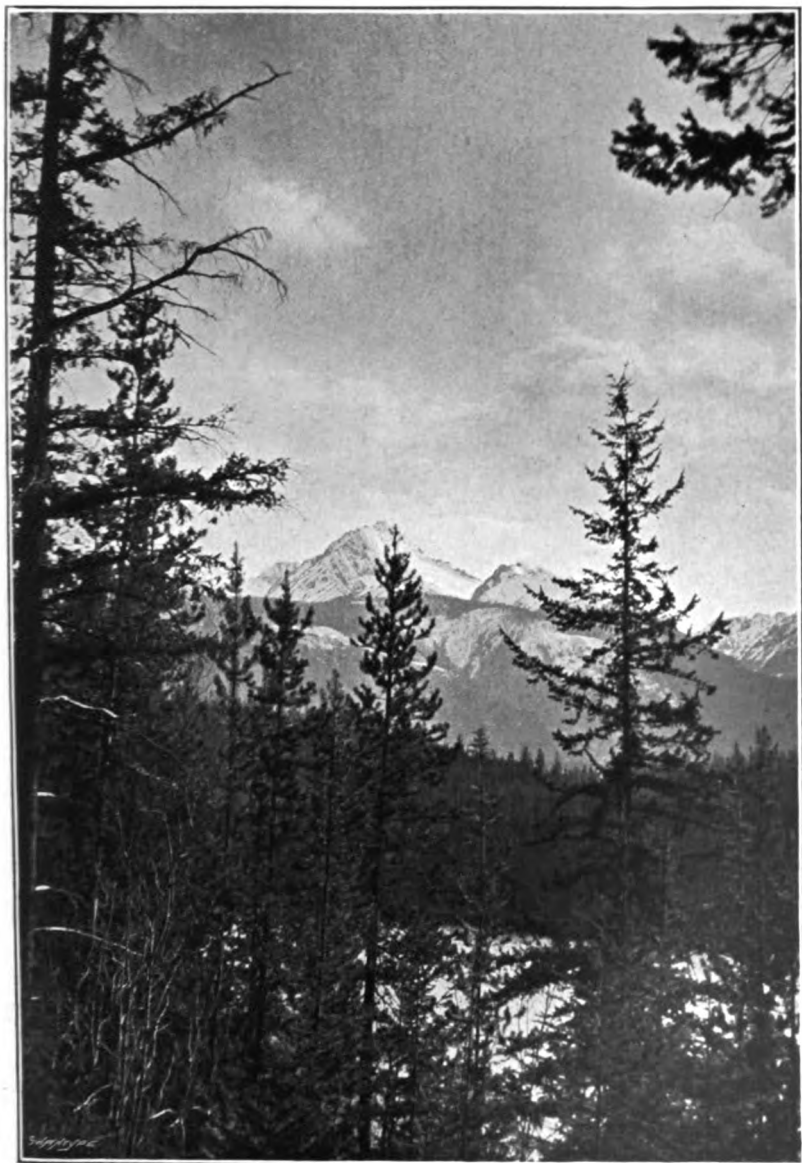
Our observations unfortunately showed us that the late spring had retarded the growth of new grass on the snow slides, and we were compelled to loiter in the Bridge River Valley until the lower snows had had time to melt. It is only when bears are in the open that a fair chance of approach is available, and at dusk in hot weather it is the practice to wait for them in the slides where snow avalanches have cleared the timber and produced fresh vegetation and suitable feed. We made a second attempt on the slopes of Mount Penrose a day or two later, camping close to the haunts of bears, but without success.

I was by this time getting impatient to be in new country, and on May 30 we crossed the Bridge River in a canoe which had been left by Manson under a tree the year before, and which having been in the meantime much devoured by a porcupine, caused a day's delay. The day was not without incident, however, as I shot a lynx which appeared as I was putting on buckskins preparatory to an excursion in the brush.

A steep climb the next day surmounted the spur which divides the Bridge River from the Kimwit Valley, and we found ourselves in the evening in the heart of the Cascade Range, in the new country where no trail existed and in which Manson's experiences had been confined to the hunting of grizzly on the slides adjacent to our camp. To our right, above the northern slopes of the valley, rose a fine peak; far up the valley could be seen snow-capped mountains, guardians of impenetrable forest land which it was our hope to approach, but a spur of the northern slopes ten miles away interfered

with our view, and we made this a mark whence we expected to secure an extensive panorama.

After spending some days in unsuccessful efforts to locate a grizzly, frequent and fresh though their signs were, we left four of the horses on the hillside where plentiful feed secured their safety, and pushed on with two horses only. Manson led the way with the axe, continually going ahead to discover the best way of surmounting some obstacle, while I followed with the horses. Fallen timber made the going very hard, and the horses gave some trouble by attempting to rejoin their comrades in the night. It was marvellous what country they could go through even when hobbled, and the feed becoming more sparsely distributed we had to improvise fences to prevent them from leaving us altogether. This is the work mountaineers must be prepared to face in exploring mountains in a new land; and, if considered as a branch of mountaineering, it at least provides peculiar fascination. The woodman's art is here apparent, and it was interesting to watch Manson's expert manner in dealing with all contingencies that arose. On June 9, after a long and wearisome march, we came to a stream which effectually blocked our progress, and we cleared a space among the fallen timber for the tents. We had no fresh food at this time, and were becoming depressed at our unavailing efforts to bag a grizzly. On the following morning I climbed a hill and spied the country ahead. We had hoped that the jack pines would provide easier going than the tangled undergrowth of our first few marches, but the fallen timber was an enemy to be coped with. I was regretting the weakness of our party, and wondering how the stream, referred to above, was to be successfully negotiated, when a call from below brought me back to camp; Manson had seen a bear on the southern slopes of the valley, and we decided to go for him then and there. It was not orthodox practice to go for a bear in the middle of the day, but we were reduced to desperation by our many failures. We crossed the river by means of fallen timber, and then began a steep and weary climb through the forest. I felt, on this day more than any other, how useless heavy boots and ordinary clothing are for this kind of work. Moccasins are light and silent, and buckskins withstand the tearing qualities of spruce and pine, while a broad brimmed hat protects the face. In a comparatively open spot at the beginning of the walk I took a photograph of Manson; thereafter it was only possible to see for a few yards until the forest gave way to patches of snow and rock and clumps



U. J. Bainbridge, photo.

Swan Electric Engraving Co.,

PEAK OF THE CASCADE RANGE.

of alder. We found the trail of the bear and the wallow where he took his bath, and eventually the open space where we had seen him in the morning. After waiting some time Manson went off to reconnoitre with a second rifle, and while he was absent, as luck would have it, the bear appeared. One shot disposed of him, and for some days we had fresh meat again.

After spending the necessary time in camp, preparing and stretching the skin, we now set ourselves to find some means of crossing the stream which had blocked our progress, first exploring the valley from which it took its source. We were above the snow line here in a veritable home for grizzly, but tracks and marks on the trees were the only signs we found. The next day we crossed the stream on foot and endeavoured to reach the spur which would give us a commanding view of the Cascade Range. Mosquitos bothered us for the first time now, and the profusion of fallen timber was disheartening; we were unable to reach the spur and returned to camp. We dared not try to ford the stream with the horses on account of the hot weather and the effects of the melting snow. We had not the time at our disposal to improvise a bridge, and were therefore reluctantly compelled to retrace our steps, which we did on June 17. We found the horses feeding where we had left them, and nothing transpired to interrupt our return to Lillouet, where we arrived on June 27.

Insignificant in its results as my six weeks in the brush turned out to be, it gave me at least a very enjoyable experience of camp life. I am disappointed not to have been able to penetrate further towards the base of the peaks which lie at the head of Kimwit Valley and cannot say whether they offer attractions to the mountaineer. A visit to the district is worth while for the sport alone. The Kimwit Valley appeared full of bears; on each side of the river bear trails ran, one of which we followed on our marches. Fresh tracks could be seen frequently, and I saw seventeen or eighteen bears besides a grizzly, during the short time I was in the valley. There are lynx and cougars and any amount of goats, and sheep and deer on the lower ranges.

There are no facilities in the Cascade Range, at least in the Lillouet district, for mountain climbing. There are few trails and the woodsman is as important in the outfit as a guide.

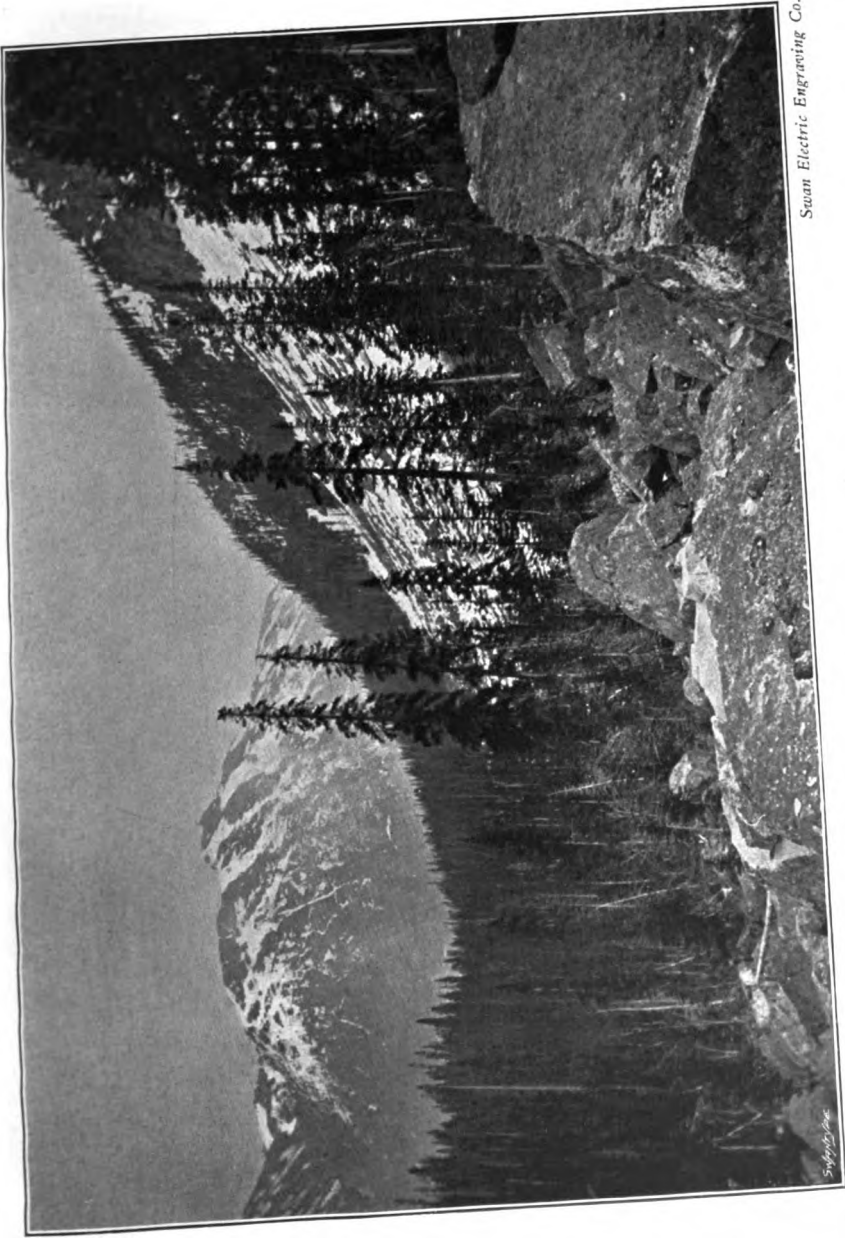
From the slight experience I gained of travel in unexplored valleys, I am led to the conclusion that among the important

points which stand out from the many considerations a mountaineer has to deal with in preparing his outfit, that of the strength of the party is the most insistent. Personally I regretted the absence of a native cook, who would have been available for many purposes. Our party was not strong enough, but there is no doubt that too large a party is a disadvantage where the possibilities of travel are limited according to the available feed for the horses.

THE FIRST CROSSING OF MOUNT COOK.

By MALCOLM ROSS.

I HAD given up all thoughts of attempting the ascent of Mount Cook, for with an injured ankle it would be criminal for me to join any party in such an undertaking, seeing that it would not only endanger my own life but also the lives of the others. Fyfe and Graham, however, were keenly anxious for me to join them, and it was decided on the day they left for Mount Cook that I should give my leg a good trial on the Sealy Range, and, if it stood the test, join them the same evening at the Ball Hut. Accordingly, in company with Professor Baldwin Spencer, Mr. and Mrs. Lindon, and Jack Clarke, I went up the Sealy Range. We spent a delightful day, the weather being glorious, and the views of Sefton, Mount Cook, and many other mountains magnificently grand. My leg stood the test, and I returned to the Hermitage in high glee, feeling confident that another day's rest at the Mount Cook bivouac would complete the cure. Accordingly I bade farewell to my friends at the Hermitage, and that evening rode up with Clarke, in the moonlight, to the hut. Crossing the dangerous Hooker River, we changed horses, Clarke insisting that I should cross on the safer of the two, and giving instructions that I should hold on to his mane if he got bowled over. However these horses, which are wonderful at crossing rivers, got over safely. I shall never forget that glorious ride in the moonlight. We galloped over the tussock flats, and then slackened our pace as we entered upon the narrow and uncertain path between the dark spur of Aorangi on our left and the great moraine of the Tasman Glacier, that loomed on our right like some Brobdingnagian railway embankment. The talk was of climbing and climbers, reminiscences of former victories and defeats, glorious days spent amongst the higher snows, and of brave companions who had shared our alpine joys and sorrows in the years now past. Meanwhile the stars,



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IN NEW COUNTRY.

O. J. Bainbridge, photo.

dimmed by a glorious moon, swung westward o'er our path; the 14 miles went past like 4, and presently, about 10 P.M., we spied the solitary light of the hut window, like a star in the lower darkness, and our cheery jodelling awoke the echoes of the valley and brought an answering cry from Graham and Fyfe.

On Monday, January 8, we—Fyfe, Graham, Turner, and I—went up to the Bivouac Rock, on the Haast Ridge, from which the early New Zealand climbers made their heroic, though unsuccessful, attacks on the monarch of the Southern Alps. We climbed the steep rocky ridge with heavy swags—tent, sleeping bags, ice axes, Alpine rope, and provisions for three or four days. Green, a promising climber, came with us in the capacity of porter. We had to shovel the snow from the little stone platform on which we were to sleep, and we had no sooner got our camp pitched than the weather changed. Dense clouds, borne on southerly airs, quickly filled the valley, blotting out from view the moraines and icy tongues of the Great Tasman Glacier, thousands of feet below. We made a billy of tea and dined on bread and butter and cold mutton, after which Green very reluctantly left us to join Clarke and a party at the Malte Brun Hut, further up the glacier. Graham went down with him over the first snow slopes. As he did not return for some considerable time we got rather anxious, and Fyfe went to see what was the matter. Presently he returned with Graham, and we heard Green jodelling from the misty depths thousands of feet below us. We gave him answering jodels from the bivouac, this interchange of signals being kept up till Green's voice grew fainter and fainter, and at last we got tired of answering him. Then we made things snug about our eerie perch and turned in for the night. The four of us were packed like sardines in a tin, but, with our clothes on, in the eider-down sleeping bags, and under the shelter of my Whymper tent, with its waterproof floor, we were fairly warm and comfortable. Fyfe smoked a pipe and I an evening cigar, greatly to Turner's disgust; but it was a burnt offering to the soothing goddess long to be remembered. Then the clouds that had overwhelmed the ridge began to patter-patter on the tent roof in gentle rain, which, later in the night, turned to snow. Visions of a night in this same bivouac years ago, when the lurid lightning dazzled our eyes, the thunder shook the ridge, and the tent was frozen to the rocks in a terrible storm, came back to me; but that is another story, and rather a long one too.

We breakfasted at 7 o'clock next morning, after 14 hrs.

of the tent—on cold mutton, tea, bread and butter, and jam. The weather was warm and the new snow was peeling off the slopes of Mount Cook. Avalanches hissed and thundered all around us, the mountains being literally alive and in a most dangerous condition for climbing. This, however, did not concern us greatly, for we had decided to rest for a day at the bivouac, and there was at last a good prospect of the weather clearing. We spent the day in delightful idleness, idling on the warm rocks, pottering about the camp, and photographing.

Fyfe acted as chief cook, and for each meal prepared us a billy of delicious hot tea, using a little bit of deal board we had brought up for firewood, together with some old candles found under the Bivouac Rock, to melt snow and boil water. We also added to our water supply by spreading snow on a warm sloping rock, allowing the drip therefrom to collect in a billy and an empty fruit tin.

For the greater part of the day we were above the lower stratum of cloud, which spread itself like a fleecy counterpane over the great valley, or swathed itself about the giant peaks, leaving the dark summits standing in startling and stately grandeur like pointed islands in a vapoury sea of white and grey. Every now and then this counterpane would be torn by some sportive wind or partially dissolved by the warm rays of the sun, and, through the holes thus made, we could see the upper snows of the Great Tasman or its lower tongues of attenuated ice flowing down between the piled debris of the grey moraine—the largest in the Southern Alps—thousands of feet below. Later, as the mists gradually dissolved, we obtained glorious views of the great alps, with their tributary glaciers pouring streams of broken ice into the valley to feed the parent stream. Here were all our old friends, Haidinger, and De la Bèche, and the Minarets, whose 10,000-ft. summits Fyfe and I had trodden, looking down at us with a lofty disdain, and across the valley Malte Brun, the Matterhorn of the Southern Alps, heaved his strong shoulders of grim dark-brown rock through a veil of surging mist and cleft the azure blue of heaven, recalling to my mind Fyfe's memorable ascent and his equally memorable entry in the visitors' book I had left at the hut—'Played a lone hand with Malte Brun, and won.' Yes, all our old friends were here, strong in their might, each with his own character moulded in everlasting form, and as I recalled the joyous days spent on slope and summit, the pulses quickened and the hour-glass ran in golden sands. 'Glorious creatures; fine old fellows!' as Lamb says. I solemnly took off my hat to these old friends, and gave

them reverent greeting, befitting their greatness, thinking that

When time, who steals our years away,
Shall steal our pleasures too,
The memory of the past will stay
And half our joys renew.

We decided not to go to sleep that evening, but to start for the traverse of Mount Cook before midnight. We, however, crept into our sleeping bags inside the tent, to keep warm. Turner had complained about the dampness at the end of the tent the night before, so I took his place and gave him an inside berth. At 10 o'clock Fyfe was astir boiling us a billy of tea, and at 12.20 P.M. we breakfasted. The sky was clear, and the moon was shining; but higher up the range the clouds were pouring over between Haidinger and De la Bèche, which did not augur well for our success. We went through our rucksacks again, and discarded a few things to make them lighter, but what with cameras, spare clothing, food, and the two aluminium water bottles—one filled with claret and the other with water—we had to carry from 15 lbs. to 20 lbs. each, rather heavy loads for so difficult a climb.

Our provisions consisted of half a loaf, 1 large tin of ox tongue, 1 tin of sheeps' tongues, 1 tin of sardines, 2 tins of jam, some butter, 2 oranges, 2 lemons, a few raisins, and about a pound of brown sugar, upon which I existed almost entirely on all our climbs. I had remembered reading about the virtues of brown sugar in one of Sir Martin Conway's books, and my wife had obtained some special brown Demerara sugar for me from our grocer. Then I went across to the Parliamentary Library and looked the subject up in Conway's book on the 'Ascent of Aconcagua.' I found that Conway, after mentioning the necessity for light foods, such as soup and jam, for high ascents, stated that on the Aconcagua ascent more important than all these was a great tin of coarse brown Demerara sugar, the finest heat-producing, muscle-nourishing food in the world. For men taking violent exercises, such as soldiers on active service or athletes in training, a plentiful supply of sugar was, he stated, far better than large meat rations. A quarter of a pound per day per man was his allowance on the mountain-side, and he was inclined to think that this might be increased to nearly half a pound with advantage, cane sugar of course being selected for this purpose.

We were aware that on such a climb, what with the great exertion, the want of water, and the reduced atmospheric

pressure, we should be able to eat very little, and that, if we were successful, most of the provisions we were taking would be thrown away. Still there was the danger, in consequence of a sudden storm or other unforeseen difficulties, of our having to spend the night out on an exposed ledge of rock at an altitude of ten or eleven thousand feet, in which case our lives would depend upon a supply of extra clothing and food. Therefore we dared not make our loads any lighter.

At 11.15 p.m. on the night of Tuesday, January 9, we started, having rolled up all our belongings that we did not require in the sleeping bags and the tent. This made one big bundle, which we jammed under the rock as far as possible and weighted down with stones, so that it should not be blown away. We took with us also one 65-ft. length and one 50-ft. length of Alpine rope, made by Buckingham, of London, and tested to a breaking strain of 2,000 lbs. In single file, in the moonlight, we toiled up the snow-slopes leading to the Glacier Dome, 1,300 ft. above our bivouac. For the most part we climbed upwards in solemn silence, each one being busy with his own thoughts. Ten minutes after midnight we had left the final steep snow-slope of the Dome behind us and looked across the great plateau that stretches, at an altitude of over 7,000 ft., for a distance of some four miles, at the foot of the precipitous slopes of Mounts Cook and Tasman. From the Dome we had to descend 700 ft., and then cross the plateau to gain the foot of the north-eastern ridge that was to lead us to the summit of our peak. The snow was in bad condition, and we sank in it over our boot-tops. In places it was in that most tantalising of conditions, with a frozen crust that let one foot through while the other foot held on the surface. As we were crossing the plateau a vivid streak of lightning flashed athwart the northern sky, and a weird effect was produced by the moon, which, with a great halo around it, was dipping westward over the snowy peak of Mount Haast. We crossed the plateau in the shadow of the high peaks of the main divide, behind which the moon had sunk, and presently we encountered the débris of a great avalanche that had fallen from the slopes of Mount Tasman. A mass of broken ice and snow was piled in confusion to a height of 15 or 20 ft., and we had to make a slight détour to avoid the obstruction.

At about a quarter past 2 a.m. we started to ascend the long snow-slope leading to the Zurbriggen arête; and in the dusk before the dawn we reached a bergschrund that might have given us a good deal of trouble to cross. Graham led



Malcolm Ross, photo.

Swan Electric Engraving Co.,

STORM GATHERING ON Mt. COOK.

Photo from altitude of 7,000 ft.

carefully through the broken ice, and, peering into the dull grey light, thought he saw a bridge over which we could scramble. We made a traverse to the right and skirted under the overhanging wall of ice that formed the upper lip of the schrund, and which, had it fallen, would have crushed us out of existence. At this hour of the morning, however, it was perfectly safe, and Graham, disappearing round a huge block of ice that towered above us, crossed a frail snow bridge and gained the upper lip of the bergschrund. Turner followed, and I paid out the rope as he gradually disappeared from view round the corner, Graham driving the handle of his axe deep in the snow, while Fyfe and I, below, took a firm stand and kept the rope taut. In a few minutes we were all safely across, and congratulated ourselves on having so easily overcome the first serious obstacle of the climb.

We were now fairly on the long 3,000-ft. snow-slope that leads up to the rocks of the Zurbriggen arête. This slope was found in fairly good order. In places we could kick steps, but in other places the steps had to be chipped with the ice axes. As we slowly climbed upwards the slope got steeper and steeper. Indeed the angle was just about as steep as it is possible for snow to rest on. We had not been going long before we were startled by a magnificent avalanche that fell with thundering roar from high up on the ice-slopes of Mount Tasman. It crashed on to the Great Plateau, sending ice blocks to a great distance, and throwing up a cloud of snow, like some huge breaker that sends its spray high into the air above a rock-bound coast.

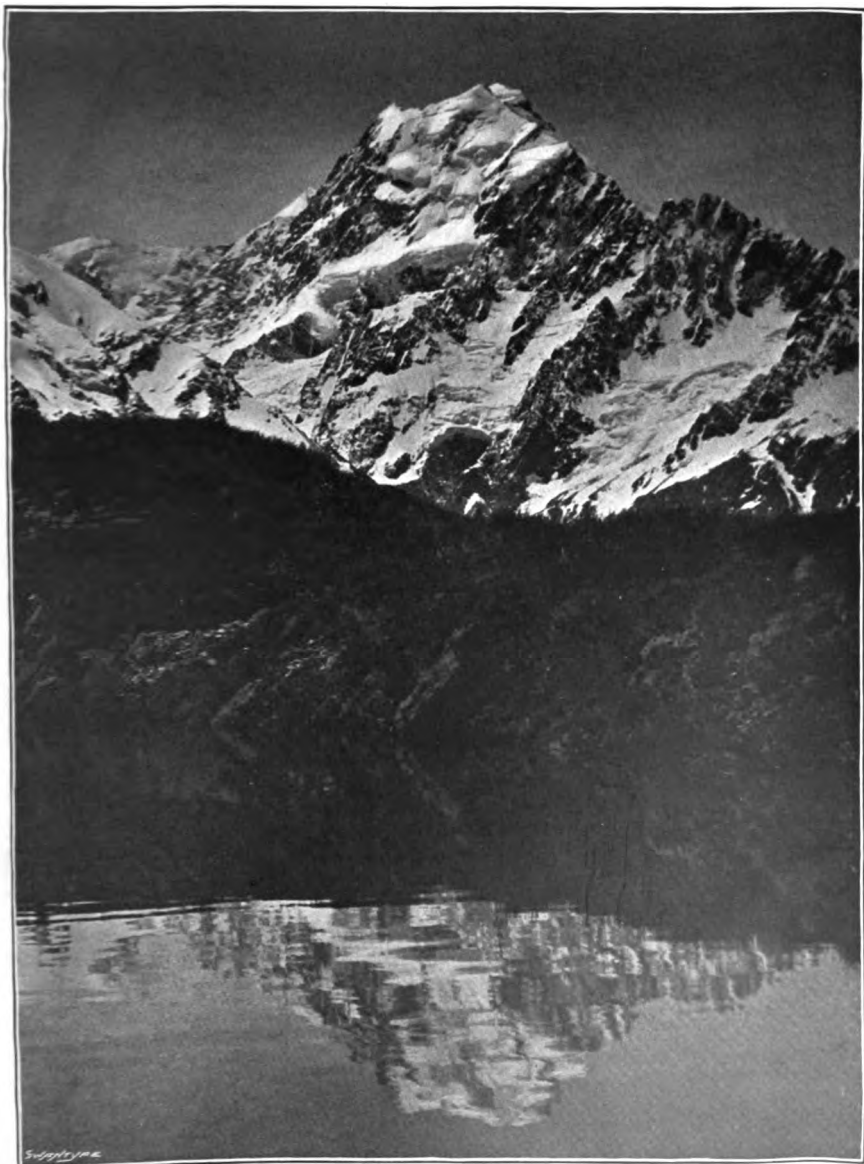
Hour after hour went by. We began to get a little tired of the never-ending snow-slope, so traversed to the right to gain the rocks. These rocks, however, were difficult, as there were few holds for hands or feet, and the snow and ice with which they were coated made our progress still very slow; therefore we were once more reluctantly compelled to traverse back to the snow-slope. At last—3 hrs. and 25 min. from the schrund—we gained the rocks of the main arête.

It was now 6.40 A.M., and we halted on a narrow ledge of snow, had a drink and some bread and marmalade, and took a number of photographs. The sun had risen from a bank of dull cloud that loomed above the eastern mountains, and, as there was at last every prospect of fine weather, our spirits rose considerably. From this point a beautiful snow ridge rose in a gentle curve to a series of rocky crags. There was just room for our feet on this narrow ridge. On the right a

steep couloir led down to the Linda Glacier, and on the left the mountain fell away in very steep slopes, for over 3,000 ft., to the Grand Plateau. At the end of the snow ridge we had some fine climbing up a shoulder of rock. This was scaled without incident, except that of a falling stone which Turner dislodged, but which, fortunately, went past without hitting either Fyfe or myself. Then we climbed along another narrow snow arête, which, though steeper than the first one, was somewhat shorter. On gaining the rocks at the head of this ridge at 9 A.M. we halted for an early lunch. We replenished the wine bottle and the water bottle with the drippings of snow that we melted on a slab of warm stone.

We had now gained an altitude of between 10,000 ft. and 11,000 ft., and the views were magnificently grand. Tasman, the second highest mountain in New Zealand, with his wonderful slopes of snow and ice and a magnificent snow cornice, was quite close to us on the N. Then came Mount Lendenfeldt, and the jagged, pinnacled ridge of Haast, which, from this point of view, seemed to bid defiance to the mountaineer. Further along on the main divide rose the square top of Mount Haidinger, from which the magnificent schrunds and broken ice of the Haast glacier fell away towards the Tasman valley. Beyond that the rocky pinnacle of De la Bêche and the beautifully pure snowy peaks of the Minarets cleft the blue, leading the eye in turn to the gleaming masses of Elie de Beaumont and the Hochstetter Dom, at the head of the Great Tasman Glacier. Across the valley the rugged mass of Malte Brun towered grandly above all the other rocky peaks of the range, and still further away, towards the N.E., was the finest view of all, range succeeding range and mountain succeeding mountain for more than 100 miles, or as far as the eye could reach. In the distance, to the N. of the main range, we looked down on a sea of clouds upon which the sun was shining, the higher peaks piercing the billows of mist and looking like pointed islands. We could plainly trace our steps along the snow arêtes that we had climbed, and across the Plateau thousands of feet below. Lower still were the great schrunds and toppling pinnacles of the Hochstetter icefall, and below that the magnificent sweep of the Great Tasman Glacier. Eastward a few fleecy cumulus clouds sailed over the foothills, and beyond were the plains of Canterbury and the distant sea.

An hour passed all too quickly amidst scenes of such magnificence and grandeur; but there was still a long climb ahead, and, in high spirits, we started to cut steps up another



Malcolm Ross, photo.

Swan Electric Engraving Co.,

MOUNT COOK -- FROM A MOUNTAIN TARN ON THE SEALY RANGE.

very sharp snow ridge with a drop of 4,000 ft. on one side. This ridge led us on to the last rocks, which were steep and afforded some fine climbing. Fyfe led up to a shoulder below the final ice cap, still cutting steps, and then the order on the rope was reversed and Graham went to the front. This shoulder turned us to the left, and soon we gained the final snow arête, that rose steeply almost to the summit. The last bit of the ice cap was fairly easy climbing, and at 1 o'clock on Wednesday afternoon we stepped on to the topmost pinnacle of Aorangi—13 hrs. and 45 min. from the time we left our bivouac. The view was again magnificent—almost indescribable. We looked across the island from sea to sea, and, in addition to the views northward, eastward, and westward, we now beheld a glorious alpine panorama stretching to the S. as far as the eye could reach. The giant Tasman and all the lesser mountains were dwarfed, and the whole country was spread out like a map in relief at our feet. Hector, the third highest mountain in New Zealand, seemed a pimple, St. David's Dome had become a low peak; but Elie de Beaumont, near the head of the Tasman, still looked a grand mountain.

Through rents in the clouds to the westward patches of sea appeared like dark lagoons. I stepped out of the rope to secure the first photograph of a party that had ever been taken on the summit of Mount Cook; then we congratulated each other, and while Graham got the provisions out of the rucksacks Fyfe employed himself in taking in the view and coolly cutting up his tobacco for a smoke.

Fyfe had intended to take the pulses of the party, and I to make some careful notes of the surrounding mountains; but we did not do so. Professor Tyndall in his famous description of the ascent of the Weiss horn says that he opened his notebook to make a few observations, but he soon relinquished the attempt. There was something incongruous, if not profane, in allowing the scientific faculty to interfere where silent worship was a 'reasonable service.' Thus I felt as I gazed around at the marvellous panorama. Then thoughts of the descent began to obtrude themselves on the mind. We had climbed Mount Cook from the Tasman side. A more serious problem now presented itself. Could we descend on the Hooker side, and so make the first crossing of Aorangi?

We spent altogether 25 min. on the summit of the mountain—12,397 ft. above the sea. The views were certainly grand and very beautiful, but not so fine as from between the altitudes of 10,000 and 11,000 ft., for the simple

reason that, from the greater height of the summit, all the lesser mountains were dwarfed, and many of those that looked imposing from below had now dwindled into insignificance.

Having replaced our rucksacks, we gave one last glance about us, and then started down the slope on the other side of the mountain. We were now struck by a wind, which, of course, at this altitude, was very cold. The snow-slope was not steep, but it was frozen, and we had to cut a number of steps before we could reach the rock arête. In $\frac{1}{2}$ hr. we were on the highest rocks of this arête, and, to our horror, we found them in the worst possible condition for climbing—plastered with snow and ice and festooned with great icicles. We might have returned to the summit and climbed back to safety before nightfall down our upward route; but we were very keen to cross the peak for the first time, and decided to take the risk. Very little was said, and, after a brief consultation between Fyfe and myself, the word was given to continue the descent, and we started with grim determination to conquer the difficulties and overcome the dangers that lay between us and the upper slopes of the Hooker Glacier, 4,000 ft. below the summit on the western side. It now became a question of climbing not only with care, but also with all possible speed, for there was no place on this long ridge, in its present condition and with the cold wind blowing, where we could bivouac in safety. We had reckoned on a comparatively easy climb down these rocks, and also upon crossing the bergschrund at the head of the Hooker Glacier before nightfall; but we soon saw that this would be out of the question, especially as Turner was a slow climber, both on snow and on rocks. Fyfe, who held the responsible position of last man on the rope, repeatedly urged him to hurry and trust for safety to the rope. I came next, and Turner was between me and Graham, who, under general directions from Fyfe, led down. After descending for a few hundred feet we soon found that, owing to the ice-glazing and the snow, it was impossible to keep to the crest of the ridge, and the descent became largely a series of traverses across difficult and at times precipitous faces of rock, mostly on the eastern face of the arête. On the west the climbing was even more difficult, and there was a bitter wind blowing, so we avoided that side as much as possible. In one place we had to climb back from the eastern face through a gap of overhanging rock and great icicles. Peter smashed the greater part of the icicles with the handle of his ice axe, and the broken pieces went swishing

down the precipices towards the Hooker. Under the circumstances there was naturally some hesitancy in selecting the best route; but there was little time for undue deliberation, and, as Graham paused now and then in some doubt, Fyfe would call out, 'Will it "go," Peter?' Peter, in quiet and solemn tones, would invariably give the one answer, 'Well, it doesn't look too good;' and then would come the answering admonition from Fyfe, 'Get down—get somewhere!'

At last we came to a break in the ridge that looked utterly unscalable. We halted, and glanced ahead and from side to side. Then we cast longing eyes to some snow-slopes leading down to the Linda Glacier, on the E.; but that was thousands of feet below us. 'Will it "go," Peter?' we asked, and back came the non-committal reply, 'It doesn't look too good.' There was considerable hesitancy. It now appeared to me that the moment for decisive action had come, so I suggested that we should unrope, and be lowered down singly over the face of rock. I was lowered down first, and then, untying, the rope was hauled up and Graham was lowered. I had gained a footing on a knob of rock that jutted out from the snow and ice in a narrow 'chimney;' but there was not room on this for two people, so I cut a few steps and climbed down some 12 or 15 ft., and held on in a somewhat insecure position. I confess that I was anxious to see the last man make his appearance, for, with a keen wind nearly freezing the fingers with which I clung to the rock, and without even the 'moral' support of the rope, my position was not altogether one to be envied. Graham climbed down the slanting 'chimney' for a few feet towards me, and then Turner was lowered to the knob of rock on which I had gained my first secure footing. It remained for Fyfe to get down. This was the position of the greatest responsibility, and required a cool head and splendid nerve, for there was no one to lower him, and he had to use the rope doubled and hitched over a projection of rock. The greatest care had to be exercised, especially for the first few feet, in case the rope should slip over the knob. Fyfe, however, managed to get down in safety, and then we all roped up once more. We could not shift our positions to revert to the original order on the rope, so that I now had to take the lead. We climbed round the foot of the steep wall that had cut us off, and once more gained the crest of the ridge; but it would not 'go,' and we crossed to the eastern face, scrambling down a short broken 'couloir,' and then traversing back to regain the ridge. I had to hack a hole through long icicles that were hanging

from a jutting rock. There was just room to crawl through, the knapsack grazing the broken fingers of ice above. There might have been a route on the eastern side of this face; but a glance down the dark precipices and 'couloirs,' filled with clear ice, to a depth of 3,000 or 4,000 ft., was somewhat startling, when that glance was made in search of a practicable line of descent. Besides, under such conditions as we were face to face with, the known is always preferable to the unknown, especially when time is so important a factor in a climb. We knew the ridge we were on could be descended, but we might have got into a *cul-de-sac* on those grim ice-plastered eastern precipices.

Our difficulties, however, were by no means over, for, in a few minutes, I was peering over the face of a dangerous-looking precipitous cliff. A glance showed that there was no practicable route either to the right or the left. The afternoon was wearing on, there was no time for hesitancy, so I went over the edge, and with the assistance of the rope scrambled down a steep chimney with square smooth sides and few hand-grips. This chimney, however, fell away from the perpendicular near its foot and sloped inwards. On its final twelve feet there were neither hand nor foot holds. There was accordingly nothing for it but to unrope again, and be lowered down singly. Graham lowered me down with one rope, Fyfe and Turner anchoring on the rocks above. For a little way, by clawing at the rock with feet and hands, and by the friction of my body, I was able to descend with some slight amount of dignity, and I told Graham to lower away. Then, as I reached the part where the chimney sloped inward from the perpendicular, I lost contact with the rocks, and hung suspended, like Mahomet's coffin, between heaven and earth. The strain of the rope round one's waist, threatening to effect a complete change in one's internal anatomy, a vague clawing at air with one's hands and an equally vague searching for foothold with the nether limbs as you dangle in mid-air at the end of a forty-foot rope with precipices and snow-slopes of over a thousand feet below, have a chastening influence on the most seasoned mountaineer, and, however exhilarating the experience may be, it is always with feelings of supreme satisfaction and almost devout thankfulness that he once more comes to close grips with mother earth. At all events when, after my brief and more or less graceful gyrations at the end of that particular rope, I found the strain removed from my waist, and footholds and handholds once more actual realities, I made no complaint,

even though the middle finger of my left hand, which had been cut on the sharp rocks, was spurting blood and dyeing the snow at my feet a beautiful crimson.

The spot on which I found my feet was not the best of landings, for the rock shelved outwards into snow. It was now Peter's turn to descend, so I planted myself as well as I could, and watched the operation. He was a good stone and a half heavier, so there must have been a considerable strain on Fyfe's arms. As he slid off the rocks into the air his ice axe caught in the chimney, and sent him swinging round. I saw a long body, a swirling mass of arms and legs, and a nice felt hat sailing down on the wind to the Linda Glacier, thousands of feet below, and then a somewhat blown, but otherwise cool mountaineer, with a little assistance as to where to plant his feet, landed beside me. Peter's descent was so comical that I could not refrain from laughing. Turner was the next man, and Fyfe urged him forward. The rope was fastened round his waist, and he, too, cut a comical figure as he slid off from the perpendicular, clawed at vacancy, and eventually landed beside us. Fyfe's grinning countenance peered over the edge of the cliff above, as if he were enjoying the sport. Sensational as this performance was, especially until a landing-place had been found, a more serious one remained for Fyfe to accomplish. I, however, knew Fyfe's capabilities; otherwise I should never have undertaken such a descent. I had been with him in some tight corners before, and I had absolute faith in his ability to get down. Once more he hitched the double rope over a rock, and scrambled down the precipice. The only rock available was slightly loose, so he had to be very careful at the start in case the rope should slip over the projection. Such experiences are apt to be a little nerve-shattering, and these two sensational descents—especially the latter one—must have taken something out of him. However, he was again equal to the emergency, and, assisted by Graham's long reach as he swung over the last few feet like a pendulum, he was soon beside us in safety.

We now halted for a few minutes while we donned our spare clothing. I gave Graham my hat, as I had a spare cap in my rucksack, and then bound up my bleeding finger with some strips of Johnston's adhesive plaster. After all there was something very exhilarating in such difficult work. Every nerve and muscle was at full tension, and thoughts of all else save the matter in hand were banished from the

brain. The way ahead now seemed clear. We had 'drunk delight of battle with our peers,' and thus far had won.

We roped up once more in the old order and continued the descent. We were still a long way from the saddle, and the summit of Mount Hector seemed far below us. The climbing, however, now became easier, and we were able to make fairly quick progress in places. Eventually, we left the dreadful arête behind us, and Peter cut steps across a frozen slope that led from Green's Saddle into the long 2,000-ft. couloir that sloped steeply down to the Hooker Glacier. It was a quarter to 7 on the evening of Wednesday, and, as we had now been going since 11.15 P.M. on Tuesday, or for 19½ hours, we hoped to find the couloir in good order. Our hearts sank as we saw Graham plying his ice axe. Fyfe shouted to him to endeavour to do without the cutting, and to kick steps; but this was impossible—the slope was frozen hard! The wind was also increasing in violence, and it was bitterly cold. There was still the alternative of cutting down to the Linda Glacier on the eastern side and of a comparatively easy and comfortable descent, out of the wind, to the great plateau, from which we could gain the Glacier Dome and then descend to the Bivouac Rock by means of our steps of the night before. The matter was mentioned between Fyfe and myself; but we scarcely gave it a second thought, and decided to stick to our original intention to cross the peak. The word was given to go forward down the couloir, and young Graham, who was leading, treated us to a splendid example of ice-craft and physical endurance as he proceeded to hack a way with his axe down that 2,000 ft. of frozen slope. It was a narrow, steep gully, varying in width from about 15 to 20 yards, and flanked on either side by great walls of precipitous rock. Hour after hour went by, and we seemed to be getting no nearer to the foot of the couloir. The wind seemed to pierce to our bones, and every now and then it would send a shower of broken ice from the precipices above swishing down about our ears. In one place we took to a rib of rock in the middle of the couloir. Occasionally the rocks on the left of the couloir were used for hand-grips, thus enabling Graham to cut smaller steps. Turner then began to feel the want of sleep, and he asked me to talk to him to keep him awake. The mere suggestion of a man's falling asleep in such a situation was, of course, sufficient to keep me more than ever on the alert, especially as, if Turner had slipped, it would have devolved on me to hold him up, I being next on the rope to him. A few minutes later some bits of rock, dislodged,

no doubt, through the falling icicles that were broken by the wind, came whizzing past us, and, as Turner immediately cried out, 'Oh, my head! my head!' I knew that he had been struck. In a moment I had driven the handle of my axe into the frozen snow and had hitched the rope around it, while Fyfe, behind me, had already taken a firm stand. Turner, in his account of the accident, says, 'We would have been dashed to eternity if I had fallen and upset Graham out of his step while step-cutting, which would have been a very easy matter.' Such, however, was not the case, for both Fyfe and I had the rope absolutely taut, and, being well anchored, we could easily have held up three times Turner's weight. As a matter of fact he could not have fallen a yard. Fortunately the accident was not a serious one. It resolved itself into a scalp wound about $\frac{3}{4}$ in. long, and Turner, after a few minutes, was able to continue the descent. Stones falling from such a great height—probably a thousand feet—acquire an extraordinary velocity. Indeed, they come so fast as to be invisible, and you can only hear them whizzing past. Had this stone struck Turner on the top of the head it would undoubtedly have cleft his skull in twain. Luckily it only grazed the back of his head at the base of the skull.

We had now descended about 1,000 feet of the 'couloir.' The sun had dipped to the rim of the sea, and the western heavens were glorious with colour, heightened by the distant gloom. Almost on a level with us, away beyond Sefton, a bank of flame-coloured cloud stretched seaward from the lesser mountains toward the ocean, and beyond that again was a far-away continent of cloud, sombre and mysterious, as if it were part of another world. The rugged mountains and the valleys and forests of Southern Westland were being gripped in the shades of night. A long headland, still thousands of feet below us, on the S.W., stretched itself out into the darkened sea, a thin line of white at its base indicating the tumbling breakers of the Pacific Ocean. Difficult as was our situation, Fyfe and I would find ourselves gazing in contemplation at this mysterious and almost fantastic scene of mountain glory. Turner was concerned mostly with his head, and Peter had to devote his whole attention to the step-cutting. We climbed down a rib of rock in the dusk between the lights, and then zigzagged on down the 'couloir' in the steps cut by the never-tiring Graham. Presently the moon rose and bathed the snowy slopes of Stokes and Sefton and other giant mountains in a flood of silver. After the accident we kept closer in to the rocks, to evade any falling

icicles or stones that might come down the couloir. Graham, anxious, no doubt, to get out of the couloir, was now making the steps rather small, and there was sometimes difficulty in seeing them in the semi-darkness, and in standing in them once they were found; but we got occasional hand-grips on the rocks, so that the danger from a slip was reduced to a minimum. On one occasion I did slip in a bad step; but Fyfe was easily able to hold me on the rope. Down, down, down we went on this apparently never-ending slope. Hour after hour went past and still the end of the 'couloir' seemed a long way off. Very little was said. Occasionally there would be a request by Turner for me to hold him tight on the rope, or a plaintive cry of, 'Peter, where are the steps?' To such queries I would reply cheerily, 'Buck up, Turner, old man; you're doing splendidly. There's only another couple of hundred feet of it!' As a matter of fact there was more nearly 1,000, and I hope the Lord will forgive me for all the lies I told between half-past 9 and 12 o'clock that night about the length of that blessed 'couloir.' Nine o'clock, 10 o'clock, 11 o'clock went past, and still we could not see the final bergschrund at the foot. Fyfe took a turn at step-cutting, but quickly relinquished the task in favour of Graham. Fyfe, however, relieved Graham of his knapsack, and, with his double load, must have had a difficult time coming down in those 'economical' steps that Graham was making for the sake of speed.

Towards the bottom the couloir broadened out somewhat, and the work was easier. We progressed a little more quickly, and at last reached the bergschrund. This schrund, in ordinary seasons a very formidable one, had been often in our minds during the past few weeks, and gave us some concern from the commencement of the descent; but we reckoned that we could cross it somehow, even if we had to sacrifice an ice axe and one of the lengths of alpine rope. The first attempt to find a bridge failed; but Graham with a pretty bit of snow-craft, in the uncertain light, found a comparatively safe snow bridge, over which we crossed one by one, while the others anchored with their ice axes and held the rope taut in case the man on the bridge at the time should show an unpraiseworthy desire, by reason of his weight or the rottenness of the snow under him, to explore the unknown depths of the schrund. In a few minutes we were all across in safety, and, just after midnight—on Thursday morning—we stepped on to the upper slopes of the Hooker Glacier, and the first crossing of Mount Cook had

been safely accomplished. We went down a little way to where the slope eased off, and, gathering together on the ice, we lit the lantern, hung it on an ice axe stuck in the snow, and proceeded to explore the rucksacks for food and drink. We had now been climbing for 22½ hours, with but little to eat and drink. Even now we could scarcely eat; but the little water and a very small quantity of wine that was left in the bottles were soon disposed of. I had some of my Demerara sugar, and the others were content with a sardine or two and a little bread and jam. What remained of our provisions we now threw away. Fyfe, Graham, and I also indulged in a little whisky that Dr. Fitchett had sent us to the Ball Hut, and a small flask of which Fyfe had carried in his rucksack during the climb. Now that the mental strain of the climb was practically over we felt that a little stimulant would do us no harm. Drink and sleep were what we most needed, and we almost went to sleep standing up.

After our long spell of over twenty-two hours' climbing we now had to devote ourselves to a journey of some ten or eleven miles down the Hooker Glacier and the valley at its termination to the Hermitage. We had some little trouble amongst the enormous crevasses and séracs of the glacier, which, even in the moonlight, were a magnificent sight. We got through the first crevasses by candle light and then plodded on down the glacier by the light of the moon. Once or twice we got blocked, and had to retrace our steps to find a route through the maze of crevasses and broken ice. The sunrise was splendid. The silver of the moon gave place to the grey of dawn, and then the higher snows were flushed with rose and gold, the ice cap of Mount Stokes being the first to catch the glow. The great ice-paved valley, loth to reveal the secrets of its grandeur, waited yet awhile in the sombre shade. But presently the sun searched the dimmest recesses of the lower crags, blazed upon the gleaming snows, and all the world was filled with light.

But I must draw a veil over that long, weary walk. Lower down the roar of a waterfall, born on the snowy slopes of the Moorhouse Ranges, mocked our thirst, but on the lower ice-slopes of the glacier we found some pools of water and moistened our parched throats with mighty draughts. We plodded on down the valley, lifting our feet almost mechanically, halting at every stream, and falling asleep at every resting-place, till some resolute member of the party would prod us into mechanical action once more. Never have I travelled such long, weary miles. Towards the end of

the journey the one impression fixed indelibly on the brain seemed to be 'the Hermitage.' Once across the Hooker River, it was 'the Bar' which loomed large in our minds with a capital B. We pulled ourselves together for the last hundred yards; but I am afraid it was with a rather faltering stride that we reached the winning post after our long struggle of thirty-six hours from Bivouac Rock, many miles away on the other side of the great range. Turner, for sartorial reasons, had to make a bee-line for his bedroom; but the three New Zealanders went boldly into the kitchen of the Hermitage and discussed a bottle of dry wine amidst the congratulations of Friend Macdonald and his worthy family. Fife and Graham followed this up with ham and eggs and copious draughts of milk. I had a jug of hot milk, a hot bath, and bed. We had not had a wash nor taken off our clothes for several days, and were now in a position fully to appreciate the luxuries of civilisation. I slept till the dinner gong woke me in the evening, and, as there was not time to dress, I had dinner in bed. Later on Fyfe, Graham, and Clarke came into my room, and we climbed the mountain over again. On the way down the Hooker I had sworn to myself that I would never climb another peak; but so strange an animal is man, and so fascinating is his most glorious sport, that no sooner had we recovered from our exertions than we immediately began to discuss plans for the ascent of Mount Sefton. The mountain, however, was in bad condition, and I had already outstayed my leave, so that climb had to be reserved for another day. But I must conclude—or perhaps it were better that I should let another conclude—so I shall end by making an appropriate quotation from Norman Collie's delightful chapter on 'The Alps.' 'Those,' he says, 'who have learned to understand the language of the hills can appreciate the many-voiced calls of the mountains, and, I am sure, are not in the least afraid that, for the present, the Alps will be wholly ruined and degraded. For my own part, they will always possess an attraction which I care neither to analyse nor to destroy. I shall go back there just as the swallow at the end of summer goes south; and if by an unfortunate combination of circumstances anything should happen to prevent my ever returning from that world of snow, my ghost, could it walk, would then, at any rate, be surrounded by nothing uncommon or unclean, which might perhaps not be so should it be compelled to wander amongst the tombstones of a London cemetery.'

FURTHER ATTEMPTS ON RUWENZORI.

THE following communication (dated 'Church Missionary Society, Masindi, Uganda, B.E.A., February 11, 1906') has been received by the Secretary of the Geographical Society from the Rev. H. W. Tegart. Mr. Tegart and Mr. Maddox, of the C.M.S., accompanied Herr Grauer, an Austrian traveller, in an attempt on the highest peak of Ruwenzori in January last:—

'We failed to reach the highest peak, I am very sorry to say, and our failure was due to mists and want of porters to carry up sufficient outfit to enable us to camp out for a night. Even then I am afraid it would be a difficult undertaking, unless by good luck a whole day without mist was obtained. I enclose you a photograph which shows the peak or rock we got to on the watershed. It took us two days to get from the permanent snow-line, 14,150 ft., to the peak; we made three ascents from our camp just below the glacier.

'The first day we found a road up the rock alongside the glacier, only having small spurs of ice to cross, and got to the top of the icefall (about 100 ft. below the line of permanent snow), or 14,000 ft. I am afraid Mr. Mumm made a mistake in saying he got to 14,000 ft., for they did not get out of the sight of the chief who guided them, and he himself told Mr. Grauer that he only got to the top of the icefall; perhaps he had only an aneroid (most unreliable things).

'Well, the second day we got to 14,650 feet, and had to turn back owing to the thick fog, and knowing that a dangerous-looking ridge was ahead of us. On the third day we came up rapidly in mist in our previous day's tracks, and then we were about 4 hrs. doing the last 400 ft. We stood for 2 hrs. in thick mist and a hailstorm within 50 yards of our rock before it cleared a bit, and we then made a spurt, and got on to what Herr Grauer of Austria was good enough to name King Edward's Rock, the top of which is about 15,070 ft. or thereabouts. We waited for 2 hrs. to see if it would clear sufficiently to locate the peak, which is to the right of the photograph I enclose; but we had to come down, and we did not relish a fourth climb. To make a good confession, I think the three days was a strain, and we were a bit nervous on the last day coming over some difficult rocks. Anyhow, the weather broke, and we had two bad days coming down the lower slopes. However that central peak can be climbed if the portorage difficulty can be got over.

'Sir H. Johnston thought the Kyanja, or knob-shaped peak, the highest, but we looked down upon it from the watershed.*

'The mountain falls away very quickly on the Congo side, and there is a very sharp ridge and a deep crevasse along it; we crossed this on a snow bridge to get to our rock, which is about 40 ft. long and 30 ft. broad at the base, rising to a sharp point.

'I got you some specimens of the rocks, which I will send with the thermometer. At about 13,000 ft. the rock looks like good trap

* See, however, Mr. Wollaston's account of Kiyanja Peak, p. 146.

rock, or the stone used at home for the roads; below 18,000 ft. the rocks are soft and contain a good deal of mica. The rocks bear traces of the glaciers down far below their present lowest point. I don't think there is much quartz. I could see blocks of it on the other side of the valley, high on the hill-side, but they were few and of small extent.

'Of the stratification I am afraid I do not know enough to express an opinion. Indeed, we were going so hard at it that all our attention was given to getting over the rocks as quickly as possible.

'I am sorry to say that I forgot to take the certificates of the tests of the thermometers with me; we tried at most places, and found them read exactly alike, strange to say; yet I now find that there is a considerable error, comparing the standard instruments with each other. I read at the highest point the one numbered 18,867. Mr. Maddox checked my readings at every point, and kept a separate note of them. We then worked them out independently at Kabaroli, which we took as our base, using the tables in the Society's "Hints to Travellers." I have not a copy, or I would make the corrections for error now, but this I must leave to you. We should be extremely pleased to hear if our height for King Edward's Rock, on the watershed, is correct.

'Mr. Maddox thinks the height for Kabaroli, 5,000 ft., is fairly correct, for quite a number of aneroid barometers have been tried, and all closely agree. Mr. Maddox's own, registering to 15,000 ft., gave the height on our list when he first came out, and also when he returned five years later. I think it is fairly certain that the highest point is not over 16,500 ft.

'ALTITUDES ON RUWENZORI, B.E.A., JANUARY, 1906, FROM OBSERVATIONS OF BOILING-POINT THERMOMETER SUPPLIED BY ROYAL GEOGRAPHICAL SOCIETY AND AN ANEROID BAROMETER (25,000 FT.) LENT BY THE BRITISH MUSEUM NATURAL HISTORY RUWENZORI EXPEDITION. R.G.S. TABLES USED.

	Boiling-point	Temperature	Difference in Altitude	Altitude	Barometer Readings
	°	°	Ft.	Ft.	Ft.
C.M.S. station, Kabaroli, } Toro, as lower station }	203·0	69·5	0	5,200	—
Kakindo, Mubuku valley . . .	204·2	81·0	703	4,497	4,500
Camp at Bihanga	200·0	84·0	1,778	6,978	6,700
Kichuchu rock shelter	194·9	49·5	4,669	9,869	9,600
Bujongolo	190·4	45·0	7,281	12,481	12 { 300 500
Glacier camp	189·0	43·5	8,103	13,303	13,100
Base of glacier	188·5	45·0	8,409	13,609	—
Top of icefall	187·7	40·0	8,848	14,048	14,000
King Edward's Rock, } Jan. 18, on watershed }	186·2	42·0	9,756	14,956	15,030
Height of rock above last } point about 40 feet }	—	—	—	14,996	15,070

Permanent snow, 14,150 ft.

Examined and found correct { H. Y. TEGART.
H. E. MADDOX, F.S.I.' }

We have to thank Dr. G. Scriven for kindly translating from the 'Mitt. D.u.Ö.A.-V.' the following account from Herr Grauer of the same expedition:—

'We have received the following account of an expedition in Central Africa, in the little known Ruwenzori range, from a member of the D. und Ö. A.-V. It is dated Fort Portal, Feb. 6:—

' "As a member of the D. und Ö. A.-V. for many years permit me to send you the news that, accompanied by two English missionaries, Messrs. Maddox and Tegart, I have been the first to reach the watershed of Ruwenzori, on January 8 of this year.* This is now the only unclimbed snow mountain in Africa, and it may be a long time before this splendid chain of mountains is really conquered. It stretches for a distance of about 40 kilometres between Lakes Albert Edward and Albert, and forms the boundary between the English Uganda Protectorate and the Congo Free State; † its height cannot yet be positively stated. Sir Harry Johnston, who was the first to set foot on the glacier, and who reached a height of 18,500 ft., estimated the highest point at 20,000 ft. or more; in my judgment it can scarcely be more than 18,000 ft.

' "The Mubuku glacier, which has hitherto been the starting point of all the attempted ascents, descends at its lowest point to 13,200 ft., though the boundary between vegetation and perpetual snow lies nearly 1,000 ft. higher.

' "In November of last year the well known English climber Mr. Douglas Freshfield, with Mr. Mumm, and a Zermatt guide, attempted to reach the highest point from this glacier; in consequence, however, of very unfavourable weather and extremely thick mists they only succeeded in reaching a height of 14,000 ft. at the end of the icefall, which was very steep and fearfully broken.

' "As an old Dolomite scrambler I preferred the rocks to the ice, and by them managed to circumvent the most difficult part of the icefall, so that I only reached the actual glacier at a height of 14,000 ft., from whence the further advance does not present any great difficulties if reasonable care is exercised. First there is 200 ft. of hard ice, which can be overcome with the help of crampons without step-cutting; then comes deep snow. This we crossed in very dense mist and a heavy snow-storm, reaching the end of the glacier, the watershed towards the Congo State, at a height of 15,000 ft. The measurements were taken with the instruments of the Royal Geographical Society of London.

' "The greatest obstacle to the ascent of this chain of mountains is the extraordinarily thick mists, which almost always enshroud the higher regions. We had to wait for an hour at a time in our tracks without being able to move a step backwards or forwards till a light puff of wind opened a view for a few minutes. Thus much time was lost, a great drawback, especially here on the Equator,

* Mr. Moore reached the watershed not far from the same point in 1900. See *Alpine Journal*, vol. xxi. No. 156.

† This is not accurate. See Mr. Freshfield's article in this number, p. 88.

where daylight only lasts for twelve hours. A practised climber could reach the watershed in four hours from the beginning of the glacier. Although we had already traversed the greater part of the route on the two previous days we took more than seven hours, for the numerous crevasses render an advance in the mist impossible.

“I would be very grateful to you if you would make known this news in the ‘Mitteilungen des D. und O. A.-V.’ Perhaps it may induce some lovers of first ascents to come out to beautiful Uganda, to visit Ruwenzori, the fabled ‘Mountains of the Moon’ of ancient Arab writers.

“I am, of course, always ready to give information. My address is: Entebbe, Uganda, East Africa.

RUDOLF GRAUER aus Troppau, Österr. Schlesien.”

A private letter from Mr. Woosnam, of the British Museum party, adds some interesting details as to his repetition of Herr Grauer's climb:—

‘Ruwenzori, February 2, 1906. . . I have been away with Cruthers for a ten days' expedition up to the snow and missed the mail. It is absolutely the most extraordinary country up high that you can think of. Look at Sir H. Johnston's photographs of high ground; they are good. I have now been to the exact places and seen the same things and taken photographs of them. Most extraordinary, but a photograph can't give any idea of such a place, nor any description on paper. I will tell you all. It is beautiful, and terrible, and delightful, and yet horrible. The extraordinary vegetation—forest, then bamboos, then giant heather and bog, all hanging with long grey lichen, masses and yards of it, and half covered up in soft deep moss and what R. calls “rot of ages” (right too), and the great tall, thin posts of lobelias, taking many years to grow and die (I am sending you good dry seed of them); then higher, at 12,500 ft., only moss and lobelias and huge trees of groundsel left, and then the lobelias go, and only groundsel and moss and everlasting flowers, and at last only moss and glacier and snow, and highest of all rock.

‘We have got some glorious new birds from high up, just below the glacier—most surprising and unexpected birds too, and animals. It is a little cold, but not very, but we had remarkably fine weather, *no rain* and little mist.

‘We did a surprising thing. We also reached the watershed, the same point reached by Grauer and Co., and this is how it came about: The first morning after we got up to the head of the valley and camped at 12,500 ft., being a fine day, we started early to walk up to the glacier, to have a look at it and see what birds were there. There were very few birds—in fact, few above 10,000 ft. When we got to the foot of the glacier we took the spoor of Grauer and Co., which was still quite fresh, and followed it up the rock on the right of the glacier. We soon came to a place which is

described in Sir H. Johnston's book * as a "tunnel." Here we found no less than seven ropes hanging down, of different sizes. It is not really a difficult place to climb, so we took most of the rope back to camp with us on our return. The place is not a tunnel cut by water through the rock at all, but a great flat stone fallen across or lying across a water-worn crack or channel. After we had gone up about 500 or 600 ft. we lost all traces of Grauer's party at a point where they had left a tin with their names the first day. We knew that they had gone up the rocks higher than this before getting on to the snow, but the glacier looked to me to be quite climbable if a few steps were cut in it; but C. wanted to keep to the rocks, so he went to try the rock, whilst I tried to get up the glacier; and, with the help of my hunting-knife, I cut about forty or fifty steps in the ice and got up on to the middle of the glacier. By this time C. had got as far as he could go on the rocks, and came back to where I had got on to the glacier, and tried to follow me up, but failed here also. I was so afraid of mist coming on and spoiling the view from the top—for I could see now that, unless there was a crevasse, I could easily walk right up—that I could not go back to show him the way. So I just walked right up the snow to a black rock on the ridge; and when I got there (it was hard work breathing) I found I had got to Grauer's highest point (my aneroid read 15,100 ft.), and found a tin with their three names (Grauer, Maddox, and Tegar); so I put my card into the tin too with a rifle cartridge.

'I had a fairly good view over to the Congo side, and took some photographs (the first that have ever been taken, as it was misty when Grauer was here). He called this rock "King Edward's Rock." We could see a little lake down below on the Congo side. I could not, of course, see very far, as there were more hills beyond, but lower, and undoubtedly I was on the watershed. I might have gone on to a higher ridge on one side, but I was a bit tired with the altitude, and wanted to get back to C., as we had a long way to get back to camp before dark, so decided to turn back. I came down pretty fast, sliding over the snow, and aliding or falling down most of the glacier, for the steps I had cut had melted nearly away. I found C., and we had some lunch and returned safely to camp, having climbed as high as Grauer. My opinion is this: that there is no point on Ruwenzori higher than 17,500 ft., that the highest point is bare rock, not snow, and that on a *fine* day it is not hard to climb to the top; but on a rainy and misty day it must be awful; we were lucky and had fine dry weather. My aneroid read 15,100 ft., but that is about 150 ft. too high., for Grauer took the same point by boiling-point and made it 14,956 ft.'

We print next a note we have received from our member, Mr. A. F. R. Wollaston, describing two ascents made subsequently to those previously recorded here:—

'On February 16 Messrs. A. F. R. Wollaston, R. B. Woosnam, and R. E. Dent, starting from Bujongolo (12,660 ft.), reached the

* *The Uganda Protectorate*, vol. i. p. 184.

foot of the Mubuku Glacier in two hours. They followed the edge of the glacier to 13,560 ft., then turned away to the rocks on the right, up a steep gully full of loose stones, water, and moss, to about 14,000 ft., then sharp back horizontally on to the glacier near the beginning of the icefall. Thence, keeping near to the base of the rocks on the right (true left of the glacier), by an easy slope to the watershed at a point called by Herr Grauer "King Edward's Rock."* Herr Grauer reached the same point on January 18, 1906, by a somewhat different route. View down on to the Congo side mostly obscured by clouds. Rocks between 13,500 and 14,000 ft., not difficult but dangerous, owing to loose stones and water. Numerous avalanches falling from Duwoni Peak, on the right, can be mostly avoided by keeping towards the middle of the glacier. Time from Bujongolo to the ridge in wet weather, $5\frac{1}{2}$ hrs.

* On February 17 Messrs. A. F. R. Wollaston and R. B. Woosnam, starting from Bujongolo, left the Mubuku valley half a mile above the camp, following the first stream that comes in from the left. Over a low hill into the valley coming from the Kiyanja glacier. Three hours through trackless swamp and moss and bushes of everlasting flowers. Crossed the stream coming from Kiyanja glacier, about 13,500 ft. Thence up a steep gully to the left (W.) and on to loose boulders and screes at 14,000 ft. Turning N. good granite rocks were reached at 14,800 ft., which led to the glacier on the S.W. side of the mountain at 15,500 ft. Thence up over easy ice and snow to Kiyanja Peak, which Sir H. Johnston thought to be the highest point in the range. 16,125 ft. by aneroid, 16,000 ft. by boiling-point thermometer. The last three hours in dense fog, which led the party to the lower of the two tops of the peak. At the moment of starting to descend, the true top, a snow mound connected with the point reached by a short snow arête, was seen to be perhaps 150 ft. higher. There seem to be no higher peaks than this on the Uganda side of the range, but at least three on the Congo side—one N.W., about 16,800 ft., and two to the N. (? Saddle Mountain), perhaps 17,000 ft. Rocks easy and good going. Moss and bog at the foot of the mountain very heavy and tiring. Time from Bujongolo to the summit, about 6 hrs.†

Mr. Freshfield supplies the following further information and comment on the preceding narratives:—

† Mr. Tegart's interesting letter to some extent exonerates my informants for having sent me in November; for in January, one of the months specially recommended by local experts, Herr Grauer and his companions had, it seems, five consecutive days of broken weather. There are one or two points in Mr. Tegart's letter in which he will, I trust, shortly make his narrative more definite. Mountaineers would like to know what was the nature of the difficulty which made the party spend two hours in climbing the last 400 feet before reaching their Rock. And how long did they take,

* 15,100 ft. by aneroid; 14,956 ft. by boiling-point thermometer.

exclusive of halts, from their highest camp to their highest point? I felt convinced from the first that the summit depicted as Kiyanja by Sir H. Johnston was higher than any point on the watershed between itself and Duwoni and therefore must be higher than the Rock. Mr. Wollaston has proved this to be the case by his recent climbs. I can only suppose, therefore, either that in the mist Herr Grauer's party mistook a lower crag for Kiyanja, or else that they had previously wrongly identified a minor peak as Johnston's Kiyanja. While far from contesting the possibility of traces of ancient glacier action being discovered in the lower portions of the Ruwenzori valleys, I do not think they are so easily recognisable by the passing traveller as Mr. Tegart supposes. On this subject I shall have an opportunity to write elsewhere.

'With regard to the lofty peaks "on the Congo side" of the chain noticed by Mr. Wollaston, it is quite possible that the double summit I saw from Butiti may lie (like the Orteler) near, but off, the watershed, and not be identical with Johnston's and Wollaston's Duwoni. But the photographic plate and drawing of the range from the W., published by Dr. Stuhlmann, show no detached and lofty spurs running out to any distance towards the Semliki. There are, it is evident, plenty of topographical questions left for further investigation by the British Museum party and the Duke of the Abruzzi's formidable expedition of twelve Europeans, amongst whom is Signor Vittorio Sella. The Duke and his companions sailed from Naples on April 16.

'As to the height attained by Mr. Mumm and Inderbinnen, we (as I have written elsewhere) attached no importance to what was an off-day excursion. Expecting to make a serious attempt in a day or two, we took no measurements. But my companion is convinced, and he speaks with much experience, that he climbed something like 1,000 ft. above the glacier's snout (13,500 ft.), and he adds that the statement that the local chief had him in sight *all the time* must not be taken in a strictly literal sense, though it is quite true that he watched the climbers as far as he could with great interest.

'Ruwenzori has already a considerable literature of its own. I may mention here two of the latest additions to it, Mr. Maddox's account of his first visit to the Mubuku glacier ("Uganda Notes," June, 1905), and Mr. Dawe's botanical article in the "Journal of the African Society" for January last. Allusions to an ascent on the western side of the mountain by Dr. David are made in the "Globe" for 1904, and a map compiled from Dr. Stuhlmann's observations has been issued in the "Proceedings of the Hamburg Geographical Society" for 1901 (vol. xvii.). There is as yet no complete map of the range that has any pretension to accuracy in detail, and no attempt has been made to define and delineate its glaciers.'

THE ALPINE CLUB LIBRARY.

THE following additions have been made since February:—

New Books and New Editions. Presented by the Authors or Publishers.

- Abraham, G. and A.** Rock-climbing in North Wales.
8vo, pp. xxii, 394; plates. Keswick, Abraham, 1906. 21/- nett
- Bædeker, K.** Le sud-est de la France du Jura à la Méditerranée, y compris la Corse. 8me édition. Leipzig, Bædeker, 1906. M. 8.
8vo, pp. xxxvi, 488; maps.
- Brusoni, E.;** Guida di Lecco; see C.A.I. Lecco.
- Calendario Artistico Piemontese 1906.** Coi disegni di Augusto Carutti.
Sm. folio, pp. 51; plates. Torino, Hans Rinck, 1906. L. 3
Among the plates are views of Monte Viso and of Aosta.
- Carnet de poche;** see Taschen-Kalender.
- Crosby, O. T.** Tibet and Turkestan. A journey through old lands and a study of new conditions. New York and London, Putnam, 1905. 10/6 nett
8vo, pp. 350; plates.
The author travelled with a French officer in the end of 1903. They came dangerously near being lost at the head of the Karakah Valley in the Kuen Lun Mountains. The book is largely political and historical. The author writes strongly in what he thinks to be the interest of the various Asiatic states in their opposition to contact with the western peoples. The numerous illustrations are of little value. The best for effect is the frontispiece, 'Yak-caravan on the Saser Glacier, in a snow-mist.'
- Cumberland, Westmorland and Furness.** The English Counties. A series of supplementary readers. London, Blackie, 1905. 8d.
8vo, pp. 128; maps, ill.
- de Derwies, Vera.** Recherches géologiques et pétrographiques sur les laccolithes des environs de Piätigorsk, Caucase du Nord. Genève, Kündig, 1905
4to, pp. 84; plates.
- Deutsche Alpenzeitung.** V. Jahrgang, 1905/1906. II. Halbband.
München, Gustav Lammer, Oktober 1905—März 1906. M. 12
4to, pp. 284; col. and other plates, etc.
Among the articles are:—
A. Steinitzer, Adamellogruppe.
J. Simon, Das Bietschhorn.
O. Langl, Die Nordwand d. Schrötterhorns.
O. Sehrig, Der Brandjoch-Südgrat.
H. Hoek, Andine Bergfahrten.
O. Barth, Auf d. Grossglockner ü. d. N.W.-Grat.
H. Sattler, Mte d. Disgrazia.
R. Scheid, Der Plankerstein.
J. Kuhfahl, Winterbilder a. d. Riesengebirge.
— Hochtouren in Bergell.
M. v. Prielmayer, Ein Besuch in deutschen Sprachinseln.
H. Barth, Der Rax als Skiberg.
- The illustrations of this work are, as in previous volumes, notably good. They are very varied in style, being from photographs, sketches and coloured pictures.
- A great deal of information on the doings of the sections of the various Alpine clubs is contained in 'Verkehr u. Sport,' which forms a supplement to the paper.
- Hedin, Sven.** Central Asia and Tibet. Towards the Holy City of Lassa.
2 vols, roy. 8vo; maps, plates. London, Hurst and Blackett, 1903. 42/-
- Heim, Dr A.;** see Switzerland, Beiträge z. geolog. Karte.

- Heuser, Emil.** Neuer Pfalzführer. Ein Reisehandbuch für die bayerische Pfalz und angrenzende Gebiete. 3. Aufl. Neustadt a. d. H., Witter, 1905
3 parts; maps.
- Hewett, G. M. A.** The pedagogue at play. London, Allen, 1903
8vo, pp. 296; ill.
pp. 53-85, A Swiss winter; pp. 116-145, Norway.
- King, Clarence:** *Memoirs.* New York and London, published for the King Memorial Committee by G. P. Putnam's Sons, 1904
8vo, pp. viii, 426; portraits.
Clarence King, born 1842, died in 1901. This book is a collection of articles by various writers—J. Hay, W. D. Howells, Hy Adams, J. La Farge, E. Cary—on King and his surveying and mountaineering work.
- Lancrenon, P.** Impressions d'hiver dans les Alpes. De la Mer Bleue au Mont Blanc. Paris, Plon-Nourrit, 1906. Fr. 10
8vo, pp. 242; plates.
This is a charmingly written series of articles on winter climbing and walking in the district between Mont Blanc and Nice, by an artillery officer. The plates are numerous and good. The last chapter gives a vivid account of a dangerous winter attempt in March 1900 to reach the summit of Mont Blanc. A strong south wind and heavy snow made imperative a descent from the Vallot hut, the highest point reached. The writer from the military point of view repeats in his own experience what has frequently proved to others the chief attraction of climbing, that the sharing of common dangers is a great producer of comradeship. Soldiers on alpine stations readily acquire the fundamental spirit of disciplined action, comradeship in danger and fearlessness combined with caution.
- Landor, A. H. Savage.** Tibet and Nepal. Painted and described. London, Black (1905). 20/-
8vo, pp. x, 233; map, plates.
- Merrill, George P.** Contributions to the history of American geology. In Annual Rep. Smithsonian Instit. for 1904. Washington, Govt. Printing office, 1906
8vo, pp. 189-733; portraits.
This includes portraits, biographies, and notes on work of (among others), L. Agassiz, F. V. Hayden, C. King, J. Le Conte, J. Marcou, J. D. Whitney, J. C. White.
- Meurer, Julius.** Weltreisebilder. Leipzig, Teubner, 1906. M. 9
Roy. 8vo, pp. viii, 398; plates.
This contains, pp. 167-180, an interesting chapter, 'Am Fusse des Himalaya,' which being written by a mountaineer, has an accuracy, which would be lacking in the recital of the ordinary globe-trotter.
- Momo, Dr Carlo.** Il canto della montagna. Conferenza Domodossola, 23 Ottobre 1904. Torino, Simondetti, 1905. L. 1.50
4to, pp. 30; plates. Published by the Soc. escursionisti Ossolani.
- Monod, Jules.** Zermatt et Saas-Fée. Description. Histoire. Ascensions. Excursions. Itinéraires. Altitudes et Tarifs des Guides. Genève, Haissly [c. 1900]. Fr. 1.50
8vo, pp. 128; map, ill.
- de Montessus de Ballore, F.** Les tremblements de terre. Géographie séismologique. Paris, Armand Colin, 1906. Fr. 12
Roy. 8vo, pp. v, 475; maps, ill.

In general it is along the great mountain ranges that earthquakes occur, especially on that side which is the steeper, where there is the greater geological instability. It is in connexion with this instability in the relations of the older and the younger layers of the earth's surface that earthquakes occur, though it is still usually impossible to state the local unstable conditions producing the earth movement. By a very elaborate working together of multitudinous reports, the author has been able to construct seismological maps of the two hemispheres. That of the western hemisphere shows that the line of disturbance follows very closely the great mountain line from the Himalayas, through the Caucasus and the Alps to the Pyrenees. On the whole,

the disturbed areas lie south of that line. For instance, northern India suffers while Tibet escapes. In South America the area of instability is on the western side of the Andes. As mountain ranges are so closely identified with earth shocks, the greater part of this book is devoted to the consideration of the geological formations of those ranges.

Olufsen, O. Through the unknown Pamirs. The second Danish Pamir expedition, 1898-99. London, Heinemann, 1904. 15/- nett
8vo, pp. xxii, 229; map, plates.

Das Schnee Huhn. Führer auf die Gipfel d. Schweizeralpen. II. Jahrgang: 52 Nummern. 8. April 1905-31. März 1906. Fr. 5
4to and 8vo, pp. 102; ill.

Each number contains a drawing of a peak with route marked thereon and short letterpress descriptions of route.

de Sélincourt, E.; see Wordsworth's guide, 1906.

Skiführer für das bayerische Hochland und angrenzende Gebiete. Hgg. vom Akadem. Skiclub München. 2. Aufl. der Skitouren um München. München, Lindauer, 1906
Sm. 8vo, pp. viii, 130.

Stuart-Menteth, P. W. Pyrenean geology. 8vo. London, Dulau.
1. The alpine paradoxes. pp. 16. November, 1903
2. Scenery in Science. pp. 12. April, 1904
3. The Pyrenean paradoxes. pp. 20. June, 1904
4. The structure of the Pyrenees. pp. 28. February, 1905
5. Engineering geology in the Pyrenees. pp. 28. April, 1905
6. Uniformitarianism. pp. 37. March, 1906

Suess, Ed. La face de la terre (Das Antlitz der Erde). Traduit de l'Allemand . . . sous la direction de Emm. de Margerie. Avec une préface par M. Bertrand. Tome 1, Les Montagnes. 3me Tirage.

Roy. 8vo, pp. xv, 835; maps, ill. Paris, Armand Colin, 1905. Fr. 20

— The face of the earth. Translated by Hertha B. C. Sollas under the direction of W. J. Sollas, . . . , Professor of Geology in the University of Oxford. Vol. 1. Oxford, Clarendon Press, 1904. 25/- nett
Roy. 8vo, pp. xii, 604; maps, ill.

The first volume of Professor Suess' great and important work deals chiefly with the mountains of the world, and the 'trend-lines' or 'lignes directrices' of the various ranges: e.g. in Asia they strike and are convex towards the south,—in the Alps towards the north. Professor Suess handles and arranges in a brilliant fashion an enormous mass of data, geological and descriptive, with a view to discovering the controlling facts of arrangement. He ventures but little into the theory as to causes of facts. The results of the author's work are best stated in his preface to the English edition:—"Even in 1885 and 1888, the dates at which the first volume of this work appeared, the possibility was recognised of deducing from the uniform strike of the folds of a mountain-chain a mean general direction or trend-line; such trend-lines were seen to be seldom straight, but as a rule arcs or curves, often violently bent curves of accommodation; the trend-lines of central Europe were observed to possess a certain regular arrangement and to be traceable in part as far as Asia. It was further recognised that the ocean from the mouth of the Ganges to Alaska and Cape Horn is bordered by folded chains, while in the other hemisphere this is not the case, so that a Pacific and an Atlantic type may be distinguished."

The headings of the chapters are;—The deluge: Some seismic areas: Dislocations: Volcanos: Diversity of the movements: The northern foreland of the alpine system: The trend-lines of the Alpine system: The basin of the Adriatic: The Mediterranean: The great desert plateau: The syntaxis of the mountains of India: The relation of the Alps to the mountains of Asia: South America: The Antilles: North America: The continents.

The translation of the French edition—in which the whole work occupies three volumes—has been carried out by MM. Depéret, Gallois, Haug, Kilian, and others; and explanatory notes and many illustrations added, which do not occur in the original or in the English edition.

The English edition, when complete, will be in five volumes. The second volume, dealing with the sea and the coast-line, has just recently been published.

Switzerland. Beiträge zur geolog. Karte d. Schweiz. N.F., XVI. Lieferung: des ganzen Werkes 46. Lieferung. Das Säntisgebirge untersucht und dargestellt von Dr Alb. Heim. I, Textband: II, Atlas.

4to, pp. x, 654 and pp. 32, plates. Bern, Francke, 1905. Fr. 50

— **Dictionnaire géographique de la Suisse**, publié sous les auspices de la Soc. neuchâtélaise de Géographie. 11me fascicule, comprenant les livraisons 117 à 128 (Tome III—25—26) Morgins, Val de — Oberwald. Neuchâtel, Attinger, 1904 [i.e. 1906]

4to, pp. 385—576; maps, ill.

Another section of this most valuable gazetteer. This contains among many other articles, Morteratsch, Glacier de, et Piz: Mountet, Cabane et Pointe du: Müschenstock: Mutthorn: Muveran, Grand: le Mythen: Nadelhorn: Nesthorn: Oberaarjoch: Oberalpstock: Oberland.

Taschen-Kalender für Schweizer Alpen-Clubisten für das Jahr 1906. Dritter Jahrgang. Zürich, Tschopp, 1906
Sm. 8vo, pp. 307.

Kalendarium, Tagebuch, Statuten d. S.A.C., Statuten betr. d. Clubhütten, Führerkurse, Verzeichnis d. Mitglieder des C.C. und der Vorstände d. Sektionen d. S.A.C., Schutzhütten, Führer und Träger, Generaltarif, Notsignale, Die erste Hilfe, Unfall-Versicherung, etc.

— **Carnet de poche à l'usage des membres du C.A.S.** 1906

A French translation of the above.

Thomé, Prof. Flora von Deutschland, Österreich und der Schweiz. 2te, vermehrte und verbesserte Auflage. Band 1. Mit 160 Tafeln in Farbendruck. Gera, Fr. v. Zezschwitz, 1903. M. 18.75
8vo, pp. 108, 376; 160 col. plates.

The plates of this work are very carefully drawn and coloured. Text and plates together form an excellent and authoritative work.

Tornquist, Dr A., Dr A. Baltzer u. Dr C. Porro. Führer durch Ober-Italien; I. Das Gebirge der ober-italienischen Seen. Sammlung geologischer Führer IX. Berlin, Borntraeger, 1902. M. 5.50
Sm. 8vo, pp. xvi, 302; maps, plates.

No. X of this series—A Rothpletz, Geol. Führer d. d. Alpen, M. 4—was added to the library in 1902. Both volumes are handy guides to portions of alpine geology.

Torrents, J. Massó. Croquis Pirenencs. Nova edició. Primera serie. Vagant per la montanya—Tot fent cami—La Guilla—El correu de Camprodon—Agonia—La relliscada—En Po. Bibliotheca popular de "L'Avenç." Barcelona, "L'Avenç," 1903
Sm. 8vo, pp. 100.

— **Croquis Pirenencs.** Nova edició. Segona Serie. Records de noi—En Janret—La sirena de montanaya—L'anyorament—En Valenti—Interior.
Sm. 8vo, pp. 108. 1903

Tyndall, John. The glaciers of the Alps & Mountaineering in 1861. London, Dent; New York, Dutton (1906). 1/—
8vo, pp. xiv, 274; ill. A vol. of 'Everyman's library.' With an introduction by Lord Avebury.

White, S. E. The mountains. London, Hodder and Stoughton, 1904
8vo, pp. 282; plates.

Camping out on the mountains of the Pacific slopes of the western United States. It is to this form of enjoyment of mountains rather than to the climbing of them that the members of the various American

Mountain and Alpine Clubs devote their "outings." It is a distinctive development of mountaineering produced by the economic circumstances and the tastes of the people and the character of their mountain regions.

Wordsworth's guide to the Lakes. Fifth edition (1835). With an introduction, appendices, and notes textual and illustrative by Ernest de Sélincourt. London, Frowde, 1906. 2/6 nett 8vo, pp. xxviii, 203; map, 8 plates.

One plate is from West's 'Guide,' 1789; the others from Green's 'Series,' 1814.

Wordsworth's Guide was published as follows;—

1. Wilkinson, J. Select Views. 1810

In this it formed the text, and was anonymous.

2. The River Duddon, A series of Sonnets. . . . London, Longmans, 1820

In this it appears as 'Topographical description of the country of the Lakes.'

3. A description of the Scenery of the Lakes in the North of England. 3rd edition, now first published separately, with additions, and illustrative remarks upon the scenery of the Alps.

8vo, pp. 156; map. London, Longmans, 1822

The 'Scenery of the Alps,' pp. 88-106, was added to the previous text after his visit to Switzerland in 1820.

4. — 4th edition. 8vo, pp. 144; map. 1823

5. — 5th edition, with considerable additions.

12mo, pp. xxiv, 139; map.

Kendal, Hudson and Nicholson; London, Longmans, 1835

This was the last edition published by Wordsworth. The text was reprinted in,

6. Prose Works. Edited by A. B. Grosart. 1876

7. — Edited by Prof. Knight. 1896

The portion referring to the Lakes was incorporated in,

8. A complete guide to the Lakes. Kendal, Hudson and Nicholson, 1842

This reached a 6th edition in 1864.

9. Shaw's guide to the English Lakes. London, 1873

This afterwards became,

10. Ward and Lock's Guide. London [1884]

The present edition is very carefully edited, printed and bound.

The variations in the texts of the different editions which are generally well worth attending to, are given in the notes. The 'Guide' is of course of very great interest and should be more widely known and read than it is. It used to be a fashion in more leisurely days than the present to illustrate guide-books by quotations from the great poets. This guide is unique in being by a great poet and illustrated from his own poems. The comparison drawn between the scenery of the Lakes and of Switzerland might well be read with Shelley's 'History of a six weeks' tour,' to restore the balance which Wordsworth has weighted too little on the alpine side.

Older Books.

Achleitner, A. Aus Freier Wildbahn. Thierstudien aus den Hochalpen in Momentaufnahmen von Franz Grainer. Begleittext von Arthur Achleitner.

Bad Reichenhall, Grainer: Berlin, Rud. Schuster, 1898. M. 10 Folio, pp. 12; 12 photograph plates.

This contains fine folio plates of deer, chamois, bouquetin and marmots, from instantaneous photographs among the Alps in circumstances of considerable difficulty. The photograph of the listening chamois was, for instance, taken after long waiting, when a human cry made them suddenly stop.

- Adams, W. H. D.** Wonders of the Physical World. The glacier, iceberg, icefield, and avalanche. Characteristics and phenomena of the world of ice. London, etc., Nelson, 1880
8vo, pp. x, 314; ill.
- Allbut, E.** The tourist's handbook to Switzerland. . . . 12th edition. London, etc., Nelson, 1897
8vo, pp. xii, 344; maps, etc.
First edition, 1884.
- Alpenröschen.** Schweizerisches Taschen-Liederbuch. Eine ausgewählte Sammlung der . . . Alpenlieder . . . Wanderlieder. 2. Aufl. Bern, Heuberger [? c. 1850]
- Bergmann, Friedr.** ps., see [Zwicky, Fr.]
- Black, C. B.** Guide to Switzerland and the Italian Lakes. London, Sampson Low [1873]
8vo, pp. xiv, 170; maps, ill.
This was published in Edinburgh in [? 1864] and republished in London in [1877].
- Breton, Lieut. W. H.** Scandinavian sketches; or, a tour in Norway: intended as a tourist's guide through the interior of that country. Second edition. London, Bohn, 1837
8vo, pp. vii, 354; lithographs, those of costume being coloured.
The first edition was published in 1835.
A good account of the tour, with slight ascents. He was the first Englishman to give an account of the Romsdal: he says that the first ascent of the Romsdahlorn was made by two peasants in 1832.
- Cermenati, M.** I nostri monti. Conferenza geologica popolare. Sondrio, Quadrio, 1890
8vo, pp. 96.
On the mountains near Lecco.
- Chiacchiere alpinistiche. Torino, Candeletti, 1897
8vo, pp. 32; reprinted from Riv. Mens. 1897, nos. 1, 2, 4.
Contains, Alpinismo e musica, Alpinismo vino e libertà, Mare e montagna.
Presented by the C.A.I. Sez. Lecco.
- see C.A.I. Lecco.
- [Fetscherin, R.]** Flüchtige Bemerkungen auf einer Turnfahrt durch mehrere Kantone der Schweiz, im Juli und August 1822. St Gallen, Wegelin u. Rätzer, 1823
8vo, pp. 117.
Grimsel, Airolo, Brunnen, etc.
- Flüchtige Bemerkungen;** see [Fetscherin, R.]
- Fünfstück, Dr M.** Taschenatlas d. Gebirgs- und Alpenpflanzen. Stuttgart, Ulmer, 1896
8vo, pp. xxiii, 150; col. plates.
- Giordani, Dr Giovanni.** La colonia tedesca di Alagna-Valsesia e il suo dialetto. Opera postuma pubblicata per cura e a spese della Sez. Valsesiana del C.A.I. Torino, Candeletti, 1891
8vo, pp. vii, 201.
- Grainer, F.;** see Achleitner, A.
- Gregorovius, F.** Corsica in its picturesque, social, and historical aspects: the record of a tour in the summer of 1852. London, Longmans, 1855
8vo, pp. viii, 498.
A vol. of 'The traveller's library.'
In his ascent of Monte Rotondo, p. 335, the author used a sharp stone for step-cutting in the snow near the top.
Gregorovius, 1821-1891, contributed letters on Corsica to the 'Allgemeine Zeitung,' which were re-issued in book-form in 1854; and translated into French, Italian and English.
- Jenkinson, H. I.** Practical guide to the English Lake District. 7th edition. London, Stanford, 1881
8vo, pp. xciii, 464; maps, panoramas.
This guide was published also in four parts, and in a shortened form.
- Karr, H. W. Seton.** Shores and Alps of Alaska. London, Sampson Low, 1887
8vo, pp. xiv, 284; maps, ill.
- Lees, J. A.** Peaks and Pines. Another Norway book. London, etc., Longmans, 1899
8vo, pp. xii, 378; plates.

- [de Malten, Baron]. Taschenbuch für Reisende im Berner Oberlande, . . .
Sm. 8vo, pp. 276; maps. Aarau, Sauerländer, 1829
This was also published in French, 'Manuel abrégé du voyageur dans
l'Oberland Bernois.'
- Metcalfe, Rev. Frederick.** The Oxonian in Norway; or, notes of excursions
in that country in 1854-1855. London, Hurst and Blackett, 1856
2 vols, 8vo, plates.
- The Oxonian in Thelemarken; or, notes of travel in south-western
Norway in the summer of 1856 and 1857. London, Hurst and Blackett, 1858
2 vols, 8vo, plates.
- Metcalfe, 1815-1885, was 'an accomplished Scandinavian scholar. He
frequently spent his holidays in Norway, Sweden, or Iceland, and his
books had considerable influence in bringing these countries to the
notice of the student, the sportsman and the tourist': Dict. Nat. Biogr.
- Milner, Rev. Thos.** The gallery of nature: a Pictorial and Descriptive tour
through creation, . . . A new edition, carefully revised. London, Orr, 1855
Imp. 8vo, pp. xii, 803; plates.
pp. 200-258, mountains, valleys and caverns.
The first edition appeared in 1846. Other editions in [1858-9] and
in 1880.
- Moritzi, A.** Die Flora der Schweiz mit besonderer Berücksichtigung ihrer
Vertheilung nach allgemein phys. u. geolog. Momenten.
Sm. 8vo, pp. xxii, 640. Zürich u. Winterthur, Literar-Comptoir, 1844
- Olsvig, Viljam.** Beyer's Guide to Western Norway . . . A special guide . . .
to the famous Fjord and Mountain Districts of Norway, with two maps
and a panoramic view from Galdhopig.
8vo, pp. 199. Bergen, Beyer: London, Philip (1887)
- Parry, Edward.** Cambrian Mirror, or a new tourist companion through North
Wales; . . . Second edition. London, etc., Simpkin, etc., 1846
Sm. 8vo, pp. li, 352; map, ill.
First edition 1843; last 1851.
- Peters, Dr Carl.** New Light on Dark Africa: being the narrative of the
German Emin Pasha Expedition. London, etc.; Ward, Lock, 1891
8vo, pp. xviii, 597; ill.
pp. 210-219; description and illustrations of Mt Kenya: pp. 419-422;
discussion, with reproduction of early maps, as to the 'Mountains of
the Moon.'
- Rabl, J.** Wachau-Führer. Ein Führer im Donauthale zwischen Krems und
Melk und in den anschliessenden Theilen des Waldviertels . . . Touristen-
Führer hgg. v. Oe. T.-C. xvi. Heft. Wien, 1890
8vo, pp. xv, 346; ill.
- Rambert, E.** Les alpes suisses. Etude de littérature alpestre et La marmotte
au collier. Lausanne, Rouge, 1889
8vo, pp. 426.
This is the fifth, and last, volume, of the second edition of 'Les Alpes
Suissees,' posthumous and re-arranged. It contains;—
Schiller, Gœthe et les Alpes.
Discours à la fête du C.A.S. 1872.
F. de Tschudi.
Tartarin sur les Alpes.
Souvenirs de Jean Muret.
- Replat, Jacques.** Voyage au long cours sur le Lac d'Annecy, précède d'une
ascension au Semnoz. 2me édition. Annecy, Philippe, 1857
8vo, pp. xix, 180.
- Roncali, A.** Fra le Alpi. Gita in montagna. Descrizioni.
8vo, pp. 126; ill. Milano, Gnocchi, 1877
Presented by H. Montagnier, Esq.

- Skinner, Captain Thomas.** Excursions in India; including a walk over the Himalaya Mountains, to the sources of the Jumna and the Ganges.
2 vols, 8vo; plates. London, Coulburn, 1832
Tour in 1826.
Skinner lived 1800–1843. His 'Excursions' were chiefly in parts little known at the time.
- Switzerland.** Gedichte über die Schweiz und über Schweizer.
2 vols, 8vo. Bern, Haller, 1798
A collection of poems by Klopstock, Matthisson, Bürkli, Hottinger, Meister, Lavater, Tschärner, Stollberg, etc.
- Taschenbuch** . . . Berner Oberland; see [Malten, Baron de].
- Taylor, Bayard.** Views a-foot; or, Europe seen with knapsack and staff.
Sm. 8vo, pp. xvi, 318. London, Sampson Low, 1869
Includes travels in Scotch Highlands, Styrian Alps, Tyrol, St Gothard, etc., in 1846.
Bayard Taylor lived 1825–1878. He travelled a great deal in Europe, Asia, etc., writing letters on his travels to the 'Tribune' and other papers. Some of those letters collected form 'Views a-foot,' first published in New York in 1846—6 editions in one year.
- Tonetti, Federico.** Guida illustrata della Valsesia e del Monte Rosa.
8vo, pp. xvi, 522; ill. Varallo, Camaschella (1891)
- Trafton, Adeline.** An American Girl Abroad.
8vo, pp. 245; ill. Boston and New York, Lee and Shepard, 1876
pp. 168–219; Days in Switzerland, Mont Blanc, etc.
- Tyacke, Mrs B. H.** How I shot my bears; or, two years' tent life in Kullu and Lahoul.
8vo, pp. xii, 318; ill. London, Sampson Low, 1893
- Viridet, Marc.** Passage du Roth-horn, montagne de la Vallée de Saas, en Valais. 2me édition, corrigée et augmentée de notes.
8vo, pp. 40. Genève, Cherbuliez, 1835
The first edition appeared in 1833 in 'l'Etudiant Génevois,' 80 copies only.
An amusing pamphlet. The author and his friend got into many difficulties on a botanising expedition. Thus; "Je m'assieds sur un roc, et j'attache mes deux souliers avec des mouchoirs. J'avais ainsi l'avantage de glisser fort peu sur la neige, et de fixer ma chaussure dont le vacillement m'était tout-à-fait incommode." For all that he did slip often and badly. But he luckily had an umbrella. "Je vois M. Reuter descendre d'une vitesse à faire trembler . . . Me plaçant en face de l'endroit où je le vois venir, j'y enfonce mon parapluie de toute la force de mon bras. Il arrive, frappe avec violence contre moi; le parapluie résiste, il est notre ancre de salut."
This has been presented by H. Montagnier, Esq.
- Vormann, W. H.** Aus den Fremdenbüchern von Rigi-Kulm. Eine Sammlung der interessantesten Einzeichnungen. Nach den Originalbänden zusammengestellt und durch eine Geschichte der Kulmhäuser eingeleitet.
8vo, pp. 106; ill. Bern, Haller, 1883
- Wiffen, J. H.** Julia alpinula; . . . and other poems. Second edition.
8vo. London, Longmans (c. 1820)
This contains, pp. 80–82, in the notes, a poem (? by A. A. Watts) on Mont Blanc. First edition, 1820.
- Yung, Emile.** Zermatt and the Valley of the Viège. Translated from the French by Mrs Wharton Robinson. Geneva, Thevoz; London, Gotz, 1894
4to, pp. 102; ill.
This richly illustrated work may now be obtained at the reduced price of 8 francs. There are several excellent small illustrations set in the text of each page, and many full page plates.
- [Zwicky, Fr.], ps. F. Bergmann. Sang und Sage. Aus der Ostschweiz.
Sm. 8vo, pp. 419. Zürich, Schulthess, 1865

Club Publications.

Austrian Tourist Club; see J. Rabl, Wachau-Führer, 1890.

— **Baden** (1878). Gedenkschrift aus Anlass der Feier des fünfundsanzig-jährigen Bestandes der Sektion. 1903

8vo, pp. 64; ill.

— Statuten. 8vo, pp. 10. 1895

— Bibliotheks-Verzeichnis. 8vo, pp. 16. 1894

— xxviii. Jahres-Bericht (1905). 8vo, pp. 15. 1906

— **Dresden**. Bericht 1904/05. 8vo, pp. 48. (1906)

— **Gmunden**. Statuten. 8vo, pp. 8. 1885

— Wegmarkierungs-Karte d. Salzkammergutes. 1:75000. 1904. K. 2.40

On the back of the map is printed a short descriptive account of the district, Führertarif, etc. A very useful map.

— Herz und Sport, von Dr Ferd. Krackowizer. Vortragsabend.

8vo, pp. 23. 4. Jänner 1906

— **Krems-Stein**. Statuten. 4to, pp. 12; lithogr. n.d.

— xxiii. Jahres-Bericht ü. 1904. 8vo, pp. 12. 1905

— **St. Peter-Seitenstetten**. Panorama der Kaiserin Elisabeth-Warte auf dem Plattenberge bei Kürnberg. Gezeichnet von Ignaz Hartmann. 1904

Accompanied by coloured poster, giving views of scenery.

— **Salzburg**. Jahresbericht ü. d. xxiii. Sektionsjahr. 8vo, pp. 17. 1906

— 2 post-cards: Hochkönig-Schutzhaus and Hochkönig-Gipfel.

— **Taxenbach**. Satzungen. 8vo, pp. 18. 1904

— **Wiener-Neustadt**. Verzeichnis ü. die Bücher, Karten und Panoramen d. Bibliothek. 1899

8vo, pp. 11.

— xxv. Jahres-Bericht f. 1903. 8vo, pp. 14. 1904

— xxvi. 8vo, pp. 22. 1905

— xxvii. 8vo, pp. 25; plates. 1906

— Statuten. 8vo, pp. 7. n.d.

— **Winter-Sport-Club des Oe.T.-C.** 4to, pp. 4. 1904

— 4to, pp. 3. [1905]

— Meisterschaft f. Bobsleighs. 1905

— Sportfest am Semmering. 1906

These four are Club notices.

— Satzungen. 8vo, pp. 12. 1904

'Sein Zweck ist die Pflege jeglichen Wintersports im Mittel- und Hochgebirge.'

— **Znaim**. Tätigkeits-Bericht, 1904. Sm. 8vo, pp. 8. 1905

— 1905. Sm. 8vo, pp. 12. 1906

C.A.F. Isère. Fête annuelle. Programme de la soirée.

8vo, pp. 2. 1^{er} Février 1906

An amusing comic sketch, by A. Recoura, of a party of alpinists crossing a snow-bridge. Monsieur Paillon has kindly sent a copy of the original 'Programme,' and also a reprint on thick paper from the plate.

This appeared also in 'La Montagne,' for April.

— **Section du Sud-ouest, Bordeaux**. Bulletins nos. 53-58. Années 1903-1905. 8vo, ill.

Among the articles are;—

53. M. G., La boucle de Buzy à Buzy.

54. A. Bardié, Les Eyzies, Monpazier et Cadouin.

L. Briet, De Bielsa à Lafortunada.

A. Terrier, La Meidje.

55. L. Briet, La Grotte d'Arreod.

G. Bartoli, L'Aigoual.

56. H. Russell, Vignemale.

Vicomte d'Ussel, L'Aiguille inaccessible de Mède.

57. C. Pérez, De Lesoum à Ste-Engrace.
L. Gaurier, Vers L'Ardiden.
58. Vicomte d'Ussel, Aiguilles de "los Encantados."
A. Bardié, Courses de la Section.
- Two numbers of the Bulletin are published annually, June and December.
- C.A.F. Section du Sud-ouest, Bordeaux.** Guides et porteurs de la Section.
Supplément au Bulletin. 8vo, pp. 8. Décembre, 1899
- **Section Vosgiennne.** Bulletin, 24. 1905
8vo, pp. 107; ill.
- Mont Blanc is treated of by M. Mougenot in five out of the six numbers of the year.
- Specimens of Claray's poetry are continued from the previous volume.
- — see W. de Beaumont, *under* Pamphlets.
- C.A.I. Statuto e regolamento.** 8vo, pp. viii. 1902
- — 8vo, pp. 19. 1905
- **Biella (1872).** Relazione . . . nell' anno 1891. 8vo, pp. 24. 1892
- — nell' anno 1893. 8vo, pp. 45; ill. 1894
- This contains;—
- V. Sella, Ai consoci della Sezione.
- D. Vallino, Carovana scolastica 1894.
- C. Marco, La geologia d. Santuario d' Oropa.
- E. Gallio, Due giorni sul Monte Rosa.
- — nell' anno 1894. 8vo, pp. 47; ill. 1895
- This contains;—
- E. Gallo, Il Monte Mars.
- All' Herbetet.
- G. Edoardo, Il versante meridionale d. Monte Bo.
- F. Antoniotti, Fanciulli alpinisti.
- — La Sezione di Biella negli anni 1895-1901. 8vo, pp. 47. 1901
- — Sguardo turistico sulla flora della Regione Biellese. V. Cesati. In occasione d. 15° Congresso alpino nazionale. 1882
8vo, pp. 14.
- — see F. Sacco, I terreni terziari, 1888: and M. Lessona, Il museo locale biellese.
- **Bologna (1875).** Itinerari dell' Appennino (dal Cimone al Catria) compilati dai soci L. Boschi—A Bonora. Bologna, Wenk, 1888
8vo, pp. 62; plates.
- — Regolamento. 8vo, pp. 4. 1891
- — Ricordo del 31° Congresso del C.A.I., Bologna, 17-20 settembre 1899.
- Obl. 8vo, 6 plates.
- — Relazione sull' andamento morale del 1901. 1902
8vo, pp. 26; plates.
- — Catalogo della biblioteca. 1904
8vo, pp. 71.
- — see G. Giordani, La colonia tedesca di Alagna-Valsesia.
- **Catania (1875).** Regolamento. Obl. 8vo, pp. 13. 1884
- — All' Etna. A. Corsaro. 8vo, pp. 24. 1904
- **Como (1875).** Programma. Obl. 8vo, pp. 4; ill. 1904
- — Obl. 8vo, pp. 8; ill. 1905
- — Obl. 8vo, pp. 8; ill. 1906
- — Annuario e regolamento. 8vo, pp. 62; plate. 1903
- This contains:—Relazione dell' attività, Regolamento interno, Regolamento per la capanna "Volta" e della capanna "Como," Biblioteca sociale; and plate of the "Como" hut in the Val Darenge.
- — see Sez. di Lecco, Guida itinerario.
- **Firenze: Stazione alpina Emilio Bertini, Prato (1898).** Statuto e regolamento. 8vo, pp. 12. 1906
- — Programma delle gite per il 1906. 8vo, pp. 16. 1906

- C.A.I. Iesi (1905).** L' Appenninno Centrale, formerly published by the Club escursionisti, is now (February 1906) the joint publication of that Club and the C.A.I. Iesi.
- **Lecco (1874).** Inno alpino. Parole di A. Ghislanzoni. Musica di A. C. Gomes. Milano, Lucca [1884] Folio, pp. 15.
- — Note alpinistiche. Reminiscenze di alcuni soci. 8vo, pp. 137. Torino, Civelli, 1885
This contains, *inter alia* ;—
G. Pozzi, Appunti geologici intorno alle nostre prealpi.
— Sette giorni in montagna.
— Escursione al Monte Redorta.
D. Tornaghi, Da Lecco alle cascate d. Serio.
A. Ghislanzoni, Inno popolare.
Elenco d. Soci.
- — Note alpinistiche. Vol. 2. 1893
8vo, pp. viii, 271; portraits.
This contains ;—
M. Cermenati, L' alpinismo in Antonio Stoppani.
— Cronaca della Sezione, 1874-1892.
G. Ongania, Ascensioni nell' alta montagna.
- — Commemorazione di Giovanni Pozzi. M. Cermenati. 1890
8vo, pp. 44.
- — Statuto-Regolamento. 8vo, pp. 19. 1894
- — — 8vo, pp. 14. 1897
- — Presentando i ritratti di Antonio Stoppani e Giovanni Pozzi. Parole pronunciate nell' Assemblea d. Sezione il 17 settembre 1891. Mario Cermenati. 1891
8vo, pp. 35.
- — Inaugurazione della Stazione alpina Antonio Stoppani sul Monte Resegone. 1895
Sm. 8vo, pp. 25.
- — Commemorazione del xxv° anniversario. 1899
Sm. 8vo, pp. 14.
These two contain list of members and of guides.
- — Carte delle Prealpi di Lecco e delle Valli di Livo, del Liro, di Codera e dei Ratti. Lecco, Grassi, n.d.
In three sheets, from the map of the Istit. geogr. militare.
- — Sezioni di Como e di Lecco. Guida Itinerario—Alpina—Descrittiva di Lecco. . . . compilata per cura di Brusoni Prof. Edmondo. Lecco, Grassi, 1903
8vo, pp. xx, 319; maps, ill.
- — Sezione Ligure, Genoa. Annuario. Gite sociali. Rassegna Sezionale. Anno 26. 1906
8vo, pp. 64; ill.
- **Milano (1873).** Statuto. 8vo, pp. 16. (1899)
- — Annuario (anno 17). Sm. 8vo, pp. 70. 1905
- — **Monza (1899).** Regolamento. 8vo, pp. 11. 1906
- — **Stazione Universitaria (1905).** Regolamento. 8vo, pp. 7. 1905
'La Sezione di Monza del C.A.I. ha fondato la Stazione Universitaria allo scopo di promuovere la conoscenza e lo studio delle montagne fra gli studenti italiani.'
This section recently held the first Students' International Alpine Congress. There are many important Students' Alpine Clubs at the universities on the Continent, e.g. in Berlin, Munich, Vienna, Zürich.
This is the first in Italy.
- **Sezione Valtellinese, Sondrio (1872).** Regolamento. 8vo, pp. 11. 1905
- — see Giordani, Dr G., under 'Older Books.'
- — **Varallo-Sesia (1867).** Regolamento. 8vo, pp. 7. 1903

Climbers' Club Journal, vol. 7, nos. 25-29.

1904-5

8vo, pp. 254; plates.

Among the articles are;—

J. M. A. Thompson, First ascent of the buttress of Cynr Lás.

— First ascents on the Glydr Fawr.

H. E. Balch, Cave work in Somerset.

A. W. Andrews, Climbing on the Cornish cliffs.

E. A. Baker, The peaks of Glen Torridon.

J. W. Wyatt, A day on the Pte d'Orny.

G. W. Young, Ascent of Mt Ida.

G. F. Woodhouse, Dow Crags, Coniston.

W. P. Haskett-Smith, 'Twixt Snowdon and the Sea.

Club alpin de Crimée. Bulletin (in Russian) vol. 8. 8vo, pp. 253; ill. 1905

Among the articles are;—

A. Hansky, Mont Blanc in 1904.

A. de Meck, Col du Géant and Jungfrau.

V. Vojevodski, Tsei Glacier and Col de Mamison.

S. d'Ilovaisky, From Koubane to Krasnaja by the Col Pseachko.

D.u.Oe.A.-V., Kalender für das Jahr 1906. 19. Jahrgang.

München, 1906. M. 1.50

8vo, pp. 256; Notizbuch u. Taschen-Panorama viii. Gross-Venediger.

The following panoramas, drawn by R. Reschreiter, have been issued with the 'Kalender':—(1) Ellmauer Halbspitze, (2) Zugspitze, (3) Herzogstand, (4) Wallberg, (5) Speikboden, (6) Plose, (7, 8) Grossglockner.

The only part of the 'Kalender' which is annually deficient is the list of the leading Alpine Clubs. As this list stands, it is neither a list of the leading clubs nor a complete list of all Clubs. It would not be difficult to improve this portion, as it is not worthy of the rest of this useful publication. There is at present no publication that contains anything like a complete list of climbing clubs, so that it would be useful if this list in the 'Kalender' were completed.

The central office of the Club is this year in Innsbruck. The membership is nearly 68,000, and the number of sections is now 327.

— **Führertarife**, Heft 3. 8vo, pp. 80. 1906. Pf. 20

Mieminger- u. Wettersteingruppe, Ehrwald, Lermoos u. Coburgerhütte, Kochel, Karwendelgruppe, Tuxer Alpen, Kaisergebirge, Gmunden u. Ebensee, Dachsteingebiet, Bruneck.

— **Statuten**. 8vo, pp. 8. 1876

— **Allgau-Immenstadt** (1874). Jahres-Bericht. 8vo, pp. 14. 1905

— **Ansbach** (1887). Bericht 1897-1900. 8vo, pp. 32. 1901

Includes the library catalogue.

— — Bericht f. d. Jahre 1901-1903. 8vo, pp. 20. 1904

— — Satzungen. 8vo, pp. 7. 1903

Bayerland; see München below.

— **Berlin** (1869). Jahresbericht für 1906. 8vo, pp. 192. 1906

Contains; Sektionsbericht, Tourenbericht, Hüttenbericht, Mitglieder-verzeichnis (2912).

— **Bromberg** (1901). Satzungen. 8vo, pp. 4. n.d.

— **Buchenstein** (1904). Statuten. 8vo, pp. 8. 1903

— **Chemnitz** (1882). Bericht für die Jahre 1898-1902. 8vo, pp. 34. 1903

— — Grundgesetz. 8vo, pp. 8. 1905

— — Verzeichnis der in der Bücherei enthaltenen Bücher, u.s.w.

8vo, pp. 20. Januar, 1905

— **Coblenz** (1905). Satzungen. 8vo, pp. 4. 1905

— **Eger und Egerland** (1894). Satzungen. 8vo, pp. 10. n.d.

— **Gera** (1879). Jahresbericht ü. das 26. Vereinsjahr 1905. 8vo, pp. 24. 1906

— **St. Gilgen** (1902). Jahres-Bericht für 1905. 8vo, pp. 8. 1905

— **Gleiwitz** (1895). Satzungen. 8vo, pp. 4. 1900

— — Bücherei. 8vo, pp. 7. 1905

- D.n.Oe.A.-V., Gleiwitz (1895).** Tätigkeitsbericht, 1902-3. 8vo, pp. 80. 1904
 ———— 1904. 8vo, pp. 89. 1905
- **Golling (1880).** Festschrift zu ihrer 25jährigen Gründungs-Feier. 1905
 Obl. 8vo, pp. 8; ill.
- **Goslar (1890).** Satzungen. 8vo, pp. 12. 1905
- **Gotha (1896).** Satzung der Ortsgruppe Gotha. 8vo, pp. 8. 1906
- **Hannover (1885).** Einundzwanzigster Jahresbericht; für das Jahr 1905.
 8vo, pp. 31. 1906
- **Karlsruhe (1870).** Satzungen. 8vo, pp. 8. 1900
 ——— Bericht ü. d. Jahr 1905. 8vo, pp. 31. 1906
- **Krems an d. Donau (1896).** Jahres-Berichte, 7, 8, 9, 10. 8vo. 1903-6
 ——— Satzungen. 8vo, pp. 4. 1900
- **Kreuzburg (1897).** Satzungen. 8vo, pp. 4. 1898
 ——— Jahres-Bericht ü. das neunte Vereinsjahr. 8vo, pp. 7. 1905
- **Küstenland, Sez. litorale, Trieste (1873).** Statuten. 8vo, pp. 4. 1886
 ——— Jahres-Bericht f. 1905. 8vo, pp. 23. 1906
 ——— Neuer kleiner Wegweiser für die Besucher der St. Canzianer Grotten.
 8vo, pp. 16; plan. 1894
- The earliest edition was published in 1886.
- **——— Nuova guida per i visitatori delle Caverne di San Canziano.** 1896
 8vo, pp. 16; plan.
- **Landsberg am Lech (1890).** Satzungen. 8vo, pp. 7. 1900
- **Lausitz, Görlitz (1883).** Satzung. 8vo, pp. 8. 1904
- **——— Jahresberichte für 1903, 1904, u. 1905.** 1904-1906
 8vo, pp. 30, each.
- **Leipzig (1869).** Katalog der Bibliothek. 1902
 8vo, pp. vii, 112.
- Additions are given in the Jahresberichte.
- **——— Jahresbericht f. 1904.** 8vo, pp. 112. 1905
 pp. 1-30: H. Reishauer, Friedrich Ratzel u. d. Alpenforschung. With
 portrait. 1906
 f. 1905. 8vo, pp. 99. 1906
 pp. 3-11: P. B. Schulze, Ein neuer Anstieg auf die Grosse Zinne.
 The Jahresberichte also contain reports on huts, etc., additions to
 library, list of members and of tours by members.
- **Litorale, Sez.; see Küstenland.**
- **Magdeburg (1884).** Satzungen. 8vo, pp. 4. 1883
 ——— 22. Jahresbericht. 8vo, pp. 24. 1906
 ——— Verzeichnis der Bücher. 8vo, pp. 12. 1905
- **Marburg i. Hessen (1892).** Bericht v. 1894 bis 1895. 8vo, pp. 4. 1895
 ——— Bericht f. 1895 bis 1899. 8vo, pp. 10. 1899
 ——— Satzungen. 8vo, pp. 1. 1894
- **——— Satzungen u. Vereinsbestimmungen, Bibliotheksordnung u. Katalog.**
 8vo, pp. 11. 1899
- **Sektion "Moravia," Brünn (1881).** Jahres-Berichte, 1902, 1903, 1905.
 8vo, pp. 18, each. 1903-6
- **München: Alpenvereinssektion Bayerland (1895).** x. Jahresbericht,
 1905. 8vo, pp. 130. 1906
 This contains lists of expeditions of members, with short notes on new
 ascents. Nearly all the expeditions are in the eastern Alps and the
 majority are guideless.
 A list of members is added and a history of the Section, which last year
 entered on its 10th year.
- **Nürnberg.** Bücher-Verzeichnis. 8vo, pp. 20. 1899
 ——— Nachtrag. 8vo, pp. 8. 1905
 ——— Satzung. 8vo, pp. 13. n.d.
 ——— 36. Jahres-Bericht. 8vo, pp. 65. 1905
- **Pfalz, Ludwigshafen a. Rh. (1889).** Statuten. 8vo, pp. 4. 1904
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K. Goebel, Der Alpengarten auf dem Schachen.
J. Obrist, Flora d. Wettersteingebirges.
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5. F. Galbiati, Al Pizzo Cavregasco.
6. Giovanni Segantini.
8. C. Lafitte, Al Grignone cogli ski.
9. — La Parete Nord d. Sasso Manduino.
10. G. Corti, La Cima Tradati.
U. Carione, Monte Rosa e Cervino.
15. A. Omio, Mont' Adamello.
E. Castelli, Il Monte Agnèr.
16. — Nel Gruppo delle Pale di S. Martino.
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- Sicily. Club alpino di Trapani.** Statuto. 8vo, pp. 10. Palermo, 1899
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E. Nœf, Piz Lucendro, Blindenhorn.
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F. Otto, Titlis z. Dammastock.

W. Offermann, Die Vogesen als Skigebiet.

J. Maier, Geschichtliches ü. d. Schnee-Schuhlauf.

H. A. I., Passtouren im Berninagebiet.

J. Höppl, Weihnachtsskitour auf die Valluga.

J. Welpé, Auf die Rendelspitze.

C. Frey, Besteigung d. Claridengipfel.

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— Nelle Dolomiti d' Ampezzo.

C. Negri, Nei Gruppi d. Presanella, d' Adamello e di Brenta.

T. Monauni, Cima Venezia, Eissespitz, Cevedale.

R. Cobelli, Primo saggio di meteorologia comparata nel Trentino.

D. Reich, Il Covelo di Rio Malo.

G. Bertagnolli, La poesia sulle rive del Noce.

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This society, like the Catalonian Club or the Société Ramond, is not concerned with climbing solely or chiefly, but intermingles it with excursions for archæology and historical purposes. However a considerable portion of 'L' Escursionista' is concerned with climbing in the alpine region within easy reach of Turin.

— — Programma, Gite sociali: 1898, 1899, 1900, 1901, 1902, 1904, 1905.

Sm. 8vo.

— — Statuto. 8vo, pp. 7.

1902

'Scopo dell' Associazione e di:

(a) curare lo sviluppo dell' amore per l' escursionismo;

(b) promuovere, organizzare e dirigere comitive per gite in montagna ed in pianura.'

— — Calendario: 1905 and 1906.

These are daintily illustrated wall calendars, with particulars of the club excursions thereon.

— — Itinerari di gite ed escursioni alpine.

Sm. 8vo, pp. 64.

1899

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The Abode of Snow; see [Wilson, A.]

Above the Clouds; see Bel Alp.

Almer. With Christian Almer in the Oberland. In Blackwood's Mag. vol. 130, no. 791.

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- Alpinisme, Les dangers de l'.** Dramatique ascension au sommet du mont Bouchier. A coloured illustration with text in 'Le Petit Journal,' supplément, Paris. 21 janvier 1906
- A large folio illustration of an alpine accident, not altogether absurd.
- Alps.** At the Alps again. In *Blackwood's Mag.*, vol. 102, no. 524. October, 1867
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- Andrews, A. W.** The northern cliffs of the Land's End Peninsula. In *The Geographical Teacher*, London, Vol. 3, part 1. Spring, 1905
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- A review of Wagner's 'Reise.'
- Bailly, Ch.** La Photographie en Montagne, lointains et sous-bois. Bibliothèque de la Photo-Revue, no. 20. Paris, Mendel, 1906. Fr. 0.60
- 8vo, pp. 32; ill.
- Baltimore, J. M.** The hunter's tale. In *The Wide World Mag.*, vol. 16, no. 94. January, 1906
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- A tale of dangerous climbing in pursuit of mountain sheep in Idaho.
- Bauer, A.** Sir Humphry Davy in Österreich. Wien, 1806
- 8vo, pp. 15: reprinted from 'Wiener Zeitung' Nr. 63, 1906.
- A short account of Davy's travels in the Tirol.
- Beaufoy, Col. Mark.** Narrative of a journey from the Village of Chamouni, in Switzerland, to the summit of Mount Blanc, undertaken on Aug. 8, 1787. In *Annals of Philosophy*, London, vol. 9, no. 2. February, 1817
- 8vo, pp. 97-103.
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- de Beaumont, W.** Congrès du Club Alpin 1905. Malzéville, Thomas, 1906
- 8vo, pp. 32; ill.
- This is a reprint, with additions, of an article in the *Bull. Sect. Vog. C. A. F.* It has been most courteously presented by Monsieur de Beaumont, President of the Section.
- Bel Alp.** Above the clouds: a reverie on the Bel Alp. In *Blackwood's Mag.*, vol. 123, no. 748. February, 1878
- 8vo, pp. 172-181.
- Bouquet, H.** L'Himalaya et ses explorateurs. In *La Vulgarisation Scientifique*, Tome 2, No. 11. 15 novembre, 1905
- Folio, pp. 290-294; ill.
- A short historical note, with impressive photographs, the largest of which is from a photograph of Signor Sella's magnified.
- Brégeault, Julien.** Les caravanes scolaires du Club alpin français. In *Revue pédagogique*, Delagrave, Paris; N.S. vol. 47, no. 11. 15 Novembre, 1905
- 8vo, pp. 464-474.
- An interesting paper on the definite organisation of excursions—alpine and other—for school-boys and school-girls, as first devised by Toeppfer. The paper was read at the Sorbonne in October last in presence of the Minister of Public Instruction and of the President of

- the C.A.F. These excursions are organised by the various sections of the C.A.F. under supervision of the Commission d. caravanes scolaires du C.A.F., and are officially recognised by the Minister of Public Instruction as of great educative and physically recuperative value. See 'La Montagne,' 1905, pp. 597-599. The President of the D.u.Oe.A.-V. at the Annual Meeting last year called the attention of his Club to the great advantages derivable from those school trips. See 'Mitt. d. D. u. Oe. A.-V.,' Nr. 5, 1906.
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- Buckland, Rev. W.** Notice of a paper laid before the Geological Society on the structure of the Alps and adjoining parts of the Continent, and their relation to the secondary and transition rocks of England. In Annals of Philosophy, N.S. vol. 1, no. 6. June, 1821
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- Colebrooke, H. T.** On the height of the Himalaya Mountains : abstracted from a paper in the Asiatic Transactions, vol. 12. In Annals of Philosophy, London etc, vol. 11, no. 1. January, 1818
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- Extracts from the journals ; see [Brockedon, W.]**
- Fantoli, Gaudenzio.** Alcune note d' idrografia sulla estensione dei ghiacciai nel dominio dei nostri fiumi alpini sul tributo e sul reime delle acque glaciali. Milano, Tip. d. ingegneri, 1902
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A short treatise on equipment and climbing.
- [Ross, Malcolm]** Climbing in the New Zealand Alps. An article in the 'Times' 17 April, 1906
This opens with a short historical notice of climbing in New Zealand. Then follows an account of recent important work. 'The present season has been a notable one in the annals of N.Z. mountaineering because of the first ascent of Mount Stokes (10,084 ft.), and St David's Dome (10,410 ft.), and the first crossing of Mount Cook. The last mentioned expedition, in which the writer had the honour of taking part, in company with other New Zealanders (Messrs T. C. Fyfe and P. Graham) and an English Climber (Mr S. Turner), is probably the most important climb yet accomplished in the Southern Alps . . . We started [from a bivouac 6,600 ft. up] on the night of Tuesday January 9, climbing to the top of Glacier Dome . . . and crossing the great snow plateau . . . we commenced the ascent of the long 3,000 ft. snow slope that leads to the rocks of the main north-eastern arête. From this point we had a splendid climb. . . . We gained the summit of the mountain in 13 hours 45 minutes.' The descent was commenced to the north-western rock arête, towards the Hooker Glacier, at 1.25. As the rocks were in a very difficult condition with snow and ice, it was not till 7 that the party 'reached a long 2,000 ft. couloir leading down from Green's Saddle to the Hooker Glacier.' In going down this couloir, down which steps had to be cut nearly the whole of the way, Turner's scalp was badly grazed by a falling stone. The bergschrund was not reached till after midnight on Thursday. 'After a long and arduous climb of 36 hours, we reached the Hermitage inn, and the first crossing of Mount Cook had been safely accomplished.'
- Sacco, F.** I terreni terziari e quaternari del Biellese. Pubblicazione fatta per cura della Sezione Biellese del C.A.I. Torino, Guadagnini, 1888
Folio, pp. 16; large map.
Presented by the C.A.I. Sez. Biellese.

- Schaller, E.** Das Schneeschuhlaufen im Württ. Schwarzwald. In Aus dem Schwarzwald; Blätter d. Württ. Schwarzwald-Vereins, xiii. Jahrg. Beil. z. Nr. 12. 4to, pp. 243-244. Dezesember, 1905
- Simplon.** Chemin de fer et Route du Simplon. 40 vues. Edition illustr. 4to; plates. Kilchberg, Wehrli [1906]. Fr. 5
These are fair photographs, but photographs cannot convey an impression of the steep and rugged vastness of the rocky gorges through which the Simplon road passes.
- Sports d'hiver.** 8vo, pp. 175; ill. Genève, Au Touriste, 1905
- Tarr, R. S., and L. Martin.** Glaciers and glaciation of Yakutat Bay, Alaska. In Bull. Amer. Geogr. Soc. vol. 38, no. 3. March, 1906
8vo, pp. 145-167.
- Termier, Pierre.** Les Alpes entre le Brenner et la Valtelline. In Bull. Soc. géol. de France, 4me série, tome 5, no. 3. Août, 1905
8vo, pp. 209-289; map and plate.
The headings of the sections of this article are;—
Structure de la région du Brenner, de l'Ortler; Les phénomènes tectoniques sont continus du Brenner à l'Ortler, et la voûte Sobretta-Confinale se prolonge par la voûte des Hohe Tauern; Structure générale.
- Thioly, F.** Ascension de la Jungfrau. Genève, chez les principaux libraires, 1865
8vo, pp. 28.
— Ascension du Finsteraarhorn. Suisse, chez les principaux libraires, 1865
8vo, pp. 16.
Vol. 1 of 'Echo d. Alpes' consisted of four separately published items; List of members, the two pamphlets above and Thioly's 'Course au Moléson.' A 4to edition de luxe was also issued of these pamphlets, all being at Monsieur Thioly's expense.
These two have been presented by H. Montagnier Esq.
- Tyrol.** On the character and manners of the Tyrolese. In Blackwood's Mag. vol. 5. September, 1819
8vo, pp. 643-653; ill.
- Udrell, Capt. J., R.N.** An account of an ascent to the summit of Mont Blanc, in August, 1819. In Annals of Philosophy, London, etc., N.S. vol. 1, no. 5. May, 1821
8vo, pp. 373-383.
This 'Account' was also privately printed.
- Vaerst's** 'Pyrenees,' review of; see Pyrenees, 1847.
- Vosges.** Wild-boar shooting near the heathen wall of the Vosges. In Blackwood's Mag. vol. 139, no. 843. January, 1866
8vo, pp. 68-79.
- Wagner's** 'Reise,' review of; see Ararat.
- Walton-Saule, Capt. H.** Travel & Adventure on the Roof of the World. In the Wide World Mag., Newnes, London, nos. 95-96, vol. 16. February and March, 1906
8vo; ill.
- Walters, A. J.** Le massif neigeux du Ruwenzori. In Le Mouvement Géographique, vol. 22, no. 44. 29 octobre 1905. 25c.
Folio, pp. 525-526; map, ill.
A short history of the exploration of the range.
- A week in the pine-region, Transylvania.** In Blackwood's Mag. vol. 140, no. 852. October, 1866
8vo, pp. 500-521.
- Wells, H. L.** Coasting down some great mountains. In Cosmopolitan, New York, vol. 20, no. 3. January, 1896
8vo, pp. 240-248; ill.
Refers to mountains of the Pacific slope.

- Wheeler, O. D.** Climbing Mount Rainier. Descriptive of an ascent of the highest peak in the United States—exclusive of Alaska—where glaciers are found. St. Paul, Minn., Riley, 1901
8vo, pp. 68; ill., No. 2 of North. Pacific Monographs.
Presented by H. Montagnier Esq.
- Van de Wiele, Dr C.** Les théories nouvelles de la formation des Alpes et l'influence tectonique des affaissements méditerranéens. In Bull. Soc. Belge de Géologie, Tome 19. Novembre, 1905
8vo, pp. 377-440; ill.
Kindly presented by the author.
- [**Wilson, A.**] The abode of snow. Shigri and its glaciers. In Blackwood's Mag. vol. 117, no. 712. February, 1875
8vo, pp. 219-237.
One of a series of articles, which appeared in vols. 116-118.
- Workman, Mrs F. B.** Mountaineering in the Himalayas. In English Illust. Mag., London, no. 227. August, 1902
8vo, pp. 443-452; ill.
- In unknown Baltistan. In the Wide World Mag. vol. 16, no. 94.
8vo, pp. 335-343; ill. January, 1906
- Zeller, Dr R.** Ein Rundgang durch das Schweizerische Alpine Museum in Bern. Bern, 1906
8vo, pp. 15.

This new museum contains a great deal of interesting matter. Signor Sella's photographs hang on the walls, with Alpine maps from the earliest days to the present. Mountaineering equipment of to-day stands side by side with that of the middle of last century. Models of mountain huts are shown, all on the scale of 1 to 10, so that the earliest may be at once compared with the latest S.A.C. hut. Mountain reliefs and panoramas, alpine flora and fauna, and geological specimens, make up what will prove a valuable and instructive collection. It is very suitable that this museum should have been made in the town of Conrad Gesner.

Other Items.

- Bronze medal, "Berg-Heil."** M. 2.10. **Bronze plaque, "Ski-Heil."** Pfg. 90. Herausgegeben von Carl Poellath (Inhaber Georg Hitl), Schrobenuhausen, Oberbayern.
- The medal, by F. Christ, has the figure of a climber standing on a rock-summit: on the reverse, three graces—which three of the climber's many virtues do they represent? The medal is about the size of a crown-piece.
- The plaque—1" × $\frac{3}{4}$ "—is suitable for hanging on a watch chain. It represents a figure on skis coasting down a mountain slope. Both medal and plaque can be had in various sizes. We have previously received from the same makers, and noted in the Journal, a letter weight with the figure of a climber thereon, which makes—weight 6 oz—an excellent and useful object for a writing-table.
- Hartmann, Ignaz;** Panorama d. Kaiserin Elizabeth-Warte, 1904; see Austrian Tourist Club, St Peter-Seitenstettin.
- Hirth, Siegfried,** Geoplastisches Atelier. Gebirgsreliefe. München, 1906
8vo, pp. 17.
A list of various reliefs at prices from M. 4 to M. 150.
These reliefs are well modelled in plaster and coloured. They are lighter in weight and cheaper than metal models, and are of course friable. A specimen relief, of the Zügspitze 1 : 75,000. M. 4 in price, has been presented and may be seen at the Alpine Club.
- Hoch, Franz.** Der Gletscher. Leipzig, Teubner, 1906. M. 6
A lithographic reproduction in colours of a picture by Fr. Hoch. Size 38" × 27".

A well-designed, striking picture, suitable especially for the walls of say a schoolroom. The effect of distance between the dark shadowed glacier snout in the middle and the brilliant sunlit snow peak of the background is well rendered.

Norway. Oberst Nissen's Kart over det nordlige Norge. Maalestok 1 : 1 000 000. Kristiania, Aschehoug, 1905. Kr. 2.50
— Oberst Nissen's Kart over det sydlige Norge. Udarbeidet in 4 Blade. Maalestok 1 : 600 000. Kristiania, Aschehoug, 1905
Each sheet, Kr. 2.50.

These are clearly printed and accompanied by two indexes of places, one for the north and one for the south map. Each map is in cardboard covers. The maps are also published, as is usual, in other forms.

Thoma, Hans. Lauterbrunnental. München, Verlagsbuchhandlung G. D. W. Callwey, 1905. M. 4
A reproduction in colours—14" × 17"—of a painting of the mountains surrounding the Valley of Lauterbrunnen.

Wieland, H. B. Sternennacht: Matterhorn. Leipzig, Teubner, 1906. M. 5
A reproduction in colours—size 22" × 30"—of a picture by Wieland.

NEW EXPEDITIONS IN 1905 AND 1906.

Zermatt District.

DENT BLANCHE (4,864 m.=14,818 ft.) BY THE GREAT COULOIR OF THE S.W. FACE AND W. ARÊTE.—On August 4, 1905, Dr. O. K. Williamson and Mr. H. Symons, with Jean Maître and Pierre Maurys, ascended the Dent Blanche by this route, of which that part on the S.W. face and in the great couloir, except for about twenty minutes after leaving the glacier, is new.

Leaving a bivouac under the Rocs Rouges at 4.5 A.M. they ascended the glacier on the uppermost shelf, the séracs giving them some trouble. Reaching a point just below the level of a gently sloping shelf in the S.W. face which strikes the W. arête just below an almost vertical portion thereof, and after halting for 15 minutes, they took to the rocks of the S.W. face (6.15 A.M.). After the lower easy rocks they kept a line leading on the whole directly upwards until they struck the W. ridge. The rocks became firm and steep, and afforded fine climbing until, by an interesting chimney, they reached the W. arête at a well defined notch at just about the centre of the ridge (8.35 A.M.). Starting again at 9.5 A.M. they ascended the ridge itself, with traverses on one or other side for less than 1 hour. At a point several hundred feet below the gendarme which was the scene of the 1899 accident they again traversed, more or less horizontally, on to the face, here consisting of slabs, until they reached the middle of the great couloir between the W. arête and the next well defined rib to the S. Having ascended the slabs to the right of the middle of the couloir, it became necessary again to cross it, the slabs here being wet and very steep. This was the hardest part of the climb. The rocks now became relatively easy, and in a few minutes the party again struck the W. arête just above the gendarme (11.55 A.M.). Having

halted for 10 minutes they followed the ridge to the point where it articulates with the N. snow arête, and so reached the summit (1.49 P.M.). Halting till 2.45 P.M. they descended by the S. arête (the ordinary route), but, owing to many halts and the necessity for cutting steps down an ice ridge from the Wandfluh, Ferpècle was not reached until 12.55 A.M. on the 5th inst. The mountain was probably in as good condition as it is ever likely to be, but the party cannot recommend that part of the climb on the slabs in the great couloir.

New Zealand.

ST. DAVID'S DOME (10,410 ft.) AND MOUNT STOKES (10,084 ft.).—We learn from Mr. Malcolm Ross that these peaks have been climbed by Dr. Teichelmann and Messrs. Newton and Dow.

Ruwenzori.

New climbs on Ruwenzori will be found described in 'Further Attempts on Ruwenzori,' pp. 141 foll. They have been placed there for convenience of reference.

ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 3s., can be obtained from all book-sellers, or from Messrs. Stanford, Charing Cross.

THE LIBRARY CATALOGUE is now printed and may be obtained, bound in cloth, on application to the Assistant Secretary, 23 Savile Row. Price 3s.; postage, 4d.

THE ALPINE CLUB OBITUARY IN 1906.—G. E. Foster (1864).

MEMORIAL TO THE LATE CHARLES EDWARD MATHEWS.—A movement has been started among the friends of the late Charles Edward Mathews to raise a fund for the purpose of setting up a monument to his memory. His life-long devotion to the Alps, his close connection with the Alpine Club as one of its founders, one of its Presidents, and one of its most active and esteemed members, his connection also with other confraternities of mountaineers, both British and foreign, combine to indicate some mountaineering centre as a suitable place for such a memorial. The name of C. E. Mathews is closely associated with two renowned mountains, Mont Blanc and Snowdon, the former of which he ascended a dozen times, the latter upwards of a hundred. A memorial at the foot of either, where his friends would be likely to see it from time to time, might serve to keep his memory green amongst future generations of mountaineers. The nature of the monument must be determined by the response made to this appeal, whilst the opinion of subscribers will be the safest indication of the position to be chosen.

The following gentlemen have agreed to act as a committee: the Lord Bishop of Bristol, President of the Alpine Club; the Right Hon. James Bryce, M.P.; Sir Martin Conway; C. T. Dent, Esq.; Rev. H. B. George; F. Morshead, Esq.; Charles Pilkington, Esq.; and it is on their behalf that I invite you to become a subscriber to the Charles Edward Mathews Memorial Fund. It has been suggested that the amount of any subscription should not exceed one guinea.

HORACE WALKER, *South Lodge, Prince's Park, Liverpool.*

THE DUKE OF THE ABRUZZI'S EXPEDITION TO RUWENZORI.—This expedition sailed from Naples on April 16. It consists of twelve Europeans: H.R.H. the Duke, Captain Cagni, Dr. Cavalli, Lieut. Winspeare, Dr. Roncati, a geologist, Signor Vittorio Sella, two Alpine guides, two porters, an assistant photographer, and a cook.

ALPINE CLUB DINNER IN DUBLIN.—The first dinner of members of the Alpine Club resident in Ireland was held at the University Club, Dublin, on January 26, 1906. The members of the latter Club having invited their fellow 'Alpinists' to meet the Right Hon. James Bryce, ex-President of the A. C., the following party assembled to welcome him to Ireland: H. de Fellenberg Montgomery (senior member), in the chair; Sir F. J. Cullinan, C.B.; Hon. G. Fitzgerald, Rev. W. S. Green, H. Warren, G. Scriven, R. M. Barrington, Rev. P. S. Whelan, H. Synnett, W. J. Kirkpatrick, G. B. Tunstall Moore.

THE MS. GUIDE TO AROLLA.—It is proposed to print Mr. Larden's MS. Guide to Arolla. Members of the Club are invited to help. A subscriber of ten shillings would receive a subscriber's copy. Mr. Larden has undertaken to edit and revise the book for press. All communications on the subject should be addressed to T. Brushfield, Esq., M.D., Church Road, St. Mary's, Scilly, Cornwall.

MOUNT RACHEL. CORRECTION.—The foot note in 'A. J.', vol. xxiii. p. 33, should read, 'Summit of Mount Rachel, 17,600 ft., Basha valley, a knife edge falling away 1,500 ft. sheer on one side and on one end, where the aneroid alone could be used, and that only by a person free from giddiness.' On p. 83, line 14, for 'In the Himalaya' read 'Among the Himalayas.'—W. H. W.

THE SIMPLON TUNNEL.—The official inauguration of the Simplon Tunnel by the King of Italy took place on May 19 ult.

THE NORD END IN 1872.—There seems to have sprung up an odd little legend as to my route up the Nord End on July 5, 1872, and, as it appears once more in Mr. Broome's 'Monte Rosa' article in the November 'Alpine Journal' (p. 574), it is as well to set it finally at rest. My short note in 'Alpine Journal,' vol. vi. p. 145, was really intended to record what I then supposed to have been the second ascent of one of the highest peaks in the Alps; but it was soon after pointed out* that it was only the

* *Bollettino* of the Italian Alpine Club, 1873, No. 20, p. 446.

third, as the second had been effected in 1864 by Signor Veggiotti. Now in my note I said we 'emerged on the upper snow-fields, and only struck the ridge at the base of the final rocks.' Notice that I spoke of 'the ridge,' not of 'the N.W. buttress.' By 'the ridge' I meant that which runs up from the Silbersattel and forms the S. arête of the Nord End. That this is the case is shown by the entry in my diary that 'we got on the arête between the Hôchste Spitze and the Nord End, whence half an hour up some rather difficult rocks took us to the top.' We thus struck the S. arête just at the foot of the last rocks, and so much higher than the 1861 party, which reached the arête between the two peaks 'at a point about three-quarters of the distance from the Nord End, which was the highest point reached on the preceding Saturday by my companions.'* The aforesaid legend appears in 1881 in the 'Zermatt Pocket Book' (pp. 46-7), which makes me reach and ascend the N.W. buttress. But I have never been there in my life, so I caused the text to be altered in 1891 in the 'Climbers' Guide to the Eastern Pennine Alps' (p. 58), wherein the reference to my 1872 ascent is rightly placed under the route by the S. arête, while the way by the N.W. buttress is attributed to its real owner, Mr. Morshead, in 1877.†

On p. 577 of the November 'Alpine Journal' there is a misprint of 'Fulton's' for 'Hulton's.' The reference is to Mr. E. Hulton's well known 1874 route 'by the rocks,'‡ which had been taken by at least eight other English parties before 1881; § it was 'discovered' by Signor Guido Rey in 1886 and is called by the Italians the 'Strada Rey,' or the way by the 'Crestone Rey,' though it is now allowed that this route is identical with Mr. Hulton's route.]

W. A. B. COOLIDGE.

MONT BLANC DE SEILON. DESCENT OF N.W. ARÊTE. *July 25, 1905.*—Mr. H. M. Gardner, with Antoine Bovier fils (who in 1896 made the first ascent with Mme. Gallet) and Antoine George, the latter as porter, left Arolla at 8 A.M. and arrived on the summit by the east arête at 9 A.M. After an hour's halt they began the descent, and keeping to the arête the whole way reached the glacier at 3 P.M. The rocks were loose and of the worst description, the difficulties being increased by a considerable fall of snow the previous day.

DENTS DES BOUQUETINS.—On July 20, 1905, Messrs. J. Allen and H. M. Gardner, with Antoine Bovier fils and Antoine George as porter, left the Bertol Hut at 1 A.M. with the intention of effecting the traverse from the central to the southern point.

Owing to the treacherous nature of the rocks slow progress was made after leaving the central point, and on reaching the lowest depression between the two points time and prudence called a halt.

* *Peaks, Passes, and Glaciers*, 2nd Series, vol. i. p. 420.

† See *Alpine Journal*, vol. viii. p. 339.

‡ *Ibid.* vol. vii. p. 107.

§ *Ibid.* vol. xv. p. 454.

|| See the discussion in the *Rivista Mensile*, 1903, pp. 258-9.

The difficulties ahead appeared almost insurmountable, and to proceed would have meant a night near the top. Two courses were left—to force a descent down the face to the Arolla glacier or return the way they had come.

They decided on the former, unwisely as it turned out, the whole face being raked with falling stones, but by keeping as much as possible to the rock ribs the glacier was gained without mishap at 4 P.M.

THE POINTE DE CERESOLE.—The time given in the new 'Ball' for the ascent of this peak from the Victor Emmanuel Hut seems to be rather long, as its ascent is said to take 2½ hrs. from the Noaschetta glacier, which is equivalent to 4½ hrs. from the hut, allowing 1½ hr. to the Col du Grand Paradis and ½ hr. for the passage of the glacier to the foot of the rocks. On September 7, 1905, the Pointe de Ceresole was ascended by this route in exactly 3 hrs. from the hut by Miss M. T. Meyer and A. E. Field, with Clément Gérard, of Cogne, and a porter.

THE ASCENT OF THE AIGUILLE DU GOÛTER.—In the ascent of Mont Blanc by the Aiguille du Goûter one is led to suppose, on reading the description in the 'Climbers' Guide' and in Ball, that it is necessary to cross stone-swept couloirs. In making this ascent last August my party followed the arête which overlooks the Griaaz glacier from its foot to the summit of the aiguille without any serious difficulty, and it is certain that this route must have been frequently followed on other occasions. My object in mentioning this is to show that it is quite unnecessary and most undesirable to cross the couloirs which are on either side of this ridge, both of which are (as we observed on the occasion above referred to) frequently swept by falling stones. OLIVER K. WILLIAMSON.

REVIEWS AND NOTICES.

Zeitschrift des Deutschen und Oesterreichischen Alpenvereins. Vol. xxxvi. 1905.

IN accordance with the custom observed in recent years the 'Zeitschrift' for 1905 begins with a series of papers, chiefly of scientific interest, and the first hundred pages furnish reading of a rather substantial character. In the first paper Dr. O. Ampferer discusses the original formation of the Achensee by a dam of moraine matter, and the subsequent geological history of the district. The addition of a sketch map would have been useful. Herr Max Eckert also contributes a geological treatise, reviewing the various changes in mountain forms brought about by erosion and taking his examples mainly from the limestone formations of the Eastern Alps.

Herr E. Oberhummer brings his series of articles on the development of Alpine cartography to a close with an instructive chapter on French and Italian maps; the author deals chiefly with the

'Carte de France' (1 : 80000)—begun in 1818 and completed in 1880—and with comparisons between it and the several French maps which have appeared since 1875. The vegetation of the Adamello group forms the subject of a paper by Herr H. Reishauer, while Herr M. v. Prielmayer, under the title 'Deutsche Sprach-inseln,' describes some of the isolated German communities in the neighbourhood of Trent.

The section devoted to mountaineering in foreign lands contains three contributions relating respectively to the Himalaya, Western Canada, and Bolivia. In the autumn of 1908 Herren A. C. Ferber and E. Honigmann made an expedition, without European guides, to the Mustagh Pass, and we are indebted to Herr Ferber for a very interesting narrative of this journey. The party arrived at the junction of the Mustagh Glacier (Conway's Piale Gl.) with the Baltoro Glacier twenty days after leaving Srinagar; but on gaining the foot of the Mustagh Pass they found the ascent to it, on the S. side, to be impracticable for laden coolies, and only one native accompanied the two travellers to the top; in spite, however, of its present unfavourable condition the interesting discovery of the ruins of twenty-two huts about 2 miles up the Mustagh Glacier seems to point to a considerable use of the pass in former years.

Owing to trouble amongst the coolies the original intention of crossing the pass was, unfortunately, frustrated till the period of fine weather had ended. The paper is illustrated by a number of excellent photographs, some of which show the strikingly steep and broken character of the precipices which tower above the Mustagh Glacier.

Not less interesting is Herr E. Tewes's account of his excursions in the Canadian Rockies and in the Selkirk Range in 1908, the most important being the first ascents of Mt. Huber, in the Temple group, of Mt. Daly, in the Balfour or Waputehk group, and of the extremely difficult N. ridge of Mt. Sir Donald, in the Selkirks; the author abstains from encouraging others to repeat this last severe climb.

Herr H. Hoek describes his journey, made during January 1904 with Dr. G. Steinmann and Baron v. Bistram, through the previously unmapped mountains lying S. and S.E. of Illimani. The region traversed includes the ranges of Santa Vera Cruz, Quimza Cruz, and Araca, with numerous summits estimated to reach 20,000 ft. Herr Hoek pictures in enthusiastic terms the majestic appearance of Illimani as seen from the S.E. at a distance of nearly 80 miles, and Mr. Compton's drawing, based on a photograph, lends effective support to the author's description.

In the third section of the volume, dealing with Alpine expeditions, Dr. K. Blodig, in addition to concluding his series of attractive papers on the Saasgrat, narrates his numerous ascents in the Klosterthal mountains. This picturesque district is easily accessible by means of the Arlberg railway, and, as most of the expeditions are of moderate length, it may be visited with advan-

tage in late autumn, when the days are short, or in early spring, when the snow still lies deep on the higher Alps.

Dr. E. Niepmann also furnishes two articles, the first of which graphically describes the difficulties encountered on the N. ridge of the Weissmies; this route appears to have been very rarely taken since the first ascent, made in 1884 and briefly recorded in vol. xii. of the 'Alpine Journal.' Dr. Niepmann's second contribution is the commencement of a monograph on the Ortler district, in which he treats of the north-eastern portion of the group, *i.e.* of the mountains surrounding the heads of the Laaserthal and Martellthal. Most of the numerous ascents recorded can be conveniently made from the Düsseldorf, Troppau, or Zufall huts; but so great are the attractions of the Ortler and Königsspitze, and possibly of the fleshpots of Sulden, that comparatively few climbers turn their attention to these north-eastern mountains.

Herr H. Leberle in concluding his description of the Wettersteingebirge writes about the southern chain, in which are the Hochwanner, Teufelsgrat, &c. This range offers rock-climbing of the highest order; but, owing chiefly to the absence of Club huts and inns, it is, as the author almost plaintively remarks, neglected alike by the harmless 'Jochbummler' and the extreme 'Hochtourist.'

A paper specially interesting to devotees of Dolomite-climbing is that on the Marmolata group, the authors being Herr H. Seyffert, who took part in the first ascent of the Marmolata W. ridge in 1898, and Herr A. v. Radio-Radiis. The latter tells the story of the first descent to the Marmolatascharte, which he accomplished in company with Herr H. Barth a few days after Herr Seyffert's ascent. This extremely difficult W. ridge of the Marmolata has now been effectually 'domesticated' by the Nuremberg Section of the D. u. Oe. A.-V. The height of the rocky portion of the ridge is about 800 ft., and up this, alas! has been carried an interminable series of iron steps, pegs, ladders, and wire cables—all securely fastened into the rock—such as exists, surely, on no other mountain. Old-fashioned climbers may, however, derive consolation from Herr Seyffert's assurance that there is little danger of similar tampering with the Marmolata S. face, which is at least equally difficult and considerably more than twice the height of the W. ridge. An account is given of the second ascent of this face by the brothers G. and K. Leuchs, without guides, the conditions being so unfavourable that 28½ hrs. were spent on the rocks of the Südwand before the summit was gained.

The chapter in which Herr A. Gstirner continues his monograph on the Julian Alps might be appropriately placed in the first section of the volume, as it is devoted entirely to topography and to the difficult task of correcting the confusion of Italian, Slavonic, and German mountain nomenclature.

In the final paper Dr. G. Freiherr v. Saar takes us by way of Longarone to the head of the Val Montanaia, in the Carnic Alps, and gives a lively description of several new ascents made in 1902

in company with the late Dr. V. W. v. Glanvell, who so lamentably lost his life in May 1905. The most notable of these ascents was that of the remarkable Campanile di Montanaia, a huge isolated obelisk of rock rising perpendicularly between 600 and 700 ft. above the floor of the valley and presenting difficulties which severely tested the skill and ingenuity of the climbers.

The attractiveness of this volume is greatly enhanced by the number of Mr. E. C. Compton's picturesque sketches; and Herr L. Aergarter's map of the Marmolata group (1 : 25000, or about 2½ in. to 1 mile) is in every respect an admirable piece of work.

Wall and Roof Climbing. By the Author of 'The Roof-Climber's Guide to Trinity.' Eton College: Spottiswoode & Co., Limited. 1905.

This handbook to 'the most economical branch of the climber's art' deserves a longer notice than the space at our disposal will allow. It treats fully of the art of climbing as practised by the roof-climber and wall-climber, and perhaps somewhat unfairly emphasises the superiority of the former by dignifying him with the title of 'stegophilist,' while the latter remains without his due polysyllabic label of teichophilist. Much history may be incidentally picked up as we follow the writer on his enthusiastic course. We are reminded how 'the sight of the somewhat forward Helen openly practising upon a tower (Ἐλένην ἐπὶ πύργον ἰούσαν) causes considerable scandal among the Trojans; '* of how the Roman paterfamilias and his brood enjoyed even chimney-climbing (on the authority of Shakespeare)—

Many a time and oft
Have you climbed up to walls and battlements,
To towers and windows, yea, to chimney-tops,
Your infants in your arms.—*Julius Cæsar*, I. 1. 42—

of how La Mole, an early anticipator of the *intrépides* of to-day, led Henry of Navarre on a famous ridge-climb when, as is sometimes the case in the Alps, haste was imperative if the climbers were to get home intact. Appendices B and C deal with haystack-climbing and tree-climbing. By the way we feel sure that in this department Shakespeare himself was fully qualified as a member of the craft, as he evidently looks with contempt on the man who fell from a plum tree, the whilome notorious 'Saunders Simpcox, the lyingest knave in Christendom.'

We have noticed but one slip of any consequence, the attribution of a famous passage (on p. 93) to Tennyson's 'Dream of Fair Women,' instead of to 'The Daisy.' The type and paper of the book are delightful.

* *Iliad*, iii. 154.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Club Rooms on Tuesday evening, February 6, at 8.30, the Bishop of Bristol, *President*, in the chair.

Messrs. H. W. Belcher, P. C. Fletcher, N. L. Hood, H. S. Jones, H. M. Macdonald, H. Walker, and J. O. Walker were balloted for and elected members of the Club.

The PRESIDENT announced that Signor Sella had presented to the Club the whole series of his magnificent photographs, and the hearty thanks of the Club were accorded to Signor Sella for his generous gift.

The PRESIDENT then, on behalf of the Committee, invited an expression of opinion in regard to the place of the next Winter Dinner. The Committee, he said, wished to know how far members who were present at the last dinner at the Hotel Cecil had considered the room to be satisfactory. Members of the Committee held very different opinions, and they would be glad to have some idea of the feeling of the Club on the subject. Should the dinner be held in the Whitehall Rooms it would be possible to have only some 70 guests, about half the number that were entertained at the Hotel Cecil. Three hundred and forty-three persons sat down to dinner last December at the Hotel Cecil, and the most that the Whitehall Rooms could hold was about 280. On the other hand the comfort of dining and the hearing of speeches were very important factors, which the Club might well think to be more important than the number of guests.

Sir HENRY BERGNE thought that there was great difficulty in hearing the speeches at the last dinner. Although he sat near the centre of the high table some speakers he did not hear at all and others badly. He thought the Club could perhaps do better elsewhere if they could get the same facilities as to numbers.

The PRESIDENT remarked that enquiries were being made and there did not appear to be much chance of having the same facilities elsewhere.

Dr. C. WILSON thought that investigations should be continued, as he believed that there were other rooms which were suitable which had not been considered. He spoke only from hearsay.

Mr. STUTFIELD spoke as one of the speakers who could not be heard. He thought the room was a bad one for sound, but the speeches were not the whole of the dinner, and it was most important to invite a large number of guests. He would suggest that seats might be provided near the speakers, to which those who were seated on the outside tables might come to hear the speeches.

Mr. WESTON heard every word quite distinctly at his seat near the centre and not far from the high table.

Mr. C. E. LAYTON was near the high table, but found it a great strain to hear. He suggested that there should be a ballot for

guests, and that guest tickets should not be allotted to the same members two years running.

Mr. WALLROTH was at the left of the high table and had difficulty in hearing. He thought that the dinner should be held in a room that would accommodate the guests that all wished to bring.

Mr. MUMM, in reply to a question as to the number of members applying for guest tickets under the ballot system, stated that, speaking from memory, the application for guest tickets rose from 110 to 140, while only 80 were assigned. Probably there were some members who would bring guests were there no ballot, who would not ask for tickets while there was a ballot.

The PRESIDENT thought that the question resolved itself into whether the Club should have a large number of guests and hear very poorly, or cut down the number of guests and hear very well.

Mr. A. J. BUTLER suggested that it might be possible to arrange the high table at one end of the room under the gallery, which evidently assisted the sound. He preferred a large number at dinner. Perhaps it might be possible to combine numbers and good hearing.

Mr. HORACE WALKER was in favour of continuing at the large room, so that every member who desired to do so might bring a guest.

Mr. READE suggested that the question of excluding guests altogether might be considered. He thought that the Alpine Club Dinner should be a dinner of the members of the Alpine Club. The President and the Committee might be allowed to introduce a certain number of guests.

The PRESIDENT said that he considered the expression of opinion listened to would help the Committee in coming to a decision. He would ask those who thought it important that each member wishing to do so should be able to bring a guest to hold up their hands, and afterwards those who did not think that this was so important as the question of hearing.

A show of hands evidenced that opinion was about evenly divided.

Mr. G. WINTHROP YOUNG read a paper entitled 'Two Notes on the Weissshorn, with a Postscript,' which was illustrated by lantern slides.

Mr. HORACE WALKER stated that he had, in 1869, with G. E. Foster, ascended by the usual route at that time. They had a fine day. On coming down they found, when they got to the point where the ridge was usually left to descend across the face on the right, the stones were falling so fast that they did not like to face them, and they went straight down the ridge to the Schalliberg Glacier. When Jacob Anderegg was about to go down the lower part of this glacier, by which the relief party went up for Mr. Brant, the other guide unfastened himself, saying that he would not go that way, and the rest had to follow him by the very dangerous ground at the snout of the Schalliberg Glacier, where probably Mr. Cockin lost his life. It was a new expedition in those days,

the only one he claimed on the Weisshorn. He knew members would be glad to learn that Melchior Anderegg, who had been very seriously ill, was now much better.

Mr. READE asked if it would be possible for the various Alpine Clubs to take concerted action with a view to preventing the roping of mountains. The fixing of ropes was, in many places, spoiling all the enjoyment of climbing.

Mr. SHEA mentioned that at Cortina he had been asked by Signor Sinigaglia to subscribe to a fund for the roping of the Kleine Zinne, but had refused.

The PRESIDENT heartily congratulated Mr. Young on his very interesting paper. As regards roping of mountains he thought that a section of an Alpine Club, to be called the Rope-cutter Section, might be formed.

A hearty vote of thanks was accorded to Mr. Young.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, March 6, 1906, at 8.80, the Bishop of Bristol, *President*, in the chair.

Messrs. J. C. Morland and T. S. Treanor were balloted for and elected members of the Club.

The PRESIDENT intimated that the Committee had carefully considered the suitability of various rooms for the next Winter Dinner of the Club, and had come to the conclusion that the large room at the Criterion Restaurant was the most suitable.

Mr. DOUGLAS FRESHFIELD read a paper on 'The Mountains of the Moon,' which was illustrated by lantern slides.

Mr. FRESHFIELD, before reading his paper, made the following statement: 'Before I approach my subject to-night I have a duty to discharge. When I landed last August at Cape Town I was welcomed by a deputation from two Mountain Clubs, the City Club, whose journal we receive, and the Suburban Club. I was subsequently led over Table Mountain by an interesting route up the Saddle Face and down Skeleton Gorge by some of their members, who entertained me at lunch on the summit. They begged me to convey their filial greetings to the members of the parent Club, and I am glad to be able to take this opportunity to deliver the message.

'I had no time to visit the Drakensberg, but while at Durban, where the residents hope soon to form a Climbing Club, I was presented with some very striking photographs (which I will exhibit on the screen) of the rock scenery near Mont aux Sources. These towers and pinnacles can be easily distinguished from the top of Spion Kop. Explorers find a substitute for Club-huts in the Bushmen's caves that are found on many of the ledges of the range.'

After the paper Mr. Mumm showed a large number of slides from his own photographs.

Sir HARRY JOHNSTON said that he thought it desirable to make a stand for the retention of native names in geographical nomenclature as far as was possible. It was very irritating to find the

names of people who had never seen the country given to places or natural features of great importance. If a new town were founded and there was no native name of harmonious sound suitable one might properly associate with it the name of some pioneer in the district. He regretted to say that there was no place on Victoria Nyanza to recall the name of Joseph Thomson, who laid the foundations of the East African Empire. In regard to the height of the highest point of Ruwenzori, he asked for patience before deciding that it was not the highest point in Africa. He remembered what had happened with Kilimanjaro. That was measured by Van der Decken at over 18,000 ft., but afterwards with more careful measurements was found to be nearly 20,000 ft. He would ask Mr. Freshfield not to be in a hurry in assuming that he had guessed the correct altitude. He thought it very likely that, as Mr. Freshfield had indicated, the so-called Saddle Peak did not exist. Stanley's reputation had been deservedly so great that any subsequent traveller was very unwilling to suggest that he had made any error in regard to the existence or position of this peak. It had been difficult to get any publisher to issue a map that contained any correction of Stanley's suppositions. Mr. Scott-Eliot had made a creditable map of part of Ruwenzori, but he was not allowed to publish it because it differed so much from Stanley's guesses. Stanley had thought that Ruwenzori was an undivided mountain culminating in one Saddle Peak. Mr. Freshfield had tried to show that it was a mountain cluster rather than a range. He had himself tried to show the same, but stay-at-home geographers had not allowed him to do so. He had never himself seen 'Saddle Peak,' but had inserted it in his drawing on the report of a Mr. Chambers, who had given him a very good drawing of the Peak. Probably it represented the highest peak seen from another point of view. He thought that the knowledge of the mountain had been carried a step further and that some mistakes had been pointed out by Mr. Freshfield. In the early days of African geography the prestige of a man like Stanley had overridden everything, and his followers in their fear of coming back without having seen all that Stanley saw had tried to see things that were not there. Those who now followed should be a little lenient, as Mr. Freshfield had been, in their judgment of their predecessors. He trusted that Mr. Freshfield's remarks as to the meridian boundary would be listened to in the right quarters. When the geographical definition of frontiers was drawn up in a great hurry, it was intended that Ruwenzori should be in British territory. He did not know why the Semliki had not been chosen for the boundary line. From the Belgian point of view as well as from the British it ought to be regarded as fair that this should be the boundary. In regard to the treatment of the native, we ought to be lenient. The word 'colony' should be erased in East Africa. There were only patches of land that it was legitimate to turn into settlements for white men. The lands of the country must remain the lands of the black man. Ruwenzori was one of the patches

opened by the energy of the white man and fairly belonged to him. In any future expedition he thought that a capable official on the spot should insist that the guides should be provided, as Mr. Freshfield's had been, with elaborate warm clothing, as otherwise pneumonia was apt to cause many deaths when the men got to cold regions.

Mr. BRYCE said he had to confess that he had never been anywhere nearer Ruwenzori than the mountains of Basutoland. He was interested to hear that Mr. Freshfield had been able to discover traces of old moraines; he had noted none in Basutoland. He thought that Mr. Freshfield had made Ruwenzori real in a way that it was not before to the members of the Club who had listened to him. The narrative of his experiences had enabled them to understand its difficulties. He would like to ask him what he considered was the best season of the year for an expedition, for surely it could not rain every day of the year. There must be some time when there was a fair chance of reaching the upper plateau without rain. He had been much struck by the combination of grand rock scenery with the most luxuriant vegetation. It was curious that the world should have recently had two other questions of boundary in mountain regions, both arising from assumptions by diplomatists that facts existed which did not exist. These were the Alaskan boundary dispute and the Argentine-Chilian dispute. In regard to the question of the boundary near Ruwenzori, the natural way would be to rely on the old maps, and if they were not accepted we might have to consider that if everything said of the Congo State were true the Congo Government had not observed the rules and conditions under which it was constituted, and that therefore we had a right to complain, and were entitled to reopen any question regarding our boundaries. It would be a very great advantage to the British settlers in Uganda to have a hill station, and he gathered that along the N. and E. of the range there were places where hill stations could be established.

Captain HUBBERT said that he had listened to the paper with very great interest, as seven years before he had been in Uganda and had often seen Ruwenzori in the distance. He had not had any time to attempt to scale any of the great peaks. Travelling was easier now than in his day. He was the last European to do the whole journey from the coast to the Victoria Nyanza by march, and it took about three months in place of 48 hours. The part he had chiefly seen was Buddu and Ankoli, through which Mr. Freshfield had returned. Ruwenzori was generally surrounded by great banks of clouds, and it was only when the wind blew those away that it could be seen from any distance.

Mr. MOORE wished to ask if the high camp was the camp on the ridge to the S. of the Mubuku glacier. At that camping ground there was plenty of water, and it was quite easy to climb up to it and to within 20 yards of permanent ice. He thought that it would be a distinctly good one to use, for immediately in front there was a ready and easy way to the ice. There were, in fact, two easy

means of access to the ice. On the other hand he thought that the Mubuku glacier would be very difficult. If one got to the top of the ridge there would probably be no difficulty in getting round to the highest peak.

Mr. MUMM said that when he stopped they were near the smooth upper slopes, but not quite clear of the icefall. He thought that their way up the icefall was the most direct, and might possibly be the quickest if one started from a camp at the foot of the glacier. The natives viewed the white man as somewhat of a madman, whatever he did. Professor Minchin had told him that when he was catching butterflies on the Sesse Islands he asked whether the natives would think him mad. He was told of course they would; they had a special word for madness, which was reserved for the white man.

Mr. FRESHFIELD said that, as regarded the season, the missionaries and the more intelligent natives agreed that there were two good seasons, mid summer and mid-winter, January and the end of June and July, when it was cold on the mountains. It was not, however, always fine at those seasons, for Herr Grauer tried the ascent last January and failed, owing to the weather, and Mr. Fisher had also found the weather broken in that month. With regard to what Mr. Moore said he was glad to find himself in agreement with him, for he thought that for those not experienced in climbing it might be better to make a camp close to the glacier and take the southern and more circuitous route over the upper snowfield.

The PRESIDENT said that he could add nothing to what had frequently been said as to Mr. Freshfield's merits and the gratitude the Club owed to him for his services.

Errata.

P. 51, l. 25, for Alliston Crowley read Aleister Crowley.

P. 51, l. 28, for 1892 read 1902.

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TOWARDS RUWENZORI.—II.

By DOUGLAS W. FRESHFIELD.

AFTER four days' rest in our comfortable quarters at Fort Portal, where in the Collector's absence Mr. Crean, the Inspector in command of the King's African Rifles quartered in the neighbouring cantonment, played the host most kindly and efficiently, our caravan marched again. In ordinary circumstances, that is when the path is dry and the streams are unflooded, it is a three days' journey to the highest hamlet in the Mubuku valley: we took four. The first incident was our farewell to Kasagama, the Kabaka or ruler of Toro, who was waiting on the brow below the gates of his spacious compound to greet us and to be photographed. A few hundred yards farther on we passed through a pleasant avenue forming the approach to the Catholic Mission, here, as in most cases in Africa, a centre of cultivation.

The next three days we spent in climbing up and down in 'forthrights and meanders' along a switchback path through the tortuous recesses of a labyrinth of fertile but for the most part uncultivated foothills.

Between the Wimi and Mubuku torrents a long, low, green spur runs out at right angles to the Ruwenzori range. The scenery was always pleasing but never grand, as the valleys were too narrow to admit of any view of the higher ranges. Every day we had a thunderstorm, and the steep and slippery ascents and descents were trying to our porters, who made but slow progress. On the second day, the advance-guard, having waded the Wimi without much difficulty, sat down in a lovely dell near a banana plantation to wait for the baggage. Hours passed, while thunderstorms of unusual vigour broke

upon us. Moritz and I sat under our umbrellas, like moist toadstools, wondering what could have delayed our companions. At last Mumm and his ragged regiment appeared on the horizon and slowly struggled down the winding path. The Wimi ford had been the cause of delay; a porter had fallen, and dropped into the stream the bag containing our rope and Mumm's climbing boots. A search party had been despatched after it, and was still in the rear. A little later it returned successful. But it was too late to move again, though there was no village near, and our men consequently supped badly and were far from happy.

Next morning we mounted a side glen which brought us to a gap leading into the Mubuku basin. The descent, of some length, was through charming scenery, a narrow vale with banana plantations and flowering trees. This opened on the broad valley of the Mubuku, here encompassed by low and verdant foothills, but closed at its head by steep mountain slopes and the dark crags of the Portal Peaks. The usual ford was impassable, but with the aid of the rope we got across without much difficulty a hundred yards lower down the stream.

A level track brought us in an hour to an open space beside the Mubuku, here a clear dancing burn, brown enough to please a Scotchman, close to which was a chief's enclosure and some native huts. This spot, 4,700 feet, is known as Ibanda, and there is a good picture of the view from it in Sir H. Johnston's book. The snows of *his* Duwoni are in sight, and on their right the steep faces of the Portal Peaks shine between the showers with frequent waterfalls. We pitched our tents beside the river.

The valley here should be interesting to a geologist. It is fairly broad, perhaps half a mile, and falls with a gentle uniform slope. Its alluvial surface is strewn with huge boulders, gneiss, and schist, which have obviously come from the central ranges. How were they transported, on a slow glacial sledge, or on an express waterburst like that which fell on the Baths of St. Gervais? In my opinion the latter agency is the more probable; a flood caused by some earthfall damming temporarily an upper glen. The extent of past glacial action in this region is not a problem to be solved off-hand with such limited opportunities of observation as fell to our lot. At about 7,000 feet on the slope at the entrance to the upper Mubuku Valley there is a bank which seen from Ibanda looks rather like a moraine. But it may well be the result of gashes cut by impetuous streams.

The upright rocks higher up the valley have smooth surfaces that may be taken for the result of glacier polishing. But the rock is of a kind that naturally tends to slabbiness. The flatter crags are too densely smothered in vegetation to be easily examined. Of recent oscillations I did note distinct proof in a moraine, now overgrown, some five hundred yards below the present termination of the glacier. On the western side of the mountains that mysterious traveller Dr. David (who has failed to furnish to the Swiss Alpine Club Jahrbuch his promised article) reports that he discovered several morainic lakes near the existing glaciers.

I may conveniently make here some general remarks as to the structure of the range, which has now been pretty well ascertained. Its inmost portion consists mainly of granite, or granitoid gneiss. When this central block was thrust up dark mica schists and other varieties of the crystalline series of metamorphic rocks were thrown asunder and piled against its flanks. In these, masses of crystals are found, which are distributed as charms among the natives over a wide tract of country. In the popular belief, at any rate of tribes who dwell at some distance, the shining summits themselves are held to be blocks of crystal. The student of early Alpine literature will be reminded of the tradition recorded, and even accepted by some of the old Swiss scientists, that the crystals found near the St. Gotthard were formed of ice hardened in the course of countless ages of continual frost.

Ruwenzori, it must be borne in mind by those who read its literature, is not volcanic. Round its base, where doubtless lines of weakness were produced by the upheaval of the great range, many traces of volcanic action exist. There are, particularly on its S.E. flanks, a number of crater-lakes. But some of the earlier visitors, misled by what they saw on the outskirts of the mountains, have been far too prone to call every hollow a crater and every height a cone. The suggestion that there was once a great central cone is without any justification in nature.

Some preliminary notes as to the character of the central valley we visited, may help to a better understanding of my narrative. To convey in words any precise picture of topography or scenery is always difficult, except for a few. I find Alpine comparisons helpful, and I shall therefore continue to use them even though they may offend certain critics. The Mubuku Valley mounts in a series of steps like Val Formazza, or the Val di Genova. Above Ibanda, the lower valley gradually narrows, until it is closed by a high spur projecting

from the southern hills. Behind this spur lies a broad basin in which several streams meet. The Mubuku itself pours down into it in a continuous cataract of some 2,000 ft. When this height has been gained the traveller enters a mountain glen narrow and steep-sided, and fairly level, until it is abruptly terminated by a lofty cliff and a waterfall. Beyond these the valley rises in three more successive steps separated by swampy levels. The uppermost is enclosed in a cirque of cliffs capped by glaciers, which flow from a névé rising in comparatively gentle slopes to an icy ridge connecting two rock-peaks, Kiyanja and Johnston's Duwoni. The rise from Ibanda to the foot of the ice is 8,300 ft., to the watershed about 10,300 ft. The glaciers are rather Pyrenean than Alpine in their dimensions and character. They may compare favourably with the ice N. of the valley of Chamoni on the Buet and Dent du Midi range; they are puny compared to the glaciers of the higher Alpine groups.

The highest village on the Mubuku, Bihunga (6,800 ft.), is situated not in the valley but on the spur already mentioned, and it is a short, hot climb up to it. There is just room for a small camp on the steep slope below the few beehive huts. Above them we found the tent of a negro who had been sent out by an English official to collect natural history specimens on Ruwenzori. He said he had found little, but our experience of him did not lead us to believe that he had tried hard. He fled before a heavy downpour, leaving behind him the cover of 'Punch' and a page from an illustrated London newspaper, incongruous and unexpected objects in the wilds of Ruwenzori.

At Bihunga we changed our carriers. We dispensed temporarily with our Entebbe troop, our incompetent cook, and our dilatory waiter. In their place we took a company of the tribe of the district, men better accustomed to the mountain and its climate. Their clothes were scanty skins or rags, but we provided them, to their great satisfaction, with blankets which we promised should, as a reward for good behaviour, become their own on our return. Never have I had better porters in a far country. They were willing, good-tempered and helpful, and their head man kept up communications with our base and brought up provisions when needful. The provisions mostly walked up in the shape of sheep. The way in which these men carried heavy loads of 50 lbs. up the slipperiest mud-slides and over barricades of fallen timber was astonishing. I can see no reason why, in fair weather, a moderate-sized caravan should not camp as long



Swan Electric Engraving Co.,

IN THE TROPICAL FOREST.



Photos by A. L. Mumm.

THE HEATH FOREST.

as it likes at the head-waters of the Mubuku. If sufficient wraps are taken the sickness among the carriers, which affected Sir Harry Johnston's plans, may, it seems, be avoided.

Like most mountain regions, however, Ruwenzori has been a refuge for various tribes, and in other parts of it the traveller may not find such serviceable companions. Dr. David has complained that he was purposely misled and made to wander up and down in the forest, losing all his goods. He points a contrast by remarking that within a few miles of this adventure the Europeans at Port Portal were grumbling at a delay of three days in the English post. Another tribe are stated by the missionaries to be cannibals with reservations; that is to say, they do not eat their own relations but pass on their remains to friends in the hope that the courtesy will be returned.

I need not attempt to describe in any close detail the walk, or wade, up the Mubuku. That has already been done by Mr. Moore, Sir H. Johnston, Mrs. Fisher, Mr. Maddox, and Mr. Dawe.

Our start from Bihunga was delayed by the rain, which was to be our too constant companion. From the brow of the spur, half an hour above the village, there is an enchanting view. A thousand feet below lies a great bowl filled by tropical forests of the utmost luxuriance. The tree-tops are broken only in a few places, where brown patches and curling smoke indicate new clearings for cultivation. Dark rugged peaks and ridges mingle overhead with the shining vapours. The path plunges, and the traveller is soon buried in a thicket of tree-ferns, dracænas, lobelias, wild bananas. Stately, smooth-stemmed trees spread a shade high overhead; they are all new to Europeans and have none but Latin names. If any reader wants to know more he must consult Sir H. Johnston or Mr. Dawe. The ground is carpeted with home-like-looking ferns and orchids; clear streams dance over rocky channels. It is a gay woodland, more akin to the forests of Sikhim than to the outliers of the great Congo Forest that shroud the hills of Ankole above Lake Albert Edward in majestic gloom.

After crossing this basin the track climbs at first under welcome shade, then up a long, open and warm hillside until it gains the narrow, projecting crest of a spur, along which it runs for some distance. Looking back we had an exquisite view over the folds of forest and the foothills to the golden expanse of the level country, in the centre of which a small lake (Lake Kobokora) shone out with jewel-like

brightness. On the horizon, the soft outlines of the Ankole hills, the rampart of the Uganda plateau, glowed in aerial colours.

Presently the ridge, almost an arête, broadened somewhat, and a great rock protruded on its crest. Here our troop proposed to halt. The afternoon was young, and I objected—my bane in distant travel is impatience—but a sudden and heavy rainstorm settled the argument in their favour. The camping-ground was very limited, and water had to be fetched from a distance. Two of our men sent in its quest were benighted in the steep forest, and spent several uneasy hours in fear of leopards before they found their way back.

Next morning it still rained. Before long the path, hitherto fair, entered at once the upper glen and the bamboo zone and became execrable. Frequent halts had to be made while our men reopened a track between the dripping stems of the bamboos. At each halt a fire was lighted, and we clustered round it, shabby Europeans and shivering natives, a sorry spectacle. The track got worse and worse—it was an alternation of almost perpendicular sodden banks and deep bogs. We either sank up to our knees and were held fast in black sludge or stumbled over stumps and stems. We had hoped for mountaineering, we found ourselves mudlarking!

At last we heard the sound of water, and came out on the bank of the Mubuku, a full torrent. Our predecessors had all crossed it with ease. Our strongest natives tried the ford and failed. A reconnoitring party was despatched upstream. After a long absence their leader returned. His speech was unintelligible, but his aspect was cheerful. I had clambered eagerly after him through the jungle for a hundred yards when a bridge met my astonished eyes. The ingenious Bakonjos had utilised a boulder in midstream to build a bridge with long bamboo poles. A minute later I was shouting to my companions from the farther bank.

The condition of this ford, which had given no trouble to our predecessors, may serve as a proof of the exceptionally bad rains we encountered. They extended beyond the hills. Mr. Haldane, the Collector of Toro, wrote to me, 'You found the mountain at its very worst, in such awful, misty, cold weather.'

Beyond the bridge we walked, or rather splashed and waded, through a beautiful dripping forest. The rain had ceased for the moment, and fitful gleams of sunshine lit up the rich colours of the vast heights that hemmed us in. Presently we saw in front the Mubuku tumbling in a noble

cataract down the great cliff which closes the valley. Kichuchu, the first of the so-called rock-shelters or native camping-grounds, lies at the base of this cliff, where it slightly overhangs. To reach it we floundered for several hundred yards through a morass and down the channel of a stream which in better seasons may possibly be a path. Kichuchu may then be a rock-shelter; as we found it, it was a dripping-well. My companions succeeded in making a fire and cooking. Mumm was excellent in the part of Mark Tapley: my melancholy only produced a reaction in his spirits.

Next morning we started to climb the great step in the valley in pouring rain. Henceforth I shall only mention the weather when it is fine.

Rude ladders have been fixed against the lowest rocks, but they are not necessary, and in coming down we avoided them. The scramble is long and steep, and was rendered arduous by the abominable muddiness of the path, on which it was easy to slide back farther than one had stepped forward. But there is no real difficulty, nothing but what may be met with on many a chalet path in the Alps. On the top we found a level meadow. We were now nearly 11,000 ft. over sea-level and above the dense hedge of the bamboo zone in a region of new and strange flowers, a weird and grotesque woodland which no one who has once penetrated it is ever likely to forget. Here were open glades filled with the upright stalks, 12 to 15 ft. high, of lobelias, green obelisks which reminded me in shape of the tombstones in a Turkish cemetery. About us stood tree-*Senecios*, or giant groundsel, gaunt writhing stems crowned at the top with mops of spiky leaves, fit for a witch's broom; the ground was carpeted with a shrub growing some 2 to 3 ft. high covered with white everlasting flowers. Blackberries and violets had wandered into this strange company. Among the plants representing a northern flora Mr. Dawe has also recognised the willow herb, a chervil, a ranunculus, a geranium. But these homelike touches were lost in the strange aspect of the larger growths. We followed the obscure track over bush, over briar, through mud and mire, until we came to a fallen forest. The prostrate trunks and branches have formed a continuous barricade, which takes half an hour to cross. The logs are hard, slippery, and covered with moss, which peels off under the boot. The actual soil lies 6 or 8 ft. below, and great care is needed to avoid the horrid pitfalls which gape at every other step and threaten danger to limb, if not to life. Beyond this obstruction we again crossed the stream—I by a fallen trunk, my

companions by wading—and climbed beside a fine waterfall another step in the valley. At the further end of the next level we came to the rock shelter known as Buamba, a picturesque but very inconvenient camping-ground. The soil was swampy, and as if we had not water enough already, a pretty cascade tumbled from the impending cliff, fortunately not on us.

This camp has a story which has apparently escaped my predecessors. Sir H. Johnston tells us it is called Buamba, meaning 'up aloft,' because of its situation. Our head man, however, declared that it was named after a hill tribe known as Buamba, who dwell on the Semliki side of the mountains, and were accustomed to cross the high pass lying S.E. of Kijanja, and come down as far as this spot in order to sell pottery and skins to the Bakonjo, who met them here. Of late years, since the Katwe road has become safe, the pass, which cannot be under 14,000 ft., has, we were told, been disused. We had already noticed in the view from Butiti this broad, snowless gap as a probable pass. There are several native passes over the lower southern and northern portions of the range, but this appears to be the only one that traverses the central group. From Buamba to Bujongolo (12,500 ft.) is a short walk, about an hour. We allowed it to be made a day's journey because we were anxious to give the weather, always detestable, time to improve. The accommodation at Bujongolo is a shade better than at Buamba. There is a convenient dry and sheltered site for one 6-ft. square tent, and there are a number of holes and crannies for porters. Logs have been laid as bridges between the boulders; they afford dry wood for the next comer, who is bound in honour to replace them. But it is impossible to stroll a yard in any direction without getting into water up to the knees or falling among hopeless entanglements of rocks and trees. Nor is there any extensive outlook to afford distraction. In the direction of the watershed impending rocks cut off all view. In the opposite direction, across the valley, one summit was visible at moments through the streaming vapours, a black buttress exposing a long slope of highly tilted rocks of a most forbidding aspect, alternately powdered with snow and gleaming with wet as the storms came and passed over. In these conditions it produced an impression which in clear weather it might hardly have upheld.*

Half-an-hour higher we passed another overhanging cliff

* See illustration.



Swan Electric Engraving Co.,

**A SPUR OF RUWENZORI.
FROM BUJONGOLO.**



Photos by A. L. Mumm.

THE MUBUKU GLACIER

that might serve as a shelter. At this point the glacier crescent at the head of the valley is first visible. The glen becomes very narrow and rises steadily, bending to the right. The highest reach is again a level and a marsh. The scenery is imposing and most singular. On the precipitous hillsides and rocky ledges tree-heaths drip with the perpetual moisture. Gaunt and grey, densely covered and draped in preposterous masses of moss and lichens, they look like the vegetable ghosts of a vanished world. Lobelias, tree-*Senecios* and *Helichrysums* grow upon the cliffs high above the lowest ice and up to over 14,000 feet. Higher still the rocks are stained yellow by mosses and lichens, no doubt the origin of the golden belt below the snow noticed by Stanley. The same effect may be seen on the seaward crags of the Maritime Alps. The explorer is now too immediately under the range for the highest peaks to be effectively seen. What was to the N. or E. of the icefall we never saw free from mist. Looking back, however, a bold rocky mass was conspicuous south-east of the pass used by the Buamba.*

Some five hundred yards below the ice-tongue the slope steepens, and the track passes through a grove of *senecios* growing on an old moraine. The glacier now terminates in a cleft between steep rocks; the stream that flows from it in a triple cascade † is insignificant. The water is clear—the first clear water I saw in Uganda. It is probably rather the issue of some sub-glacial spring than the meltings of the ice. In Switzerland, in winter, the glaciers discharge clear water, while those in whose beds there are no sources discharge nothing. Glaciers in tropical and sub-tropical regions lose most of their substance by evaporation. The Himalayan torrents bear no proportion to the size of the snowfields.

We were about 1½ hrs. from camp. Heavy showers swept the sky. We lit a fire under the rocks and ate. With a little spadework it would be easy to establish a camp at this spot, which is in many ways preferable to Bujongolo. There is, however, no natural shelter for porters.

A slight clearing encouraged Mumm and Moritz to push on. I lingered a moment, and when I started found that they were already well ahead and had passed the so-called cave where the first explorer left a rope. I was still stiff from my mule-tumble of a fortnight before, and, feeling confident that this was only a reconnaissance, gave up the pursuit, and spent my time in nursing the fire, catching glimpses of the upper

* See illustration in last number.

† See illustration.

peaks, contemplating the glacial source of the Nile, which vindicated so triumphantly Ptolemy against his critics, and reflecting what a very odd corner of the world I had got to.

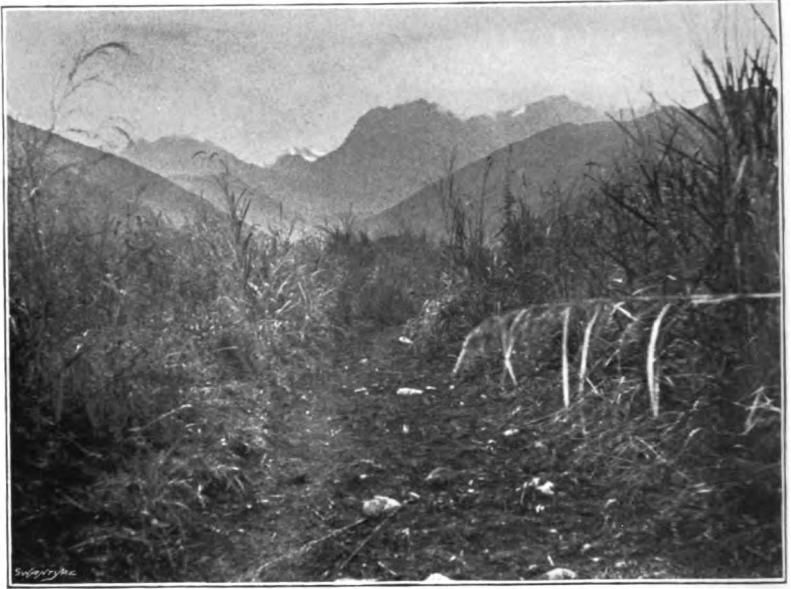
My companions came back before I expected them. They had soon reached the cliff that stopped earlier explorers, and climbed up it; then they had taken to the ice, and had had a fair amount of step-cutting on narrow edges and one or two queer passages between ice and rock before they got to the top of the ice-fall and the verge of the easy and gently sloping upper snowfield. There was nothing to stop them from walking to the watershed but the dripping mists and sleet which now enveloped them.* They left the farther climb for another day, which never came; for it took us some time to realise that the weather would exhaust our patience before we had exhausted its spite.

We all went back to Bujongolo. Wet fogs, cold rain, and sleet again enveloped and persecuted us. The continual gloom and damp affected our muscles and our morals, there was nothing dry in camp, and it was impossible to dry anything. Moritz grew rheumatic. When Mumm gave the order to retreat no one protested; we were almost glad of it.

Mudslides are better to descend than to climb. Despite a late start we got down early in the afternoon to our first bivouac—that is, we compressed three days' march into one. There were no bridges to build and no bamboo brakes to hack out. From the brow above Buamba we had a noble view down the valley. On the crest of one of its wooded spurs is set a little tarn which some of our forerunners call, perhaps without reason, a crater lake. It is thousands of feet higher than any other crater lake, and I very much doubt its having a volcanic origin. Next morning we enjoyed the lovely descent down the fern-clad open banks into the bowl of tropical forest. We had come, like Moses, out of the local cloud, and bright sunshine lit up the eastern plain and made the little Lake Kobokora glow like a diamond in its centre. At Bihunga, where we arrived just in time to escape a heavy storm, we found our camp and followers, and having bidden a cordial farewell to our Bakonjo companions, who had behaved excellently to the last, moved on to the open valley at Ibanda.

Here we rested a day. What had been going on meantime in the mountains was indicated by the river. The Mubuku,

* Among Mr. Wollaston's photographs is one which must have been taken close to the highest point reached by Mr. Mumm. It shows well the easy character of the upper slopes.



THE PORTAL PEAKS
FROM IBANGA.



Photos by A. L. Mumm

Swan Electric Engraving Co.

THE MUBUKU TORRENT IN FLOOD.

in ordinary times a pretty trout stream, came down in a sudden spate, filling its channel from bank to bank, rearing in yellow waves six feet high against every obstacle, and tearing the tall reeds in bundles out of the shallows. It was a fine sight in itself, and a welcome testimony to our prudence in abandoning the heights.

On the following morning we were hastily summoned by the porters. When we came out of our tents we found them gazing with wonder at an extraordinary sight. The sky was generally overcast, but low on the eastern horizon a narrow belt was clear. Into this belt the sun had just climbed over the hills of Ankole. The peaks of Ruwenzori were visible against a leaden vault. The sun's rays, as they struck the snows, painted them not an 'awful rose' but a deep blood-red. The lower rocks and woods—this was an effect I have never seen elsewhere—were turned into a rich purple or strawberry colour. In the circumstances there seemed a demoniacal mockery in this farewell appearance of the mountain. In five minutes the spectacle was over and the curtain of mists speedily fell on the snows.

At the ford of the Mubuku, which we fortunately were not called on to cross, we left our former track and turned to the right, up a pretty side-glen. Our path, devious and narrow as an English footpath, led us through charming cultivated country. The valleys were green with banana groves and fields of maize, broken by groups of palms or bright red-blossomed Kaffir trees. The grass, knee-deep, the height of a home hayfield, was full of flowers, amongst them tawny gladioli; convolvuluses trailed over the bushes their large blue blossoms. In front lay a broad valley, partly filled by the shining surface of a large lake, and beyond, some thirteen miles off, rose a range of mountains with smooth but bold outlines. They reminded me of the Apennines between Rome and Naples, but the atmospheric colouring was richer than that of Italy and more to be compared in intensity (though different in tone, owing to the greater abundance of moisture) to that of Greece. The skies in Uganda are a perpetual pleasure. I use the plural advisedly. The dome overhead is never monotonous: in each quarter of the heavens there is something different and beautiful going on; one is never tired of watching the changing complexity of the clouds, the delicate shifting of vapours, or the sudden onset of the local thunderstorms on the transparent fields of blue. There were other distractions close at hand for a traveller tired of sky-gazing. On the plains herds of deer and

antelopes were always grazing. On the fourth day, as we marched southwards, the path passed close to a bay of Lake Dweru * and was entirely poached by the recent passage of a herd of hippopotamuses. A mile farther on I had a rare treat. Strolling alone in front of the caravan I came on a round lake, about a quarter of a mile across, surrounded by a dry beach. It served as a paradise for birds. On the water floated great white cormorants, round them circled an obsequious crowd of ducks of various sorts and sizes. On the shore there was a promenade of ibises, herons, pelicans, geese, I know not what. Golden-crested cranes danced about delicately in little groups of four or six, giving themselves the conscious airs and graces of well-dressed beauties. It was the sort of spectacle one finds represented in children's natural history books, but never expects to see in Nature.†

By this time the Ruwenzori range on our right had sunk into soft green hills. We crossed two of their last and lowest spurs, passing between deeply set crater-lakes, and from a third suddenly saw before us the wide expanse of Lake Albert Edward, the most remote of the Nile lakes and the last to be discovered. It has by far the most mountainous shores of the three, and, as it is just not too big for all its shores to be visible at once, presents a very imposing appearance. The range on the W., which falls abruptly into its waters, must rise 7,000 feet above them. Its long crest reminded me of Monte Baldo, seen from the Lake of Garda. Far away on the southern horizon in the clearness after a storm we recognised the forms of the great volcanoes, 13,000 feet high, which rise close to the watershed of Africa between the Nile sources and Tanganyika. The grassy shore below us was studded with beehive huts and the water alive with fishing canoes.

Next day we walked four miles in order to visit the salt lake of Katwe, which is a source of revenue to the chief of Toro and threatens to be a subject of dispute between the English Government and the Congo State. It lies, picturesquely framed in palm groves, in a deep basin among bare grassy downs. A narrow ridge, on which stands a ruined fort, separates it from the great lake. Its chief charm, as we saw it, lay in the extraordinary brilliancy of the reflections

* I use Sir H. Johnston's name. Most maps call it Lake Ruisamba.

† See Sir H. Johnston's *The Uganda Protectorate*, vol. i. p. 129, for a fuller and more descriptive catalogue of the water-birds of Uganda.

in its waters. The blue of the lower spurs of Ruwenzori was unbelievable. In the opposite direction we enjoyed an almost panoramic view of Lake Albert Edward with its green promontories and islands and impending ranges, on which thin columns of smoke gave token of human habitation.

Our onward course led us along the north-eastern shore of the lake. It was fringed with reeds and beautiful blossoming bushes; great white cormorants floated on its waters. The short flowery meadow herbage formed a delightful contrast to the elephant grass, 12 ft. high, that too often cuts off all outlook on the paths of northern Toro. Circling over it and hungrily chasing their insect food, were flocks of swallows lately arrived in their winter quarters. The path keeps along the lake shore under a low hill. It does not seem to have occurred to the earlier passers-by to mount to the brow. At any rate, they have not described what is seen from it. Maps (most of the early ones, not Sir H. Johnston's) show Lake Dweru as a backwater of Lake Albert Edward. This is a curious mistake, without any excuse or foundation in fact. What met our eyes as we crested the hill was a sight new to me in Uganda; a noble river, some 600 to 800 yds. wide, flowing in graceful curves with a clear smooth and strong current between high wooded banks. Tall palms and strange trees of even greater height hung over the water in the hollows or climbed up towards the open grasslands, behind which the blue hills of Ankole rose in the distance. On the tree-tops were many enormous nests of fishing birds, and a canoe containing some native fishers shot round the lowest corner in sight, paddling against the current. The landscape was one of the most romantic I saw in Africa, and so admirably composed that a painter might have put it on canvas without altering a line.

Returning to the path and losing sight of the river for a mile or two we came upon it again at the ferry, where it falls into the lake. Here we found a flotilla waiting for us; a 'dug-out,' that is, a boat hollowed out of a single gigantic stem, and several very patched-up and leaky bark canoes. The farther bank was the popular bathing-place for the villages on the shore. Lake Albert Edward enjoys the distinction among African lakes of being free from crocodiles. We are far here from the primeval nudity of Kavirondo, and the dark ladies managed their blue gowns with at least as much decorum as Parisians at a French seaside resort. On the shores of the lake Indian corn, introduced by Arab traders, is extensively cultivated. Our next day's march to Kichlamba (14 miles) lay across a plain to the foot of the Ankole hills

which we had had so long for companions. Halfway we came on a skull in the middle of the road. I was told that it was all that remained of a native who a week before had gone to sleep under a tree and been devoured by a lion. Soon afterwards our Nubian escort had an altercation with a man who was, contrary to law, carrying a naked spear, and arrested him.

That evening, while Mumm shot antelopes, I got a hazy view of Ruwenzori, three snow-peaks rising over lower heights. Next day we climbed up into and through the hills, a lovely march. The valleys were pitted with ancient craters, some dry, others containing lakes, set in the richest tropical vegetation. Our prisoner made a bolt for one of these hollows, and would have escaped into a thick banana plantation had he not near the bottom slipped and turned a summersault. The pursuing Nubian went over after him, but was the first to recover himself and secured his prisoner.

At the head of a narrow glen we crossed a steep pass, from which there was a glorious view to the south over a vast deep-green forest stretching away towards the eastern shores of Lake Albert Edward. It is akin to the great Congo Forest, in which Stanley wandered; the general character was sombre, perhaps it was not the season of flowers. Straight, smooth trunks ran up to an enormous height, bearing aloft a dense canopy of foliage; the ground was carpeted with dark-leaved plants; brooks trickled through the hollows. After an hour in the shade we camped with some woodcutters at its edge.

Late in the evening, in place of the natives bringing bananas for our porters, the Nubian soldier in charge appeared with three prisoners and a wounded man. The villagers carrying our men's food had been met and assaulted by a party from another village, who had shouted that the white men must not be supplied, and in the scuffle one of the carriers had been badly wounded by a spearthrust in the arm. The Nubian, being armed with a gun, had run in three of the assailants. Next morning, accordingly, we started with four ill-favoured negroes tied together with Alpine rope. The event of the afternoon was a really terrific tropical thunderstorm. The noise was tremendous, and the downpour incessant for an hour and a half. When a bouquet of flashes hit the ground all round us I must confess that I felt nervous as to what might come next. It proved, however, the final flare-up.

The country we had been going through is an intricate highland region. Seen from Lake Albert Edward its hills appear to run N. and S.; this is, however, only the effect of the

escarpment of the great Uganda tableland. The main ridges in Ankole run E. and W., and are high green downs reaching 6,000 ft. or more above the sea and 2,000 ft. above the plateau. Between them the space is occupied by the oddest possible collection of round-topped green hillocks sprinkled about thickly and without order. In form they reminded me more of the hills old cartographers used to dot about their maps than of anything I have seen in Nature elsewhere.

We camped in a hollow glen, surrounded by high grass and bush—an unhealthy spot, where I believe I caught malaria. At dawn we were told that a man with a spear had been seen prowling near our tents. This was unpleasant, as we were not far from the spot where, in the preceding May, the Collector of the District had been speared through the heart while he sat reading in the verandah of a Rest-house. Our Nubians further asserted that the hilltops were thick with spearmen. I suspect there was some exaggeration. But shouts were certainly audible from the bush, and they were interpreted to us as meaning, 'The white men are starting.' The friends of our prisoners may have been hanging about with a view to a rescue. We were too strong a party to be assaulted in the open. Their only chance would have lain in a rush out of the copses that frequently overhung the zigzags of the path. There was an opportunity, however, for a display of martial ardour; we kept close order, and Mumm, as commander-in-chief, bristled with cartridges. His rôle was modified by the sudden appearance of Ruwenzori, one white peak excelling all the rest until it was overcome by the clouds. 'Cedant arma togæ.' The warrior was converted into a photographer. In the centre of a hollow square he adjusted his camera with his customary deliberation. The result, unfortunately, was a failure.

The landscape now became more level, and of enemies we saw no more. I despatched a messenger to Mberara, the capital of Ankole, and the officials there sent out twelve policemen, who relieved us of our inconvenient charge. The explanation of the affair given us was as follows:—A chief had died, and his tribe was divided into factions by a disputed succession. Hence the villagers had carried their feud into our provisioning; they will be warned not in future to let their local broils affect white men.

Round Mberara, famous for its majestic long-horned cattle, the country is undulating and continues so during the week's march to Masaka. The hills are quite low and sparsely sprinkled with cactus-trees that look from a distance like yews.

At Masaka a bare hilltop has been planted by an artistic Collector with oleanders and pomegranates. The interior of the Boma, or fortified enclosure, is a bower of roses, rampant rose-trees like those in Burne-Jones's pictures, with long branches ablaze with blossom all the year round. Lake Victoria lies only a few miles east of Masaka, and is frequently in sight on the road to Entebbe, which runs, for the most part, through fine 'park-like' scenery.

My four days at that centre of civilisation, of dress-clothes and dinner-parties, of lawn-tennis and football, were luxuriously spent in a bungalow hospital. A certificate that I had contracted two fevers relieved me from assisting my companion in winding up the accounts of our two months' trip. In this task he was ably assisted by Mr. Moggridge, the young Englishman from Natal whom we had engaged to act as our camp-manager and interpreter, in both of which capacities he had proved very efficient.

At four in the afternoon on the day we left Entebbe our comfortably appointed steamer reached Jinga, where the Nile leaves the Lake, and anchored a mile above the Ripon Falls. To shorten the walk in my enfeebled condition, I got a native dug-out with fifteen paddlers, to row down as far as the Ferry. The Falls are of the class of Schaffhausen: they lack height. But there is a glorious rush of green water, five floods separated by tiny rocks, or islets, clothed in the most vivid verdure. Below the cascade is a great pool, where huge fish leap in the eddies and eagles circle overhead, and then for several miles the great river hurries on in a long rapid between high wooded banks, till a bend in its course conceals it from sight. It is a worthy birth for the Nile.

Another day was spent on the lake, and on the third from Entebbe we got into the train. We began to speculate how many and what beasts we should see. At first we scored rather slowly. There were, of course, hartebeests and springboks in hundreds. A large party of baboons, three giraffes, and several hyænas next came in view. It was not till sunset on the second day that the train pulled up to give us a better view of a fine lioness which was strolling beside the line some thirty yards off. The station we came to five minutes later is famous for lions. Here, during the construction of the line, an unfortunate engineer was pulled out of a carriage in which he was sleeping, and devoured. The present station-master, an Indian, is credited—I cannot say with what truth—with having recently had occasion to send out the following telegrams: 'Please send further police pro-

tection. Men very brave, but less so when roaring begins.' 'Please let 10 A.M. run up to platform disregarding signal. Signalman up post, lion at bottom.'

Let me recapitulate the main facts we ascertained as to Ruwenzori. The extent of the Alpine portion of the range is not more than 20 miles, probably not more than 12 miles of this is ice-clad. None of its peaks is likely much to exceed 18,000 ft., perhaps none soars above 17,000 ft. They rise in a group, one of them a snow-summit considerably surpassing Kiyanja and the other tops visible from the Mubuku Valley. It is probable that this highest peak which is not visible from the Mubuku Valley stands W. of the watershed. The only glacier basin of any size E. of the chain is that of the Mubuku; it abuts against the western glacier basin photographed by Dr. Stuhlmann. The snow-level is high, not less than 14,500 ft., and vegetation extends to this height, though snow often falls and lies for a time much lower. There is no separate group with a summit 20,000 ft. high where 'The Saddle Peak' is shown on some maps. The natural history collectors from the British Museum will probably conquer several of the summits. Whatever they leave in the way of virgin peaks will doubtless fall to the Duke of the Abruzzi.* Princes have formidable methods and means of courtship. Were I to go again, which I have no intention of doing, I should make every effort to get to the top soon after dawn, and before the clouds. I should sleep on the edge of the snow and use lanterns, as people used to on Mont Blanc; for to climb Ruwenzori and see nothing would be deplorable. The panorama, no doubt, would be more stimulating to the imagination than impressive to the eyes. The lower ranges would be sunk in dim aerial distances. But it would be unique, with the two great lakes in sight, and would embrace practically the whole region of the Nile sources. And to the topographer the insight gained into the structure of the Ruwenzori group would be invaluable.

I shall not be surprised if Ruwenzori is frequently visited in the coming years; for the Nile route to Uganda, already open, will very shortly be greatly improved and quickened, and the Messrs. Cook will doubtless soon be prepared to give circular tickets *viâ* the Red Sea and return by the Nile. Ruwenzori is a fortnight's march from Lake Victoria and about a week's from Lake Albert. A four months' winter tour may suffice for the round, including

* See p. 242.

a visit to the mountain. Our tour of 500 miles from Entebbe and back occupied eight weeks to a day. I was three weeks in reaching home from Entebbe.

I may best conclude this paper by reverting to an old custom in this Journal, and expressing my very heartfelt thanks to our guide and companion from Zermatt for his services throughout the journey and for the thoughtful care with which he looked after me in my fevers. I cannot wish anyone a better travelling companion in health or in sickness, on the march or in camp, than Moritz Inderbinnen.*

SIX MONTHS' WANDERING IN THE HIMALAYA.

By T. G. LONGSTAFF.

(Read before the Alpine Club, June 11, 1906.)

I BELIEVE it is usual to commence a paper before this audience by a reference to the Honorary Secretary, and I feel that I ought not to depart from so honoured a custom. Yet I cannot say that it is with great hesitation, and after much pressing by that eminent mountaineer, that I address you to-night, because it is entirely due to my own importunity that I am here. Neither can I commence, 'Story! God bless you! I have none to tell,' because before I have finished my paper you will be hinting that it is all story and no climbing. For both these reasons I ought to be brief; and the Honorary Secretary has begged me to be brief. I regret to disappoint him. The paper is a very long one, and I have more slides than I ought to show you to-night. Furthermore I am sorry to find that I can hardly hope to make myself intelligible without a somewhat lengthy and perhaps personal preface. For the latter I ask your pardon, and for the rest your patience.

Like most mountaineers my thoughts have often turned towards the Himalaya, but what especially attracted me were the districts of Kumaon and Garhwal in the United Provinces. This region, rising in the S. directly from the great Gangetic plain, is wedged in between Nepal on the E. and a group of semi-independent hill States on the W., and is bounded on the N. by the plateau of Western Tibet. In this corner of the Himalaya is to be found mountain scenery

* I have used in this paper Sir H. Johnston's local names. I must refer readers who desire to know more of Uganda to his invaluable volumes.

as fine as any the world can show; indeed I do not believe that the scenery of Upper Garhwal can be surpassed anywhere. The twin peaks of Nanda Devi (25,660 ft. and 24,379 ft.) are the crowning glory of these wild and intricate mountain groupings, which contain more than 50 triangulated peaks of over 20,000 feet, of which 7 exceed 23,000. These mountains are very easy to get to, and in consequence a large caravan and an expensive outfit are unnecessary.*

So far as I can ascertain the first to actually penetrate these snows was Commissioner Traill, who about 1820 crossed a high snow-pass (17,770 ft., Schlagintweit)† from the Pindari glacier over the watershed into the Milam Valley. Next, in 1855, came the brothers Schlagintweit. They crossed the pass I have just referred to, visited the Milam glaciers, and later made a brilliant attempt on Ibi Gamin, or Kamet (25,448 ft.), from the Tibetan side, spending several days camped high on the mountain and ultimately attaining a height of 22,259 ft. Some years later an altitude of 22,000 ft. was reached on the same mountain by officers of the G.T.S.‡ The Milam Valley was again visited in 1888 by T. S. Kennedy with Johann Jaun. I very much regret that I can find no record of his doings; it is quite likely that he went over much the same ground as myself in this region.§ He was followed in 1893 by Dr. Boeck, who made several pioneer expeditions on the Milam and Pindari glaciers with a Tyrolese guide, and in 1900 published a book on his experiences.

I will now ask you to turn your attention to Graham's expedition of 1888. No one who reads the short and modest description of his Garhwal trip can fail to be fired with longing to revisit the scenes of his struggles, and no one who has not been lucky enough to have been there can realise what he went through, and what a strenuous pioneer and splendid climber he must have been. We can only lament that he did not give us as detailed an account of his doings as we have since come to expect from the returning

* It may be interesting to record that during the six months of this trip my total expenditure was less than 100*l.* This includes everything except the pay of the two guides.

† This pass is still marked on the G.T.S. maps, but is shown too far to the eastward, and too near to Nanda Kot.

‡ Cf. Norman Collie's *Climbing on the Himalaya*, p. 16.

§ *Alpine Journal*, vol. xvii. p. 332. Where are these panoramas? They might add greatly to the value of the photographs I was able to obtain.

wanderer. Transport difficulties defeated him before he reached the western base of Nanda Devi, but he climbed Mount Monal (22,516 ft.) and nearly succeeded on Dunagiri (23,184 ft.). May I be permitted to point out that the altitude of neither of these mountains, nor of any others mentioned in Graham's paper, is affected by the fact of the climber having or not having a barometer, or a dozen barometers, with him? They have been triangulated by a succession of most competent surveyors during the space of the last 90 years.

One word more before we leave the subject of the greatest Himalayan expedition that has yet been made. Twenty years ago strange ideas were prevalent even in this country on the subject of mountain-sickness, ideas which have not yet entirely disappeared. In India at that time such ideas were probably more exaggerated, and ignorance of mountaineering matters was almost universal. Furthermore, by an unreasonably severe criticism of the G.T.S., Graham had set the officials of the Survey Department against him. Thus, mainly from ignorance, most people in India refused to believe in his ascent of Kabru. A well-known Indian official of my acquaintance, who was at Darjeeling at the time of Graham's visit, says now, and said then, that he fully believed in Graham's *bona fides*, but thought he had mistaken Kabur (15,830 ft.) for Kabru (24,005 ft.), an opinion which has since been quoted by others. Now, for anyone who is a mountaineer, and has seen Kabru, it is impossible to believe that Graham, Emil Boss, and Kauffmann could make any mistake as to what peak they were on. They may have been impostors, but they could not have been mistaken; my point is that we have no tittle of evidence to show that they were either. Any climber who will carefully study Graham's paper in its entirety, especially if he knows the country at all, cannot but be struck by the strong internal evidences of truth which it bears. That he did not suffer from mountain-sickness is no proof of bad faith. That he made little pretension to scientific knowledge is no evidence that he was not a very competent mountaineer. I would add that, particularly in India, is it unwise to believe tales and rumours to the discredit of other people. To quote them is distinctly rash.

Last year my intention was to try Trisul (23,406 ft.) from the S.—it is only 60 miles from Naini Tal—and then march up into Garhwal, and, in imitation of Graham, attempt some peaks of the Nanda Devi group from the W. Failing this, there was Ibi Gamin (Kamet) and its attendant peaks to the

northward, where I hoped the effects of the monsoon would be less marked than in the southern ranges. I put this upon record, because should I ever go there again that is the plan I should follow. I hoped to have time to go to Sikhim after the rains and attempt the second ascent of Kabru, or, at any rate, explore the head of the Yalung glacier, with a view to the practicability of this route up Kinchinjanga, as suggested by Mr. Freshfield. This part of my programme I gave up as soon as I heard that another mountaineering expedition was on its way there to try this very route.

I almost persuaded Major the Hon. C. G. Bruce, that most experienced of Himalayan mountaineers, to join me and bring some of his men. He made all preliminary arrangements for me, but unfortunately at the last moment was unable to come. Thus I was compelled to fall back upon professional assistance. My friend Cajrati most kindly allowed me the use of his guide, Alexis Brocherel, of Courmayeur; he brought with him his young brother Henri, and a better pair of men I could not have chosen. He also arranged, with the kind assistance of Mr. Bertolini, to have them looked after on their way to meet me.

Thanks to Mr. Freshfield's interest, I was very well received in India; and I should like to say at once that during the ten months I spent in the country I experienced the greatest kindness and consideration from everyone I met, my especial thanks being due to Lord Curzon, Sir James la Touche (Lieutenant-Governor of the United Provinces), and Colonel Burrard (Superintendent of the Survey).

We reached Almora on May 10. Mr. C. A. Sherring, the Deputy-Commissioner, immediately took us under his wing, and I feel that I can never be sufficiently grateful for all that he did for me then and afterwards. He himself was just starting on a tour up to Milam, in the north of his district of 6,000 square miles, and suggested that I should alter my plans, accompany him, and try Nanda Devi from the E., instead of from the W. I knew that if I did this I could only get at the eastern and lower peak (24,379 ft.), but the opportunity of travelling with the only man who knew the people and the country was too good to be missed. From the rhododendron forests of Binsar, the first march out from Almora, we obtained a fairly good view of Nanda Devi, at a distance of about 60 miles. We never saw it again until we reached the head of the Milam Valley, so deep are the valleys and so abrupt the hills of the intervening region. After we had gone a few marches up country Sherring

received orders to prepare to go on a political mission to Western Tibet, and had to return to Naini Tal to make arrangements for it. To console me for his involuntary defection he suggested that I should accompany him, and try to climb Gurla Mandhata and Kailas near the Sacred Lakes. I very willingly fell in with his kind suggestion, though I saw that my mountaineering trip would degenerate into a walk of some thousand miles, with a little climbing thrown in every now and then.

In reference to Gurla Mandhata, I must not omit to call your attention to Webber's delightful book 'The Forests of Upper India,' in which he suggests the probability of an attempt to ascend this mountain proving successful.* Though his book was not published until 1902, it was in 1864 that he visited this part of Tibet.

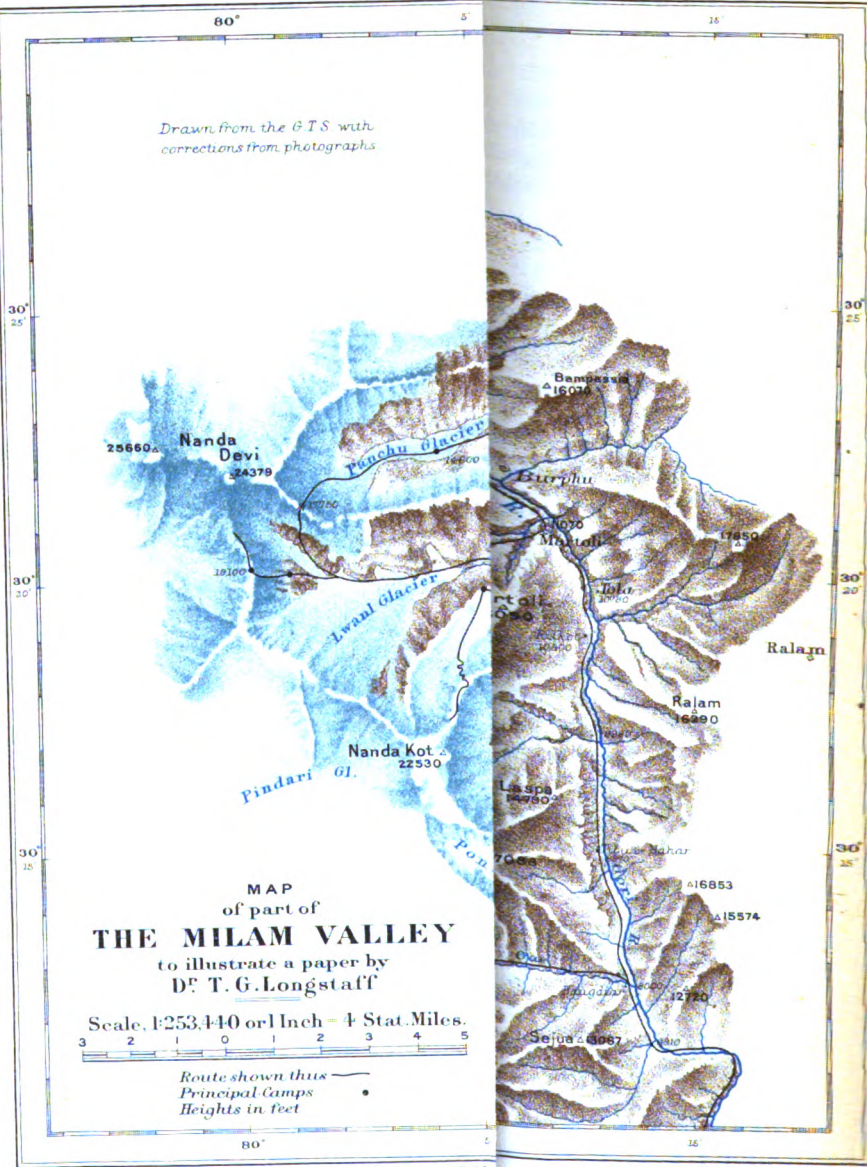
Meanwhile we continued on our way to the Milam Valley without Sherring, but accompanied as far as Mansiari, the last inhabited village at this time of year, by Kharak Singh, then Tehsildar of Almora, a very pleasant companion, who was of great assistance to us. Sherring also sent with me the Kanungo of Danpur and Johar, who made all transport arrangements during this part of my trip.

I cannot dwell on our march through the foothills, but the stage from Gurgaon over the Kala Muni to Mansiari is a particularly fine one. The view of the Panch Chule range which suddenly bursts into view across the valley of the Gori when the summit of the pass is reached is of quite unearthly beauty. At Mansiari, with the kind assistance of the Tehsildar and of Kishen Singh, Rai Bahadur, the 'Pundit A. K.' of the old transfrontier survey, arrangements were made for our welfare in the Milam Valley, to which the Bhotias had not yet ascended.

After several marches through the fern-clad cliffs of the Gori defile, and up into the bare wind-swept valley of Milam, we pitched camp on May 27 near the hamlet of Ganaghar, on the right bank of the Gori, at a height of 11,100 ft. On arrival I had my first attack of mountain-sickness. It was undoubtedly due to stalking wild sheep in a puttoo (cloth) hat instead of a sola topi, and the consequent effects of the sun, though I did not realise this till I had had two more similar attacks. On May 29 we made a reconnaissance up the Pañchu glacier, this being, according to the G.T.S. maps, much the shortest route to the eastern peak of Nanda Devi.

* *Op. cit.* p. 121.

Drawn from the G.T.S. with
corrections from photographs



MAP
of part of
THE MILAM VALLEY
to illustrate a paper by
Dr. T. G. Longstaff

Scale, 1:253,140 or 1 Inch = 4 Stat. Miles.



Route shown thus —
Principal Camps — •
Heights in feet

The guides would not believe that it was impossible to reach the pass at the head of the glacier that day, but we were finally turned back late in the afternoon by very soft avalanchy snow at about 16,000 ft. (Watkin barometer.) By this time I was suffering again from headache and sickness, and I began to wonder if high ascents were possible for me, despite the fact that I had been higher than this in the Caucasus with impunity.

Two days later we again left camp with five coolies and bivouacked on the right lateral moraine of the Pañchu glacier at 14,600 ft. (W.). The work ahead was too difficult for the Bhotias, so I sent them down to Ganaghar. I had a bad headache again, and next day felt too unwell to start, but as the clouds came up before dawn, and it snowed from two to six in the afternoon, we lost little by our inaction.

We decided that the new snow was against any serious attempt at laying a high cache, so, taking our lunch with us, we left leisurely at 7 A.M. (June 2) to examine the col at the head of the glacier. Two hours over new snow under a scorching sun took us to the foot of the pass, and we commenced the ascent directly under the S.E. buttress of the eastern peak of Nanda Devi. The climbing got harder and harder as we continued to ascend. The rocks were rotten. The snow got steeper and steeper, and its condition forced us to be very cautious in choosing a line of attack. But about 1 o'clock, after a splendid finish by Alexis through a big cornice, we reached the summit of the col. My Watkin gave 17,750 ft. as the altitude. According to the G.T.S. we were on the main watershed between Garhwal and Kumaon, and the glaciers at our feet should have flowed westward round the base of Nanda Devi. But instead of this we saw that these glaciers flowed in a southerly and then in a southeasterly direction, and that the great southern ridge of Nanda Devi was still a long way off and considerably above us. The ridge on which we stood had been omitted from the map, and the mistake was not really a surprising one when the conditions under which the survey was made are considered. The map rolls two big ridges into one and omits a glacier between them, the upper portion of which we, I suppose, were the first to have seen.

Again I was suffering from severe headache and sickness, and again I blamed the altitude. But the men put it down to the sun, and to the fact that I was wearing a soft puttoo hat, and decided that I was not to be allowed out without a sola topi in future. I may add that I took their advice, and found

that their surmise was so far correct in that I never again suffered from the latter unpleasant symptom.

Although we had no wraps, and only food enough for one meal, we decided to descend the further side of the pass and explore the valley below us. We could see that it must eventually lead us into the main Milam Valley below our base camp. I thought we could reach the tree level before dark, while the men were quite confident that we should sleep in our camp at Ganagarh.

The descent to the glacier over snow and stone slopes was steep but easy. On the way we had some grand views of Nanda Kot, opposite, and I took some photos, but my mental condition was such that they were hopeless failures. We soon got off the moraines, and held on down the wild and desolate Lwanl Valley until, at 7.15 P.M., we reached a little open maidan surrounded by juniper bushes, which supplied us with a fire of a sort; the last scraps of food were divided, and the guides retired to the ruins of a shepherd's hovel near by, while I curled up in the open near the fire. There were no inducements to stay long abed in the morning, so we roused up before daylight and continued down the Lwanl Valley, disturbing on our way a couple of musk deer over their first breakfast. We were on the left bank of the stream, and carefully refrained from crossing any of the numerous snow-bridges over on to the other side, so that, when we found the mouth of the gorge impassable, we were able by following a sheep track to reach a little pass of 12,450 ft. (W.), which led us down to Mapa, and so to our camp at Ganagarh before noon, greatly to the astonishment of our servants and coolies, who could not make out how we had come round. I was glad to see that the Watkin barometer again registered our correct height, and that therefore it was not likely to have been affected by being taken over the pass. For which, by-the-by, I suggest the name Pañchu, already bestowed on the glacier, whose stream flows past the hamlet of that name, by the Schlagintweits.

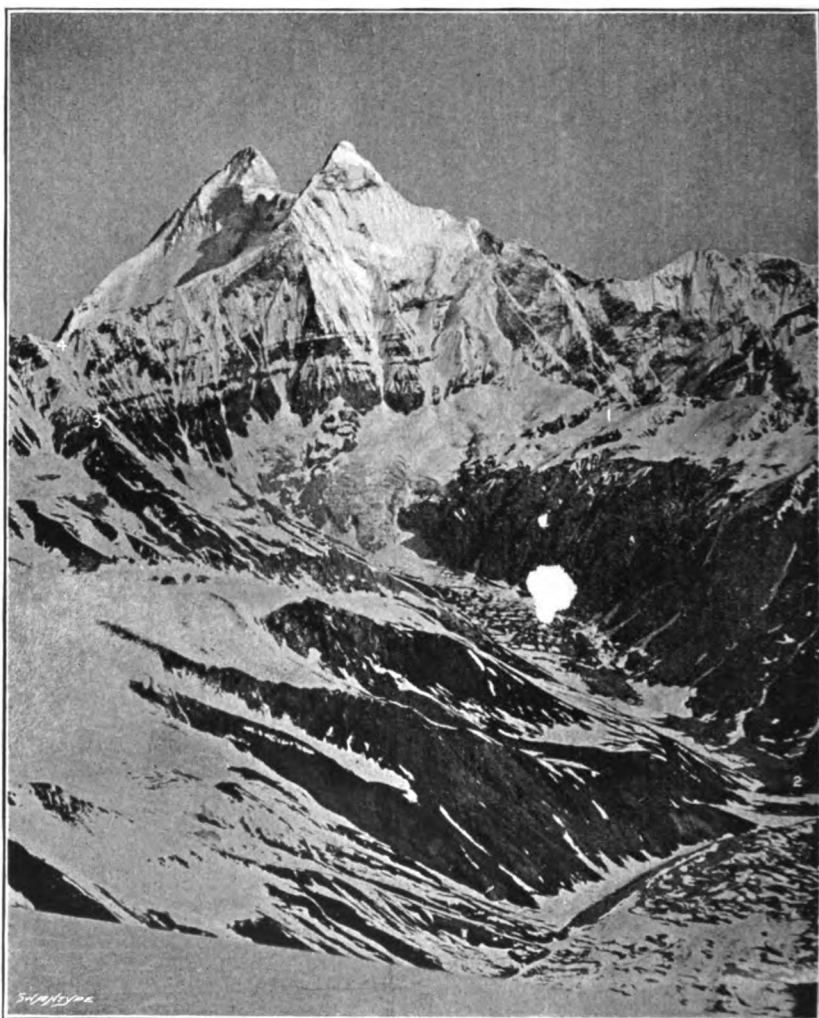
On June 5 we started again for the Lwanl valley and Nanda Devi with my shikari and six coolies, but could not get the laden men up to our former sleeping place. Again next day the coolies were very reluctant to move on, and we had to camp at Narspan Patti (13,150 ft. W., 13,404 ft. Schlagintweit). However, the situation of this little alp was very lovely, and we had the first really fine sunset of our journey. Early on the third day (June 7) we pitched our Whympertent on the last maidan below the snout of the most northerly

West Peak

East Peak

25,660 ft.

24,379 ft.



C. G. Longstaff, Photo.

Swan Electric Engraving Co.,

NANDA DEVI FROM N.E. RIDGE OF NANDA KOT.

1. Panchu Pass. Panchu Valley behind this ridge.
2. Halting place of June 7, from which photo. of Nanda Kot was taken.
3. Bivouac of June 7.
4. Nanda Devi Pass, Kumaon-Garhwal water-parting. Bivouac of June 8.

of the Lwanl glaciers. We foolishly decided to push on at noon with three coolies and the light bivouac up the glacier to the base of the great wall ahead of us. After 2½ hrs. the coolies gave up, more from superstitious fear of the deities who reside on Nanda Devi than from fatigue, and we shouldered their packs and pushed on alone. We all know that guides have an overmastering passion for following any stray foot-prints they may chance to find on a mountain, so when we came across the tracks of a snow leopard the men naturally insisted on following them. It was true that they led in the right direction, but I pointed out that we ought to pay no attention to the doings of a solitary climber. Yet I could not help noting with satisfaction that it wore crampons. I believe it even sleeps in them.

We climbed till five o'clock, in one place having to haul the packs one by one up a wall of rock. By this time we had reached an altitude of 17,400 ft. (W.), and decided to bivouac on a small shale slope. We passed a fairly comfortable night, but it was very cold. The cocoa had frozen in our flasks even during the afternoon of our climb up this sun-abandoned slope.

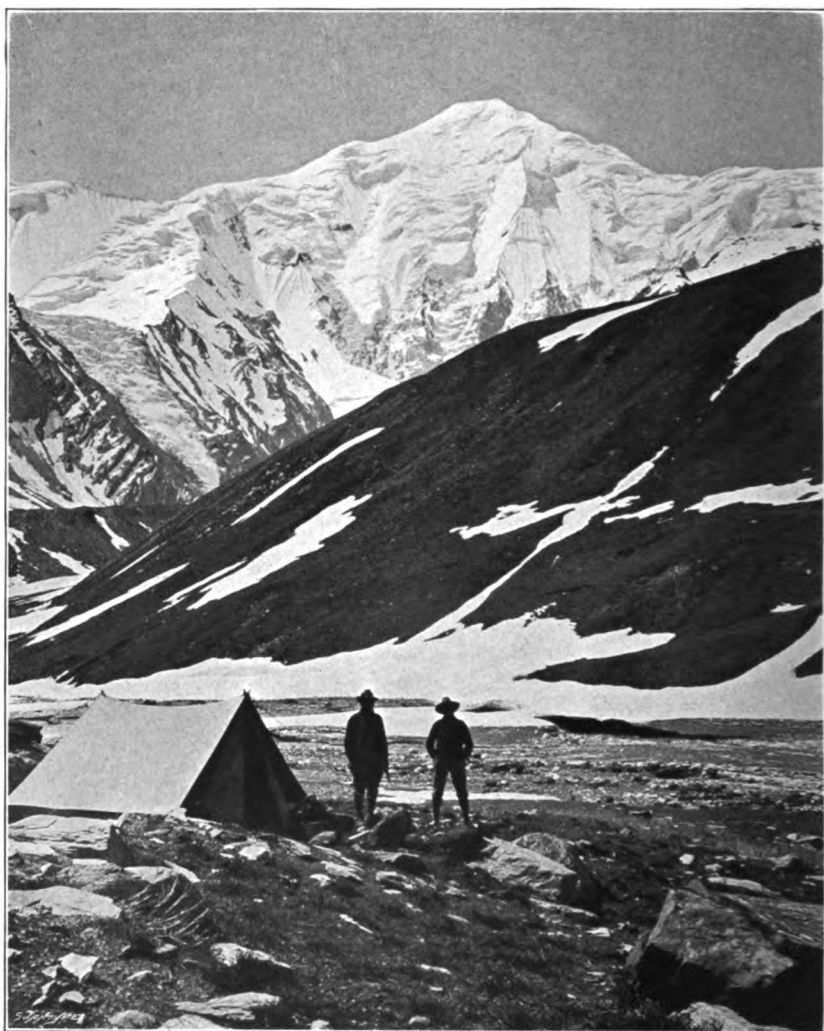
Next morning (June 8) we did not get off till 7.30. Our loads were very heavy—the men carrying a good 50 lbs. each, while I staggered under half that weight. We had a severe and wearisome climb up a long steep snow-slope, and had often to stop to take breath. The cold wind, whipping the snow up into our faces, was very trying, and it took us 8 hrs. to reach the col. The altitude of this was 19,100 ft. (W.)—only some 1,700 ft. above our bivouac of the previous night. It would seem natural to call this col the Nanda Devi Pass. It is practicable for mountaineers, and it would only take about a month to get back to the Milam Valley again by any other route. Below us was an extraordinary chaos of wind-driven cloud, half veiling the glaciers which surround the southern base of Nanda Devi. Above was the vast southern face of the great peak, its two summits connected by a saddle of more than a mile in length. From this spot the mountain strangely resembles Ushba, and the likeness must be even more striking from the W. Directly from the col rose the southern ridge of the eastern peak by which we hoped to make the ascent. Facing round to the E. the gaze plunged down to the confused glaciers of the Lwanl Valley, bounded by the northern face of the Pindari ridge, which culminates in the enormous snow-draped cliffs of Nanda Kot.

We had the greatest difficulty in making a tent platform ;

the lower side had to be built up for a height of 3 ft., and the slope of disintegrated rock was frozen hard. The night was excessively cold. My boots froze, although I put them under my head. The primus stove was leaking badly, and how the men made tea next morning I cannot understand. Some that I spilt on the floor of the tent froze almost immediately. Two of my toes showed signs of frost-bite after I had got my boots on, and I had to begin that painful process all over again. Owing to these numerous delays it was not until sunrise (June 9) that we finally started. We took provisions and all our spare wraps, but left the tent and sleeping bags behind. The climbing was sufficiently difficult to make us go slowly. We worked up and over a succession of steep and rotten gendarmes, over which it would have been difficult to carry heavy loads.

After about 3 hrs. of this we got on to a narrow but comparatively level and easy part of the ridge, with our first uninterrupted view of the work before us. I think it was about 10 o'clock that the utter impossibility of reaching the summit that day was borne in upon me. I took out the Watkin barometer and found that the altitude was only 19,750 ft.* The photographs will show you what the rest of the mountain was like much better than I can tell you. The men were quite willing to go on, but agreed that at least one and probably two nights in the snow would be necessary. I had come out for pleasure and did not wish to get frost-bitten; also it did not seem to me by any means certain that the ascent was practicable. Anyhow I wouldn't face it, and decided on an immediate retreat. We could see the Pindari glacier over the ridge to the S.E., and had a wonderful view of Nanda Kot as we turned to descend. We scrambled back to our bivouac as fast as we could go, packed up, and started down the great snow-slope which we had so laboriously ascended the day before. Our old steps were still quite serviceable, and as the snow was in very good condition we were soon able to turn and descend face outwards. Arrived at the bottom of the steep part of the slope we decided that a glissade of some 2,000 ft. was practicable, and would be much quicker than a descent by the rocks. I thought that glissade

* Then, as always, I gave the barometer $\frac{1}{2}$ min. instead of the regulation 1 min. in which to 'settle.' Hence all my readings are presumably too high, that is to say would give too low a height above sea-level. Taking into consideration Schlagintweit's height (13,404 ft.) for Narspan Patti, I might add 250 ft. to all the altitudes I measured from this valley.



T. G. Longstaff, Photo.

Swan Electric Engraving Co.,

NANDA KOT FROM THE NORTH.

Bivouac of June 10 was at the level of the top of the cliffs to L. of plate. N.E. ridge struck at lowest depression, $\frac{1}{2}$ in. from L. edge of plate, and followed to what looks like a boss of snow on the sky-line. This ridge is much steeper than appears from the photo.

The L. extremity of the summit ridge is probably higher than the R

would never end. But by this means we reached our camp before it was dark. Henri, ever tireless, ran on ahead to warn the coolies, and late in the evening we had shifted everything about 2 miles down to Narspan Patti (Watkin again 13,150 ft.), so as to lose no time in attacking Nanda Kot, which was our next objective.

The Whymper tent seemed like a palace, and we slept like kings—I will not say like emperors. June 10 broke gloriously fine; we crossed the stream by a snow-bridge to the south side of the valley at noon with five coolies, and mounted rapidly up stone and snow slopes directly towards the summit of Nanda Kot for 3 hrs., when we reached an altitude of 16,300 ft. (Watkin). It had already been snowing for nearly 2 hrs. and there was no good place to bivouac; but it looked worse ahead. So we sent the coolies down and pitched our Mummery tent where we were.

Next day we started off at 9.45. The night had been fine, and therefore cold, and my toes needed much painful beating to keep up the circulation; the new snow was very powdery, but there was only about 3 inches of it. A long steep snow climb took us up to the N.E. ridge at an altitude of 19,800 ft. (W.) in 5 hrs. A sea of snowy mountains—those of Byans, Chaudans, and Dharma—greeted us in the E., while the great peak of Badrinath stood up over the Nanda Devi pass far away in Garhwal. After a very short halt we continued up the narrow N.E. ridge of the peak, the snow-slopes on both sides falling away more and more steeply. The summit was well in sight, and I was feeling well and confident of success. But as the ridge got steeper and narrower the snow got worse, and we could not get off on to a comparatively easy shelf which now lay far below us on the S.E. At about noon Alexis suddenly stopped. He said it was absolutely unsafe to go on. Both Henri and I agreed that the risk of starting an avalanche was too great to be faced. There was nothing for it but to descend the ridge to the point where we had first struck it, and make our way up the shelf I have mentioned. The summit is 22,530 ft., and I suppose we must have got to over 21,000, but I did not read the barometer here. We did not regain our starting-point (19,800 ft.) till 1 p.m. and I felt too tired to start over again. It would certainly have been possible, because we could have descended the greater part of the way to our bivouac by moonlight. As it was we reached our bivouac at 4 o'clock, and after an hour's rest packed the things down to camp at Narspan Patti.

We reached our main camp in the Milam Valley, which we had ordered down to Burphu, next day (June 12), and the coolies got in the same evening. On the way I shot a Himalayan vulture measuring 8ft. 8in. across the wings. Many Bhotias, with their rice-laden sheep, were now passing up the valley to their summer quarters. From some newspapers kindly sent up by Miss Turner, the missionary at Mansiari, we learned the six-weeks-old news of the Battle of the Sea of Japan.

On June 15, ordering our camp down the valley to Baughdiar, we again entered the Lwanl Valley, but this time by way of Martoli, and, following the S. bank of the stream for a few miles, turned up into the Shalang Valley. We took only the Mummery tent and four coolies. We meant to try Nanda Kot again from the S., or, failing that, to cross over into the head of the Poñting Valley. However, this is to the Bhotias a very terrible glen, abandoned of the gods and inhabited by many devils; to appease the latter it is apparently necessary to sit down frequently and smoke. It is also necessary to kindle a small fire each time the common pipe has to be lighted. Hence we were compelled to camp at about 12,300 ft. (11,800 ft. W.).

Starting next morning at 7.30 we had some fine glimpses of Shalang Peak, but never a sight of the S.E. face of Nanda Kot, which remained obstinately hidden in clouds. Crossing some curious moraines and the broad Shalang glacier, we reached at 1 o'clock a mossy patch of stones near a big boulder. A light drizzle of snow was falling, obscuring the view in every direction, and wetting our clothes and wood. The altitude was 15,350 ft. (W.), and our coolies never waited to be told a second time that they might run off.

The snow lasted till 6 o'clock next morning, but only a few inches was left lying on the ground. Gradually the sun dispersed the mist, and we dried our wet things. We had very little hope of the peak, but went on up the glacier for a couple of hours, carrying everything with us. At about 10 o'clock we found a suitable place for another bivouac, deposited our packs, and examined the head of the glacier basin we were now in. We decided that, as we could obtain no satisfactory view of our old enemy Nanda Kot, we would push over the Poñting Pass on the morrow. Our altitude was again 15,350 ft. (W.), and to complete the similarity to our previous day's experience we had 5 hrs. of light wetting snow.

June 18 broke clear, and we were off before 3 A.M. We

crossed some two miles of comparatively level glacier, and climbed slowly on and on up easy snow-slopes. About sunrise we had a magnificent view of Nanda Kot, and our heavy packs gave us numerous opportunities of turning round and examining it. I was carrying about 30 lbs., and found that my pack made an excellent back rest when sitting down. The men carried double, and for once did not hurry me. Thus in a leisurely manner we reached the pass, just 18,000 ft. (W.), at 8 A.M. Nanda Kot was magnificent, but we thought quite impracticable from this side. The pass at the head of the valley over to the Pindari glacier looked feasible. To the east was a chaos of snow-peaks beyond counting, stretching away to Nepal, but far too beautiful for me to describe.

At our feet the Poñting glacier fell away, disappearing from sight in an ominous fashion. The map indicated an uninterrupted sweep of glacier, but it is doubtful if any European had actually seen this glacier before. We found below us a range of cliffs cutting diagonally across the névé. A crevassed shelf of snow enabled us to pass this obstruction. But at 10.40 we were again brought to a sudden stop by a second and very precipitous line of cliffs which appeared to stretch right across the breadth of the glacier. Directly below us was a snow couloir, long and steep, and obviously the resort of falling stones and avalanches from the cliffs immediately to the N.E. of where we stood. To add to our troubles clouds were forming thickly on this side of the range. After a short rest we decided to work across in a south-westerly direction up and along the top of this second great step. Up and down we went, constantly getting a short way down the cliffs, only to be forced back again by their steepness. It would be tedious to detail our attempts. We were always harassed by wet falling snow and mist. But even if we had to spend the night where we were we had our tent and sleeping-bags. At 5.30 P.M. Henri hit off the head of a snow couloir, which certainly led downwards. Into it we plunged, descending backwards into seething grey mist. At length we saw avalanche débris below us, and soon after found ourselves on comparatively level névé. We raced across this dangerous plateau in the gathering darkness, only to find ourselves cut off from the lower glacier by a third range of cliffs. Somehow or other we got down the worst of this before the darkness stopped us in a dismal couloir. We lit our lanterns and went on again, soon to find ourselves safely on the lower glacier. At 9.15 P.M. we were able to leave this by the left lateral moraine, and soon came to a patch of grass. I foolishly

refused to move a step further, so we pitched the Mummery tent and crawled into our sleeping-bags, though, as the men rightly said, we should have been much more comfortable further on. Next morning we found that we were only a few minutes from the snout of the glacier, and at an altitude of 11,600 ft. (W.) The valley below was a great contrast to those we had left on the northern side of the chain; groves of tree rhododendrons and silver birches, full of flowers, led us down through a forest of pine and cedar to a little pasture, from whence a shepherd fled in terror at sight of us. In time we reached our camp at Baughdiar, to encounter the first breaking of the monsoon. My Watkin gave the altitude as 7,950 ft., which is well under the mark.

As Sherring had now obtained leave from the Indian Government for me to accompany him to Tibet, we had to hurry down from the snows through the dripping tropical forests of the lower Gori to meet him at Askot. Leaving this place on June 29, we followed the celebrated track cut in the cliffs above the Kali river to Garbyang, which was reached on July 8. The Kali forms the frontier between Nepal and British India, but owing to the monsoon we never caught a glimpse of Api or Nampa during the whole march, though seven months later I saw this group when crossing the Terai at a distance of over a hundred miles.

Sherring having a good many things to attend to at this, the last village in our territory, I decided to enter Nepal and have a look at the Nampa glaciers, visited by Savage Landor in 1899.

With the friendly aid of Pundit Gobaria,* the great trader, I was fortunately able to get hold of Linka and Gobria, who had accompanied Landor throughout his expedition. Dhola was at Taklakot, and the fourth one was dead. Sherring could only give us three days, so I took nine coolies, in order that we might travel fast. We crossed the Kali just above Garbyang, and shortly afterwards the Tinker and Nampa streams, following a faint track along the left bank of the latter. Then on through beautiful pine woods and over two big grass meadows, till we came to a torrent flowing from the glacier on the north slope of the peak, marked 19,919 ft. in the G.T.S., which gave us some trouble to cross.

While we were having lunch we were overtaken by two Nepalese frontier guards, who had seen us cross the Kali, and

* Since made a Rai Sahib. He is the most influential British subject in this part of Tibet.

who insisted that we must go back at once; but by the exercise of a little diplomacy we managed to override their resistance. Passing Landor's first camp we found the double-tongued Elfrida Landor glacier in front of us. The first tongue was stone-covered, then came a very old moraine area, now dotted over with big silver birches, followed by another and larger tongue of ice, considerably crevassed. I can only explain the formation by supposing that after the old tree-covered terminal moraine was formed the glacier began to advance again, and that the advancing end of the glacier was split into two tongues by the wedge-like opposition of the moraine. Beyond the second arm of ice a short steep descent led down to a little grassy maidan with a small empty stone hut on it. Landor gives the height as 13,200 ft. My Watkin gave it as 12,680. It was 4 o'clock, so we decided to camp in this delightful spot. Our coolies were a very musical lot. One of the best of them, who appeared to be a lunatic, owned a mouth-organ, while another took possession of a pair of pipes I had picked up, and seated round a big fire we spent a very merry evening.

Next morning we started at 6 with Linka, Gobia and two other coolies, prepared to sleep out if necessary. Getting on to the Charles Landor (or Great Nampa) glacier, near its point of junction with the Armida Landor glacier, we had a beautiful view of Nampa (23,352 ft.) at the head of the latter glacier. I supposed that Landor when he wrote of Lumpa had meant this peak, although the natives apply the name Nampa to the whole range. However, Linka and Gobia insisted on going straight on up the main ice-stream. At 8.15 we reached the camping place from which Landor started on his climb. His tent platform and the shelter his coolies made were still visible. The altitude was 13,600 ft. according to my Watkin. Leaving this camp some time after 5 A.M., he states that he ascended a peak of 23,490 ft., returning to the same camp at 6 P.M.

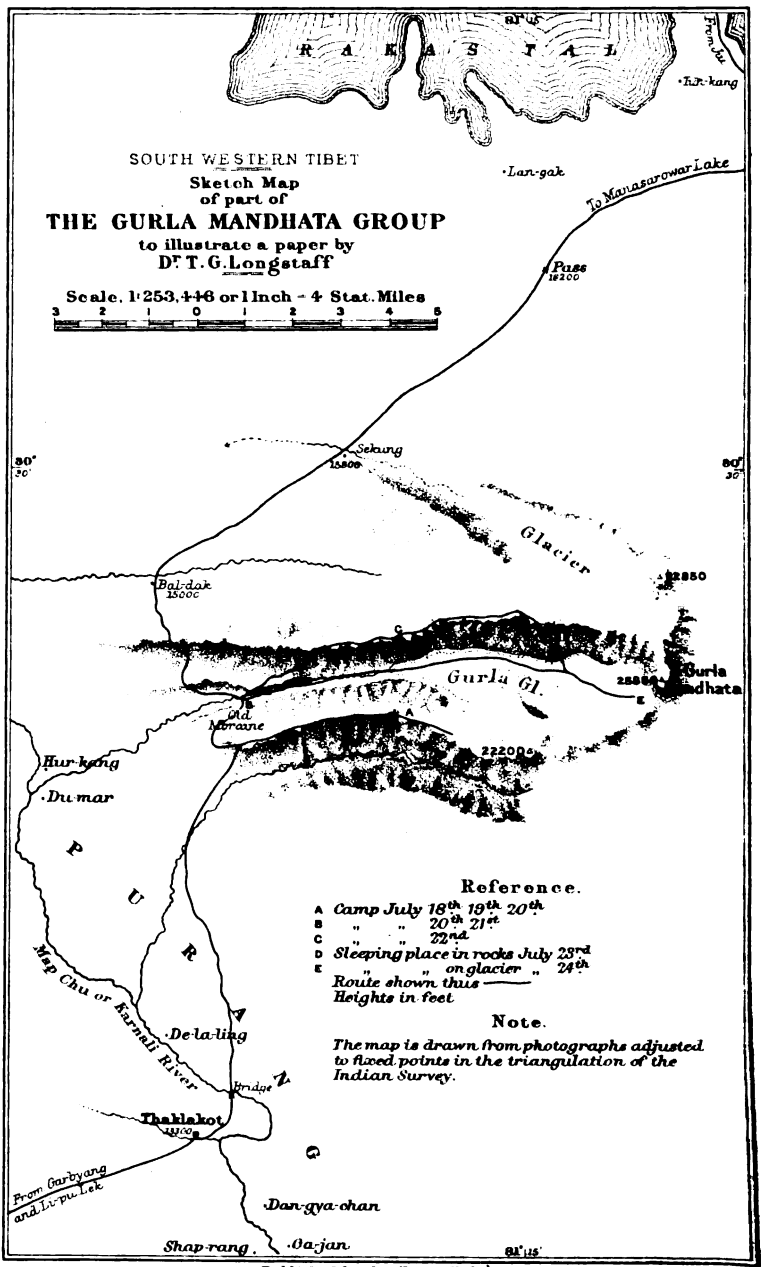
We left Landor's last camp at 8.45 A.M. and continued our way up the main glacier, finally taking to the left lateral moraine. We had now reached the upper basin of the main ice-stream (Charles Landor glacier), one arm of which extended some distance in a south-easterly direction. Without a moment's hesitation Linka and Gobia turned off into this bay, and soon took to the moraines and stone slopes forming its left bank. The altitude of the glacier was here 15,200 ft. (Watkin.) A short distance further on I took a photograph of Landor's Savage Pass with his two stone-men on the top

of it, the Watkin giving a reading of just 100 feet higher. The time was 11 A.M. I mention this because the barometer was dropped and smashed at this point, a loss which I felt severely during the whole of my subsequent journey in Tibet. I fear that my remarks were frequent and painful and free; but since then I have washed in the waters of Mansarowar, and the sins which I have committed, and which I am going to commit, have been forgiven me.

Immediately above on the right was a long peaked ridge, running down towards us in a north-westerly direction from the main watershed; and following the advice of the Bhotias we began to mount this diagonally by a very tiring slope of loose stones, interspersed further on with patches of snow. After about an hour of this work Gobria pointed to a notch in the ridge above us and said that that was our road. I was rather mystified, but there was nothing to do but trust him. The last two or three hundred feet were composed of a slope of loose stones constantly rolling over as we moved; this bit was certainly extremely fatiguing, and everyone of the party sat down to rest pretty frequently. Thus it was not until 1.35 P.M. that we stood in the notch. I doubt if the altitude was over 16,500 ft., because by making use of several glissades we only took 25 minutes to regain the point where the barometer was smashed at 15,300 ft., and some distance down the glacier.

From the notch the ridge rose steeply towards the south into a beautiful peak. It must be between 18,000 and 19,000 ft. in height. There would be a lot of step-cutting, I thought, and I had already decided in my own mind to leave the Bhotias behind. The latter had meanwhile climbed up some 50 ft. of rock on the N. side of the col, and were calling me to come to them. On reaching them they showed me two large cairns very much the worse for wear, on one of which they said a stone had been placed with their names scratched on it. They pointed out where it had been placed six years before, at the top of the nearest of the two cairns, but we could not find it. Very likely it had been blown away from this exposed spot. They persisted that neither they nor anyone else had been any higher. It was obvious that at the time of our visit there was no mountain approaching 23,490 ft. anywhere near this spot, so I thought that we had gone high enough too.

We stayed up here for over an hour, admiring Nampa, some five miles away, and the wonderful array of glaciers below us, while the coolies slept after smoking all the cigarettes I would give them.



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At 2.40 we left the cairns. At 3.5 we regained the point 15,300 ft. ; at 4.45 we reached Landor's camp, and at 7 P.M. our own, having gone as fast as possible the whole time. Next day we returned to Garbyang. Three days later we crossed the Lipu Lekh (16,780 ft.) with Sherring into Tibet, reaching Taklakot (or Purang) on July 15. We made this village our base for the attack of Gurla Mandhata.

Gurla Mandhata, or Memo-Nam-Nyimri, or Nimo-Numgyl, is the name applied to a group of snow-clad peaks, the highest of which attains, according to the G.T.S., an altitude of 25,350 ft.* Though lying close to the north-western corner of Nepal and the Kumaon frontier, it is situated wholly in Tibet, and is probably the highest mountain lying entirely within the limits of that country. So far as I am aware no previous attempt has been made to ascend it, or even to explore its numerous glaciers, the reason being doubtless the political rather than the physical difficulties of access.

I left Taklakot (13,300 ft.) on July 18 with Alexis, Henri, and six Bhotia coolies, who had come with us over the Lipu Lekh from Garbyang. We followed the track across the Karnali, and past the tomb of Zarawar Singh, whose army was annihilated near here in 1841, to the foot of a great buttress on the western side of the mountain. As we had never yet had a clear view of the group, and had never seen its highest peak at all, the choice of this particular buttress was mere guess-work.

We began the ascent of the buttress (*vide* sketch map) at midday, and toiled up steep and apparently interminable stone slopes till 6 o'clock, a herd of wild sheep (burrhel) keeping easily ahead of us the whole distance.† By this time I believe we had reached an altitude of at least 18,000 ft., and probably higher, for on the southern slopes the level of permanent snow seems to be nearly 19,000 ft. It had been a perfectly easy walk, and I was not carrying a load; nevertheless I was suffering from severe headache. The fact that

* On the map illustrating Captain Rawling's paper, and published in the *Geographical Journal* for October 1905 (vol. xxvi., No. 4), the height is given as 25,850 ft., but I think the 8 is a misprint for a 3.

† Graham christened A₂₁, 'Mount Monal,' because of the number of those beautiful pheasants (monal) that he saw on it. Of course he did not mean that he saw them on the top (22,516 ft.); nevertheless this is still a stock argument against his veracity. I hope I shall escape a similar fate when mentioning the presence of game at high altitudes.

I had had nothing to drink since leaving Taklakot early in the morning probably partly accounted for my sufferings. The guides did not suffer any inconvenience from the altitude, but our six coolies straggled in all more or less affected with headache or breathlessness. They were immensely relieved when told they might leave us and spend the night and the next two days at the foot of the mountain.

Our Mummery tent was quickly pitched, and in spite of the glorious sunset I at once crawled into my sleeping-bag to rest, without joining the guides at their supper. The night was fine and cold; but in the morning, July 19, the clouds were down on the ridge above us, so, as I still felt unwell, we decided that it was no good making a start, and that I had better have a day's rest. And a glorious day it was. Clouds hid the snows above us and also the great peaks of Nepal and Kumaon, but, more than 100 miles to the W., Kamet (25,443 ft.) was visible from base to summit, a mighty cone keeping guard over the Niti Pass into Garhwal. Below a great plain, with rounded hills rising from it, extended westward as far as the eye could reach, bounded on the N. by the Kailas peaks, and in the far N.W. by the Gangri range, partially snow-clad on their northern slopes, separating the sources of the Indus from the valley of the Sutlej.

I boiled a thermometer (Hick's), lent to Sherring by the Superintendent of the Trigonometrical Survey, and found that snow-water boiled at 169° to 170° F., indicating an altitude of 23,000 ft. But we were certainly not as high by at least 3,000 ft. Similarly at our bivouac of July 22 melted snow boiled at 165° F., indicating an altitude of 25,400 ft.—a still more absurd result, for the summit of Gurla is only 25,350 ft. above sea-level by triangulation. Of course I am aware that my methods were very crude, and that these observations are quite unreliable.

During the forenoon the two guides made a short reconnaissance up the first snow dome on our ridge, but the clouds prevented them from seeing where they were, and thus unwittingly we lost another day.

Next morning (July 20) we roused up soon after midnight, but making tea at this altitude is such slow work that we did not get off till 2 o'clock. Slowly, in spite of the cold (see page 256), we climbed the last stone slope; then the rope and crampons were put on, and we began the ascent of a steep dome of snow. After turning a few crevasses we worked over towards the N., and suddenly had a glimpse of Rakas Tal, far below us, though Mansarowar itself was hidden by another

Let



great shoulder of the peak on which we stood. There was a grand moon to light us, and we had no need of our lanterns. The dawn came by almost imperceptible degrees, and the moon-shadows melted from the valleys slowly, until suddenly one of the great peaks of Nepal caught the first rays of the sun. It lay far away to the S.E., seeming to overtop all its neighbours; by its bearing it must have been Dhaolagiri (26,826 ft.), 180 miles away.

A great disappointment awaited us on reaching the top of the ridge. We saw that the peak we were making for was not the highest one of the group, but evidently that marked 22,200 ft. on the map. Opposite to us, across a deep chasm down which flowed a beautiful white glacier,* was another great ridge leading up to the true summit. There were two possible routes to the top—one by the Gurla glacier, below us, and the other by the ridge just mentioned. I favoured the latter route for several reasons. It would obviously be practicable to take coolies up to 20,000 ft. on it, and make a bivouac on a patch of rocks amongst the lowest snow-fields; on the ridge there would be no danger of avalanches or falling stones; it looked fairly easy; and, lastly, I thought that we should find it less oppressive than toiling among the séracs and crevasses of the glacier below. However, in justice to Alexis, it must be recorded that he favoured the other route.

There was nothing for it but to turn back, so we descended to our bivouac and had some food. Our camp and stores were packed up, and down we went, the guides very heavily loaded, to rejoin the coolies waiting for us below. Soon after starting I had a shot at a fair ram, but the effort of holding my breath was too great for steadiness.

Near the foot of the ridge we met the coolies, and gave up our loads with no great regret. The two guides returned to Sherring at Taklakot with three coolies for more petroleum and provisions, while I went on with the other three and made a camp (about 15,400 ft.) in a very well sheltered corner under some rocks, by the side of the stream flowing down from the Gurla glacier, and close to an old moraine. On the way I managed to knock over a couple of hares and a goa, that curious broad-muzzled gazelle of Tibet.

That night I had a grand 12 hours' sleep with the Mummery tent all to myself, and spent the next day very pleasantly in doing nothing. The guides got in about 3 o'clock,

* As this is one of the largest and most important glaciers of the group, I propose to call it the Gurla glacier.

after a very long tramp from Taklakot, and almost immediately started off after a herd of burrhel that were grazing on the slopes above our bivouac; more successful than I, they succeeded in bringing back a most acceptable supply of fresh meat at nightfall.

At 8 o'clock next morning, July 22, we started off with five of the coolies, and tramped up a ridge, very similar to the first one we had attacked, till half-past 3 in the afternoon, when we reached the first patch of snow from which we could get water, which is very scarce on this mountain. As before I had a headache, but the views on the way up almost reconciled me to it. Kamet, with its attendant peaks, was again magnificent, and we could distinctly make out the Sutlej, running westward through the Tibetan highlands on its way to the plains of the Panjab through the mountains of Bashahr.

As usual we sent the coolies down, this time with orders not to expect us back for two or even three days; as a matter of fact we were not to see them again for five. This bivouac was a very high one: our altitude must have been nearly 20,000 ft. However, we did not feel the cold severely, at any rate not nearly so much as during the night we spent at 19,000 ft. on Nanda Devi. I suppose because the atmosphere is so much drier in Tibet. But I still felt unwell, and consequently we did not get under way till nearly 5 o'clock on the morning of July 23.

The snow was in good condition and the ridge quite easy, but it proved to be much longer than we expected. We had left our tent, sleeping-bags, and most of our kit at the bivouac, carrying only two days' food and a few extra clothes, and thus lightly laden seemed to be making good progress. Moreover I felt and walked better as the day wore on. At 2 o'clock we reached a point about 23,000 ft. above sea-level: from it we looked right over the top of the sharp peak marked 22,200 ft. on the map, and which lay on the further side of the Gurla glacier. In front of us a steep descent led down to a gap in the ridge, from which again rose the final arête leading to the summit, still a long way off. The afternoon clouds were already gathering in a threatening manner, and a lively discussion arose as to what we should do next. If we went on we should have to spend a night on the exposed ridge, probably at an altitude of 24,000 ft., with no wraps except our gloves and jerseys. Henri suggested descending into the gap and passing the night in a hole in the snow. Alexis and I, however, thought it would be much

wiser to descend the southern slope of our ridge, and spend the night among some rocks which we could see standing up out of the snow-slopes below us, finishing the ascent next day, as we fondly hoped, by the Gurla glacier and the southern ridge of the peak.

We reached the gap about 3 P.M., and started to descend the slope, moving with the usual precautions. At first all went well, and we got down 300 or 400 ft. I had let down Alexis the full length of his rope, while Henri steadied me from above; just as I turned to take in the slack of Henri's rope I heard a sharp hissing sound above me; Henri, lying flat and trying hard to stop himself, came down on the top of me and swept me from my hold. As I shot down past Alexis I felt his hand close on the back of my coat, and we went down together. The sensation was a very curious one. The mind seemed quite clear, but curious as to the end rather than terrified. I found myself taking a dispassionately quiet and detached view of our proceedings. Time seemed annihilated, so slowly did thoughts appear to pass through the mind during the very short time we were falling. The glacier below, with the rocks just above it, seemed to be rushing up towards us at an incredible pace, just as the engine of an on-coming train grows bigger and bigger each instant as it approaches. I distinctly remember throwing off my snow-spectacles for fear that I should damage my eyes when we reached the rocks!

After what seemed an age I heard Alexis shouting, 'A droite, à droite!' I knew he was somewhere to the right of me, and was trying to get us into safety. He had seen a gully filled with snow, down which he hoped we might slide in safety past the first rocks on to a large snow-bed far below. However, I could do nothing but try and keep on the surface of the avalanche. Then somehow I got turned round with my head downwards, and saw a few yards off a ledge of rocks with a drop on the far side; I seemed to rise on a wave of snow and dropped over a low cliff, with Henri mixed up in my part of the rope. We were, of course, on moving snow, and we fell on to moving snow, so our pace was only slightly checked, and we hardly felt the shock of the fall. On we went with the rope round my neck this time; but it was easy to untwist it. Then came a longer drop, which I thought must be the last from my point of view. The next thing I remember was that suddenly, to my intense surprise, the rope tightened round my chest, stopping me with a jerk which squeezed all the breath out of my body. The avalanche had

spread out, and stopped of its own accord on a somewhat gentler slope of soft snow. Henri was half buried above me, and Alexis was away to the right. I suppose that, being much lighter than either of them, I had been able to keep more on the surface of the avalanche, and so rolled on further. Both the guides lay quite still. The rope was so painfully tight that I cut it. I called to Alexis, who replied in an injured tone, 'Why have you cut the rope?' It was a silk one, and we had always been very careful with it. Then I started up towards Henri, who had not moved. However he was merely more breathless than the rest of us.

By this time the reaction had set in, and my knees were fairly knocking together. We crawled to the nearest rocks to take stock of the damage. Alexis was quite unhurt; Henri and I had only a few cuts and grazes. We had all three lost our topis and ice-axes, and the two men had each broken a crampon. We must have fallen about 1,000 ft., and we fully realised what a miraculous escape we had had. I think we were to blame in having ventured to descend any steep Himalayan snow-slope after the sun had been on it all day.

The men very pluckily started up again to recover the ice-axes, whilst I cautiously descended the rest of the slope towards the rocks where we intended to spend the night. On the way down I recovered one of the topis; of the others there was no trace. After a little search I found a small platform of rock, half overhung by a big boulder, and built a low stone wall round one side to keep the wind off. The men came down about 8 o'clock, having recovered all three ice-axes—a very fine performance on their part. We put on what few spare clothes we had with us, and curled up for the night. However, sleep would not come to me, and, worse still, I had very little tobacco!

In the morning (July 24) we found that we had several rock gullies to descend before we could take to the glacier, and as we spent some time looking for our hats we did not start upwards again till half-past 6, when we took to the upper part of the Gurla glacier. Soon we began to feel the power of the sun, and Alexis most generously insisted on my wearing his topi, he and his brother wrapping jerseys and handkerchiefs round their heads. The glacier was much crevassed, but fairly easy when taken in big zigzags, and the snow was hard. We tramped along as fast as we could, and seemed to make height rapidly, but the heat in the hollow of the glacier was most oppressive, and at two o'clock Alexis

collapsed with a sun-headache. We put him into the shade of a small sérac, and told him to try and get some sleep. It was very hard luck on him, and most unfortunate for our climb; we quite thought that we could reach the top of the peak and get down the short steep bit just below it before nightfall, finishing the descent by lantern light. But Alexis was too ill to go back alone, and we did not like to leave him to wait for us in such a condition. Henri immediately set about making a hole in the snow for us to sleep in. He is a great believer in this mode of spending the night; but then he never feels either cold or fatigue. I tried to help, but found the work was too heavy for me at that altitude, which I personally think was at least 23,000 ft. (see page 256). Henri soon had his cave ready, and we all crawled in out of the sun and had a good rest.

Our food was nearly finished, and as we none of us had much appetite dinner was dispensed with. At night I wrapped my puttis round my feet, coiled down the rope on the cold floor, and hoped that the roof would not fall in upon us. I dreamt that Sherring had sent a square khaki-coloured water-cart, full of warm wraps, up the glacier to us. However when it arrived it contained only Jaeger stockings, and the driver, in spite of my violent abuse, insisted that we were only entitled to one pair each. Hence I was so cold that I roused up the men about 2 A.M. on the 25th.

After a very modest breakfast we started off by lantern light at 2.30, threading our way up an icefall among big crevasses. After about an hour's climbing we were stopped by a crevasse with an overhanging wall of ice on the far side. We tried to get across in two places, but it was soon evident that we must wait for daylight to find some way round it. I got colder and colder, and indeed felt quite incapable of climbing another step. Want of sleep and food, I think, were responsible for my condition rather than the altitude.

Henri urged me to persevere. 'If you turn back now and do not finish the ascent, you will regret it very much when you get down into the valley,' said he. The natural retort was that if I did not turn back at once I never should get down into the valley. The guides both insisted that we were only 300 mètres from the summit, which certainly seemed to be within easy reach the day before. Personally, I think that we were at least 1,500 ft. from the top, and therefore less than 24,000 ft. above sea-level, but, as I have already mentioned, my barometer was broken and my attempts at boiling the thermometer had been a fiasco, so that all we had

to go upon was a comparison of the triangulated peaks around us. It really does not matter what the exact altitude was : even if we had known it it would not have altered the fact that we were beaten—at least I was.

And so at 4 o'clock we turned downwards. For men in good condition it would have been easy to complete the ascent, for the mountain is not really a difficult one by this route. But we had been climbing for two days on short commons, and had spent two nights without any proper covering. I was utterly exhausted, and Alexis, not yet recovered from his headache, was in little better case. For Henri it must be said that he was not only willing to go on, but very much disappointed at my refusal to do so. I quite believe that had I allowed it he would have gone to the top alone. The altitude appeared to have no effect whatever on him.

In three hours we quitted the Gurla glacier and took to the commencement of the moraine high up on its right bank, the dry glacier being much too rough to follow. Here we finished our last scraps of food and had a couple of hours' sleep. Then down over endless moraine, and still downwards beside the absurdly small glacier stream,* till at 4 o'clock in the afternoon we reached our camping place of the 21st. Here we expected to find our coolies, but they were nowhere to be seen, and as our camp, with food and rifles, was some four or five thousand feet above us on the great western spur, we pushed on to Baldak, and thence to Sekung, another camping place, which we reached at half-past 9 that night, thinking all the time what we would order for dinner when we got there! Unfortunately there had been a misunderstanding as to where our camp was to wait, and it was not until four days later that we rejoined it, by which time I was so knocked up that I didn't feel well enough to try Gurla again, or to tackle Kailas, which we passed a week later.

We had spent a week on the mountain, and after a good deal of hardship had only succeeded in finding the proper route. But I hope it will not be long before some other party tries it. I honestly feel sure they will succeed, and that they need only spend one night in the snow if they take it from the Gurla glacier, as I ought to have done in the first instance.

* Probably due to direct evaporation from the surface of the ice in this very dry climate. This would also account for the extreme roughness of the glacier as soon as it loses its covering of snow.

I wish that I could tell you of our journey in Tibet, with its huge skies and wonderful double sunsets; but there is no time this evening.* We crossed the disputed but very well-marked channel between Rakas Tal and Mansarowar, a very fine photograph of which Sherring is publishing in his forthcoming book, and continued along the Gartok road, past Kailas to Missar. Here I separated with great regret from Sherring, who had to go to Gartok, and made my way to Gyanema, and then westward to Shipchilum, which I reached in about three weeks. Another week saw us over the Sheshell (16,300 ft.) and Chorhoti (18,500 ft.) passes into British Garhwal.

It was now September, and I was still anxious to try Trisul from the S., so I hurried down through Garhwal amidst most wonderful scenery to Gwaldam, the home of Mr. Robert Nash and his wife. I cannot express what a pleasure it was to meet them after so long an absence from civilisation, and how much we appreciated their hospitality.

In this beautiful spot, straight opposite Trisul and less than 30 miles from its summit, we waited nearly a fortnight for the monsoon to clear away. The snows were generally hidden by rain clouds in the afternoons, though there was little heavy rain at Gwaldam itself. The sunsets at this season are glorious, and the mornings were often quite fine.

At last, in desperation, we set off on September 26. I have said that the distance to the top of Trisul was less than 30 miles as the crow flies. Yet so difficult is the country that it took us just a week to get our light camp up to the highest point of the Kurumtoli† moraine, to which our coolies could carry it. Here, just at the point where the Kurumtoli glacier takes a sharp turn to the S.W., we had our first view of the head of this valley, and realised that all our hopes were founded on an error in the map. The Kurumtoli glacier rises from the slopes of the middle peak of Trisul, and from this peak, and not from the northern and highest summit, runs the watershed, nearly in a straight line eastward to the peak 22,490 ft. of the G.T.S.

Further the glacier, which is shown flowing into the

* Anyone interested in this part of Tibet should read the papers of the brothers Strachey, which contain what is still the best description of the country (see page 256).

† The Garhwalis give this name to a glacier on the western flank of Trisul, because there is a *kharak* of that name there, but the G.T.S. has adopted it for that from which the Kailganga rises.

Kurumtoli from the E., does not enter the same valley at all, but whether it flows N. into the valley of the Rishi Gunga, or S.E. into the Sukeram glacier, I could not see. From the point of view of the Indian Government there would be no object in sending a member of the survey up here; in fact, it appears certain that no one before us went on to the upper Kurumtoli glacier, so naturally the map is unreliable.

Starting from our bivouac at 6 o'clock (October 3), on what we realised was to be our last day among the snows, we made rapid progress up easy, dry glacier till we came to the icefall that runs right across from side to side of this narrow death-trap of a valley. The two lower peaks of Trisul were most efficiently armed with masses of snow and ice poised ready to fall, and obviously capable of raking the narrow glacier from side to side. Without entering into more detail I will be rash, and take the responsibility of saying that Trisul is impracticable from the S., and probably from the W. too. I believe that it can only be attacked from the Rishi Valley, a gorge which it is almost impossible to ascend directly.

We returned to Naini Tal on October 14, and a few days later I said good-bye to Alexis and Henri. More courageous guides and better travelling companions in fair weather and foul weather, in fat times and in lean times, I am never likely to meet. It was only through ignorance that they abetted a cousin with a turn for literature in publishing some of my photographs and an account of the trip, which certainly did credit to his imagination, in 'L' *Illustrazione Italiana* and 'Le Monde Illustré.'

As a postscript I will add that I spent the next month in camp among the Hazara hills, getting some fine views of the Khagan peaks, Nanga Parbat, and the snows of Kobistan. Towards the end of November I saw the hills of Tirah and Waziristan from the Samana Tsuk, and spent several days at Parachinar, at the foot of the Safed Koh, making an excursion to the Peiwar Kotal; while at the beginning of February of this year I went out to Sandukphu to have a look at Kinchinjanga, Kabru, and Everest.

After the conclusion of the paper the following note from Mr. Douglas Freshfield was read:—

'I very much regret that I cannot be present to join in the discussion of Dr. Longstaff's important paper, and to congratulate him on the success he has attained, both in explorations of exceptional interest and in adding to the material for the inquiry

into the effects of altitude on the human frame. I have ventured to put on paper some of the remarks I might have made.

'First, with regard to altitude and the ascent of Kabru. In the February "Alpine Journal" Dr. Hunter Workman comments on Mr. Graham's statements with regard to the heights reached in the Himalaya. His scepticism is, I think, unreasonable, and that because the fact that human beings not of any exceptional strength and activity can climb over 29,000 ft. has been abundantly proved by Dr. Workman's own party. The three climbers of Kabru were exceptionally active mountaineers.

'Dr. Workman adds that "prominent members of the Indian Survey," and also Colonel Waddell, have expressed their disbelief in these ascents. Colonel Waddell is a high authority on Tibetan antiquities; he is none whatever on "Mountaineering," in the sense in which the word is used in this Club. The members of the Survey expressed at the time their reasons for doubting, and I dealt with them very fully in this "Journal" (vol. xii. pp. 99 foll.). Residents, official or otherwise, are a very sceptical class as to anything in the country they inhabit they have not done or seen themselves. In Uganda, for example, last autumn I was frequently assured that Sir H. Johnston's Okapi was a fraud, and that he had been taken in by a clever skin-mounter. It is particularly rash for any Himalayan mountaineer to cite local opinion. Mr. Graham's are not the only ascents it has hesitated to credit, nor is he the only climber it has criticised.

'Dr. Workman's comparison of Kabru to "three sharp rock needles" on the Bialfo Glacier is quite beside the mark. We saw Kabru as a traveller who goes from the Col de Balme to the Bonhomme and climbs the Brevent sees Mont Blanc. There are no doubt dangers and there may be difficulties in its ascent, but it is not an inaccessible mountain.

'I should like to add that the remarks on Watkin Aneroids by Dr. Workman in the same number of the "Alpine Journal" seem to many of us unduly depreciatory. This is my own impression, and it has been confirmed on inquiry at the Geographical Society.

'With regard to the general problem of reaching the highest altitude on mountains, I hold that no satisfactory trial can be made until efficient portage over 20,000 ft. has been provided. This, in my opinion, involves one of two things—the use of a company of mountain-born natives, disciplined, properly clad and shod for snow-work, previously practised in high ascents, and acting under a European they both know and trust, or the services of sufficient Alpine porters. The latter, of course, means considerable cost, which might, but is hardly likely to be, met by the Indian Government, or rather the India Office, which at present controls closely every item of extraordinary expenditure, and has little sympathy for geography, science, or adventure. It is not impossible, however, that (as for the Arctic and Antarctic regions) some wealthy man might be found willing to contribute largely to an expedition carefully organised under competent leaders. The first

essay might prudently be confined to 25,000 ft. For this the district visited by Dr. Longstaff may prove to have climatic advantages; for climate, unfortunately, is a most formidable foe in the Himalaya as well as in Uganda.'

IN MEMORIAM.

GEORGE EDWARD FOSTER.

AMONG the losses which the Alpine Club has sustained of late, few, I think, will be more generally regretted than that of Mr. G. E. Foster of Brooklands, Cambridge, who died on April 9, in his 66th year. Owing to ill-health Foster had to give up climbing sooner than his friends could have wished. He was a constant attendant at our meetings, and at one time a not infrequent contributor to our 'Journal.' The only time I travelled with him was in 1868, and I often think of the pleasant fortnight we had together, of which he wrote an interesting account in the 'Alpine Journal.'* In 1871 Mr. Foster, accompanied by Mr. A. W. Moore, made the first passage of the Tiefenmattenjoch,† and in 1873 the same travellers made a memorable ascent of Mont Blanc, leaving Courmayeur at 12 20 A.M. and reaching Chamonix at 10.40 P.M.‡

Among other notable expeditions made by Mr. Foster, who was regularly accompanied by his favourite guide, Hans Baumann, mention should be made of the first ascents of Mont Collon§ and the Gspaltenhorn,|| and of the ascent of the Jungfrau from the Wengern Alp.¶

Of Mr. Foster himself it is perhaps hardly necessary to say much, as he was so well known to the Alpine Club. His amiability endeared him to all who ever had the pleasure of his company, and will live in their memory coupled with regret that the name of G. E. Foster should no longer appear in the list of members of the Alpine Club.

H. W.

THE ALPINE CLUB ANNUAL PHOTOGRAPHIC EXHIBITION.

THE annual Photographic Exhibition, held in May last at the Alpine Club, fully maintained its high standard of excellence. We should perhaps have liked to see a little more variety in the tones in which the various enlargements were printed. Many of the subjects would, we think, have been improved by being printed in warmer colours. We regretted to notice that the Himalayas, the

* *Alpine Journal*, vol. iv. pp. 365 foll. and vol. v. pp. 145 foll.

† *Ibid.* vol. v. pp. 275 and 321 foll.

‡ *Ibid.* vol. vi. p. 293.

§ *Ibid.* vol. ii. p. 414 and vol. iv. p. 56.

|| *Ibid.* vol. iv. p. 382.

¶ *Ibid.* vol. iv. p. 54.

Caucasus, and the New Zealand Alps were quite unrepresented. Mr. Mumm showed an exceedingly interesting and successful group of views taken during his recent expedition to Ruwenzori. The small picture of a canoe manned by natives was quite delightful. Next to these were hung four splendid representations of South African scenery by Dr. Tempest Anderson. The view of the Zambesi Falls, and another of the grand Batoka Gorge below the Falls, made one realise that Niagara has by no means said the last word in the matter of waterfalls. The Rev. Walter Weston and his wife sent a delightful series of views taken in the Southern Japanese Alps, amongst which we noticed especially 'The Sacred Gateway to the Mountains,' a charming little picture, and a view from Kaigane with a remarkable cloud effect. The frame of five small prints by T. Enammi was also of great interest. Three characteristic photographs by the Misses Longstaff were the only representatives of the Canadian Rockies. Corsican mountain scenery has, if we mistake not, been rarely shown at these exhibitions, and the two fine enlargements by Mr. V. H. Gatty may perhaps induce some of our members to turn their attention to that romantic island.

With the exception of two views in the Snowdon district the remaining space on the walls was occupied by the Alps.

A noticeable feature of the exhibition was the very large number of exhibits shown by ladies. 'A Study of Ice, Märjelen See,' by Miss Arkle, was quite one of the best things in the room. The delicate transparency of the ice was conveyed with extraordinary truth, and the composition and lighting of the whole picture were conspicuously successful. Miss Edna Walter is evidently an experienced photographer. 'The Head of the Blümlisalp Glacier' and 'The Blümlisalp Glacier' were both excellent, although we think that the latter would have been still more effective in a green tint. Miss Beatrice Taylor's three exhibits were all very good. 'A Wayside Shrine on the Sellajoch' made a very pretty and artistic picture. Miss K. L. Longstaff's 'Sunrise from the Bertol Hut' was an admirable study of sunlight on snow and altogether pleasing as a picture. Miss Venables' work showed the softness by which it is usually distinguished, while the life-like portrait of Monsieur Loppé must have given great pleasure to his many friends. Mrs. Aubrey Le Blond sent a frame of 'Alpine Winter Sports,' needless to say perfect in technique and finish, and of great interest to winter visitors to the Alps.

Miss Blandy's 'Guardian of Mont Blanc' was most effective and very typical of the district. Miss Dorothy Pickford displayed great artistic feeling in 'Moonlight and Cloud on the Binnthal.' Miss Maclay, Miss Field, Miss Dey and Miss Cochran all showed work of interest. The foreground in 'A Glacier Lake on the Gorner Glacier,' by Miss Cochran, was very curious and interesting, although perhaps not quite correct from the artistic point of view.

One of the best exhibits in the room was sent by Mr. J. P. Somers in his 'Panorama from the Rimpfischhorn,' a singularly

fine study of clouds, snow and sunshine, printed in a very happily chosen tone of colour. Perhaps equally successful were Mr. Staffurth's 'Monte Rosa from the Weisshorn Hut,' a really beautiful picture of banks of cloud rolling round the mountain; Mr. Donkin's exquisitely delicate 'Weisshorn from the North,' quite a little gem; an extraordinarily beautiful telephotograph of the Weisshorn by Mr. Reginald Nevill; Dr. Williamson's 'Summit Ridge of the Lauterbrunnen Breithorn,' remarkable for good lighting and composition; and also 'Thun,' by Mr. Northall-Laurie, technically perfect and delightfully soft in tone.

Mr. Holmes and Mr. Woolley have long been recognised as masters of the photographic art. Of the four enlargements sent by Mr. Holmes, we like best 'The Mont Blanc Range' and 'Mont Collon.' In the latter the grouping of the trees was very artistic. Mr. Woolley gave us a very beautiful winter scene in the Chamonix Valley, showing the Dru standing out against banks of cloud swirling round the Aiguille Verte. This was his only exhibit. Why does not Mr. Woolley let us see more of his work at these exhibitions?

Mr. S. Spencer, as usual, sent excellent work, his subjects ranging in variety from the peaceful beauty of the Silent Pool at Saas Fee, with its exquisite reflections, to the impressive wildness of the Troldfjordvand—a typical Norwegian mountain lake hidden away at the bottom of an amphitheatre of ice-worn rocks.

The 'View from Saas Fee' was admirable in composition, the foreground being quite exceptionally good; but the most striking of the series was the remarkable 'View from the Büttlassen of the Jungfrau,' Mönch and Eiger soaring above fleecy clouds which veil the depths of the valleys below. The peaks of the range, from the Jungfrau on the right to the far-off Wetterhorn on the left, receded in pleasing perspective, while the atmospheric effect of distance was rendered most successfully.

Mr. W. H. Gover and Mr. Walford showed views of the Obergabelhorn from the Trifthorn, which were curiously alike and probably taken at about the same hour of the day. Both were excellent. Mr. Walford showed on the same frame two other very good enlargements of views taken from the same mountain. Mr. W. T. Lister's 'View from the Ortler' was an example of successful handling of a very difficult subject in the broad expanses of snow bathed in brilliant sunshine.

Dr. Thurstan Holland and Dr. Atkin Swan both showed work of great merit. Dr. Holland's 'Klein Matterhorn' and 'Breithorn' had fine cloud effects, but might have been sharper in definition. 'The Zermatt Valley,' printed in a warm brown tint, gave a good pictorial effect. He also sent a particularly fine set of slides. Dr. Swan's 'Wellenkuppe and Gabelhorn' displayed good composition, and all his pictures conveyed plenty of atmosphere. Amongst his exhibits was an unusually successful telephotograph of the Rothhorn.

The Rev. W. C. Compton has been most happy in his picture of

'The Lonzahörner.' The background showing the ridge behind the peaks disappearing into banks of cloud was altogether delightful. This is one of the best pictures Mr. Compton has shown us. Mr. W. Withers showed some nice enlargements. 'The Mönch from the Jungfrau' was charming in tone, and 'The Saasgrat' had a fine cloud effect, but wanted greater sharpness of definition.' Mr. T. Withers' 'Ebnefluh' displayed great skill, with a difficult evening effect. Mr. Gunston's 'Above Chamonix' gave us a pretty little study of pastoral life in the Alps.

Mr. Lloyd sent two splendid views of the 'Fünffingerspitze' taken from opposite sides of this remarkable peak.

Mr. Wollaston's exhibits were admirable, especially that showing a somewhat unusual view of the Gabelhörner from the north. Mr. P. A. Thompson's 'Clouds on the Dru' was singularly striking in effect. 'The Zumsteinspitze from the Dufourspitze,' by Mr. Osborne Walker, made a splendid picture, and likewise in a totally different kind of subject did Mr. Garwood's 'Val Piora and Lago Ritom,' both of these being amongst the best exhibits in the room. Mr. Hood chose a fine subject in his 'Mönch and Eiger from the Jungfrau,' but the result was rather hard and flat.

Mr. W. J. Williams showed good work in 'The Gross Glockner from Franz Josef Höhe,' and the prettily framed 'Upper Krimml Fall.'

Mr. Tutton and Mr. Symons showed some delightful small prints well-nigh perfect in technique, but we cannot help thinking that prints of so small a size are rather lost amongst so many enlargements.

There was a marked improvement in the telephotographs. Besides those already mentioned, Mr. Hooper, Mr. Nevill, and Mr. Lister showed remarkably successful examples of a somewhat difficult branch of photography. We should add that Miss Venables and Mr. Gover sent sets of excellent lantern-slides.

THE ALPINE CLUB LIBRARY.

The following additions have been made since April :—

New Books and New Editions. Presented by the Authors or Publishers.

Adam, Julie. *Der Natursinn in der deutschen Dichtung.*

8vo, pp. 232.

Wien u. Leipzig, Braunmüller, 1906. M. 2.40

Quotations from German literature with connecting notes and critical remarks. Many of the quotations show the growth of feeling for mountains.

Bædeker, K. *Südbayern Tirol und Salzburg Ober- und Nieder-Österreich, Steiermark, Kärnten und Krain.* 32. Aufl. Leipzig, Bædeker, 1906. M. 8

8vo, pp. xxiv, 648; maps.

Boegan, E. *Le sorgenti d' Aurisina con appunti sull' idrografia sotterranea e sui fenomeni del Carso.*

Trieste, Caprin, 1906

8vo, pp. 126, ill. Reprinted from *Boll. Soc. alp. d. Giulie*, x, nos 3-6; xi, nos 1-3.

- Bourcart, Dr F. E.** Les lacs alpins suisses. Etude chimique et physique. 4to, pp. 130; ill. Genève, Georg, 1906
- Briançonnais.** Les Hautes-Alpes. Guide illustré du Briançonnais de la Grave au Mont-Viso. Aiguilles, Bourcier, 1906. Fr. 0.50
8vo, pp. 148; ill.
- Camonica.** La Valle Camonica. Guida illustrata. Brescia, Apollonio, 1905. L. 2
8vo, pp. 175; maps, ill.
This is published by the Society "Pro Valle Camonica."
- Caselli, Carlo.** Speleologia (studio delle caverne). Manuali Hoepli. Milano, Hoepli, 1906. L. 1.50
Sm. 8vo, pp. 163.
A complete little handbook, containing history, geology, flora, fauna, list of principal caves, and condensed bibliography.
- Conway, Sir Martin.** No man's land. A history of Spitsbergen from its discovery in 1596 to the beginning of the scientific exploration of the country. Cambridge, at the University Press, 1906. 10/6 nett
Roy. 8vo, pp. xii, 377; map, ill.
- Dellepiane, G.** Guida per escursioni nelle Alpi ed Appennini Liguri. 3za edizione. Pubblicata per cura della Sezione Ligure del C.A.I. (Genova) 1906
8vo, pp. xxxi, 334; maps.
The previous editions were issued in 1892 and 1896.
- Doudou, Ernest.** Exploration Scientifique dans les Cavernes les Abimes et les Trous qui fument de la province de Liège. Liège, Thone [1903]. Fr. 5
8vo, pp. 342; ill.
- Fairbanks, H. W.** The western wonderland. Half-hours in the western United States. 8vo, pp. vi, 302; ill. London, Heath, 1905. 5/
Sierra Nevada, Oregon Glacier, Mountain-building, etc.
- Frankfurter Vereins f. Geographie und Statistik, Jahresbericht des.** 68. u. 69. Jahrgang. 8vo, pp. 226. 1905
This contains résumés of the following, among other, papers read before the Society:—
pp. 126-129: R. Hauthal, Die argentin. Cordilleras de los Andes.
pp. 135-136: J. Pompecky, Hochland v. Bolivia.
pp. 139-142: K. Östreich, Über Talbildung.
pp. 144-147: H. Meyer, Meine Reise a. d. Hochlande v. Ecuador.
pp. 159-161: G. Wegener, Das Hochland v. Tibet.
- Hauthal, R.,** Argentin. Cordilleras; see Frankfurter Ver. f. Geogr.
- Heer, J. C.** Vorarlberg und Liechtenstein. Land und Leute. Illustriert von E. T. Compton, P. Balzer und F. Schrempf. Feldkirch, Unterberger, 1906. M. 3.50
8vo, pp. 194; col. plates.
Delightful coloured plates by E. T. Compton; and numerous small uncoloured illustrations: with full descriptive text by H. C. Heer.
- v. Knebel, Walther.** Höhlenkunde mit Berücksichtigung der Karstphänomene. Die Wissenschaft; 15. Heft. Braunschweig, Vieweg, 1906. M. 5.50
8vo, pp. xvi, 222; ill.
The full treatment of the geological side of speleology here given may best be gathered from a summary of contents;—
Anthropologie, Höhlenbildung, Erosion, Korrosion, Höhlen in Eruptivgesteinen, in Sedimentgesteinen, Höhlengebiete, Vertikalentwässerung, Verkarstung, Karstlandschaft, Grundwasser u. Quellen in Höhlengebieten, Korrosion in Karstgebirgen, Erosion d. Wassers, Morphologie d. Höhlen, Höhlenflüsse, die Vaclusequellen, Grundwasser in Karstgebieten, Submarine Quellen, Entstehung v. Tälern, Kesseltäler, die wichtigsten Höhlengebiete, Halbhöhlen, Meteorologische Verhältnisse in Höhlen, biologischen Verhältnisse, Höhlen als Wohnorte, Kurarbeit in Höhlengebieten, Geschichte d. Höhlenkunde.
- Meyer, Hans,** Ecuador; see Frankfurter Ver. f. Geogr.

Montagu, Mary Wortley. Letters from the Right Honourable Lady Mary Wortley Montagu, 1709 to 1762.

London, Dent; New York, Ditton [1906]. 1/8vo, pp. 551. A vol. of Everyman's Library.

These letters are here chiefly of negative value, of interest for what is not said. The writer was a brilliant observer, but though a great traveller, one who crossed the Alps several times, all she has to say of them is, in letters dated September 12 and 23, 1718;—"I intend to set out to-morrow, and to pass those dreadful Alps, so much talked of. . . . The next day we began to ascend Mount Cenis, being carried in little seats of twisted osiers, fixed upon poles upon men's shoulders. . . . The prodigious prospect of mountains covered with eternal snow, clouds hanging far below our feet, and the vast cascades tumbling down the rocks with a confused roaring, would have been solemnly entertaining to me, if I had suffered less from the extreme cold that reigns there." On September 10, 1739, she writes, "I am now, thank God, happily past the Alps," and next day she complains, "I am out of patience to find that, after passing the Alps, we have the Apennines between us." Her letters from Chambéry and Geneva in 1741 contain no references to the Alps, except that "the greatest inconvenience is the few tolerable rides, the roads being all mountainous." When she was older, her dislike had grown stronger. In 1759 she writes from Venice, "I hear such frightful stories of precipices and hovels during the whole journey, I begin to fear there is no such pleasure going to Tübingen allotted to me in the book of fate: the Alps were once molehills in my sight when they interposed between me and the slightest inclination." However, in 1761 she did cross the Alps, for the last time, and came to England.

Negri, Gaetano. Quintino Sella. Commemorazione tenuta al Club Alpino di Milano il 14 marzo 1884. In Opere I, Nel Presente e nel Passato.

8vo, pp. 287-311. Milano, Hoepli, 1905. L. 4.50

This appeared first in the *Annuario d. Sez. Milano d. C.A.I.*, 2, 1884.

Ostreich, K., Talbildung; see Frankfurter Ver. f. Geogr.

Petermann, R. E. Wanderungen in den östlichen Niedern Tauern. Führer im Gebiete des Grossen Bösenstein bis zum Seckauer Zinken, nebst einem Anhang über den Zeyritzkampel. Herausgegeben durch die Alpine Gesellschaft "Edelraute" in Wien. Wien, A. Amonesta, 1903

8vo, pp. 169; ill.

Pol, Guides; see Toursier, G.

Pompecky, J., Bolivia; see Frankfurter Ver. f. Geogr.

Ronaldshay, Karl of. Sport and politics under an eastern sky.

Edinburgh and London, Blackwood, 1902. 21/- nett.

Roy. 8vo, pp. xxiv, 423; maps, plates.

In pursuit of wild game in highest Asia: Simla to London overland.

— On the outskirts of Empire in Asia.

Edinburgh and London, Blackwood, 1904. 21/- nett.

Roy. 8vo, pp. xxii, 408; maps, plates.

Svenonius, Fredr. Lappland, samt öfriga delar af Västeroch Norrbottens Län. 3je upplagan. Svenska Turistför-Resehandböcker. 9.

Stockholm, Wahlström & Widstrand (1904). Kr. 2 8vo, pp. xi, 195; map.

Switzerland. Excursions en Suisse et en Savoie. Collection des Guides-Boussole. 8vo, pp. 374; maps. Paris, Flammarion [c. 1905]. Fr. 5

A unique item in the binding of this work is the insertion of a small compass in the top right-hand corner, so fixed that it remains visible as the leaves are turned over.

Toursier, G. Guides Pol. Guide pratique du Vercors et Royans.

Sm. 8vo, pp. 80; maps, ill.

Valence, Toursier [1906]. Fr. 1

Wall and roof climbing; see [Young, G. W.]

Wegener, G., Tibet; see Frankfurter Ver. f. Geogr.

- Wheeler, A. O.** *The Selkirk Range.* Vol. 1. 8vo, pp. xviii, 495; plates. Ottawa, Government Printing Bureau, 1905
This is a most full account of the surveying, exploration and mountaineering in the Range, excellently written and abundantly and well illustrated. The history of the various surveys, with extracts from the surveyors' reports, published and unpublished, is followed by a very ample treatment of mountaineering on the range; pp. 259-288, with many extracts from published articles and many items of interest taken from Hotel books, etc. The illustrations include portraits of the chief surveyors, climbers, etc., e.g., E. Whympfer, J. Hector, W. S. Green, Sandford Fleming, C. E. Fay.
The second volume will contain maps and further plates.
- Whympfer, E.** *A guide to Chamonix and the range of Mont Blanc.* 11th edition. 8vo, maps, ill. London, Murray, 1906. 3/- nett
— *The Valley of Zermatt and the Matterhorn.* 10th edition, 1906. 3/- nett
8vo, maps, ill.
- [**Young, G. W.**] *Wall and roof climbing.* By the author of "The roof-climber's guide to Trinity." Eton College, Spottiswoode, 1905. 2/6
8vo, pp. 109.
Copies of this may be obtained from the Assist. Secretary, 23 Savile Row, London.
- v. Zebegény, W. B. Gründorf.** *Grazer Tourist. Wanderungen in der reizenden Umgebung von Graz.* 3. Aufl. Graz, Verlag "Leykam," 1906
8vo, pp. xxxv, 280; map, frontisp.
One hundred different excursion routes round Graz are described.

Older Books.

- Ball's Alpine Guides.** *South Tyrol and Venetian or Dolomite Alps.* New edition. 8vo, pp. 399-534; map. London, Longmans, 1876
— *Central Tyrol, including the Gross Glockner.* New edition. 1878
8vo, pp. 139-314.
- Berlepsch, H. A.** *Der Führer auf den Vereinigten Schweizerbahnen und deren Umgebungen.* Ein Reisetaschenbuch für die Ostschweiz. Sm. 8vo, pp. 156; ill. St Gallen, Scheitlin u. Zollikofer, 1859
- v. Buch, Leopold.** *Travels through Norway and Lapland, during the years 1806, 1807, and 1808.* London, Colburn; etc., 1813
4to, pp. xviii, 460; maps.
- Continental adventures.** A novel. 3 vols, 8vo. London, Hurst, 1826
The scene of this novel is in Switzerland, round Mont Blanc and among the Italian Lakes.
- Coxe, Wm.** *Voyage en Suisse.* Traduit [par B. L. Lebas] de l'anglais. 3 vols, sm. 8vo. Lausanne, Grasset, 1790
— Traduit [par T. Mandar] de l'anglais. Paris, Letellier, 1790
2 vols, 8vo, 1 plate.
A poor translation, reprinted by Decker, Basle, in 1802.
- Fuchs, Dr Wilhelm.** *Die Venetianer Alpen.* Ein Beitrag zur Kenntniss der Hochgebirge. Solothurn, Jent & Gessmann; Wien, Rohrmann, 1844
Obl. fol., pp. 60; 18 plates.
- Glarnerland.** *Ausflüge & Touren für Schulen, Gesellschaften, etc. in's Glarnerland.* Unter Mitwirkung d. Glarner. Kantonal-Lehrervereins herausgegeben . . . 8vo, pp. 32; plates. Glarus, Spälti, 1899
- H[eidegger], H.** *Handbuch für Reisende durch die Schweiz.* Zweyte, stark vermehrte und verbesserte Auflage. Zürich, Orell, Gessner u. Co., 1791, 1790
The first edition, in one vol., was issued in 1787. This was reprinted in 1789, and issued in 1790 with a second vol. 'Ortslexikon.' This 'Ortslexikon' was issued again with the above second edition in 1791, and this second edition was issued again in 1792, with an addition, 'Ueber das Reisen durch die Schweiz,' which in the third

edition, 1796, forms the introduction to the first volume. With the issues of the *Handbuch* of 1789, 1791 and 1792, the accompanying 'Ortslexikon' retains the date 1790, and in each case forms the second vol. of the 'Handbuch.'

Later on this handbook was used along with Glutz-Blotzheim's handbook to form the posthumous editions of Ebel.

Editions in French of this work were published in 1787, 1790, 1795, 1799, 'Manuel de l'étranger qui voyage en Suisse.'

Hogard, Henri. Recherches sur les glaciers et sur les formations erratiques des Alpes de la Suisse. 8vo, pp. ix, 322. Epinal, Gley, 1858

Kossak, Ernst. Schweizerfahrten. 8vo, pp. 186. Leipzig, Brockhaus, 1858
A volume of Brockhaus' Reise-Bibliothek.

Kummer, K. W., Montblanc-Relief; see Ritter, C.

Küng-Dormann, F. Zwischen Schwarzwald und Jura. Im Berner Oberland. Kurorte u. Fremdenplätze. Buchs-Werdenberg, Kuhn [c. 1890]
8vo, pp. 135.

Martineau, Harriet. Guide to Windermere, with tours to the neighbouring lakes and other interesting places. With a Map, and illustrations from drawings by T. L. Aspland, . . .

Windermere, Garnett; London, Whittaker [1854]

Sm. 8vo, pp. iv, 130; map, plates.

The plates of mountain scenery are very elegant. An edition in 4to with coloured plates was also published.

A 4th edition was published in [? 1860].

— A complete guide to the English Lakes, illustrated from drawings by T. L. Aspland and W. Banks, . . .

Windermere, Garnett: London, Whittaker (1855)

8vo, pp. xiv, 233; map, plates.

Other editions of this interesting guide were:—

2nd edition [1855]: 3rd edition, illustrated with steel engraving and woodcuts pasted on [1858]: 4th edition, 1871: 5th edition, 1876: and 'Tourist's atlas to the Lake District,' as an addendum [1875].

— Feats on the Fjord. A tale. London, Dent, 1899

8vo, pp. 235; plates. Temple classics for young people.

First published in 'The playfellow: a series of tales.'

London, Knight, 1841

Mont Blanc. First ascent of the Mont Blanc. In 'The juvenile miscellany.' 8vo, pp. 159-175; ill. London, Smith, Elder, 1842

This is probably a compilation from some unacknowledged work. Balmat's story here does not so depreciate Paccard as in Dumas' narrative. 'Dr Paccard began to suffer considerably from fatigue, and the extreme rarity of the air. At last, when only ten minutes' walk from the highest pinnacle of the long-desired object of all my wishes, the Dr. declared he could proceed no further. I was in despair at this intelligence, as I feared leaving him alone, and to relinquish my undertaking, when so near its completion, was not to be thought of: therefore waiting till my companion was a little better, I left him, and climbed up the last summit by myself. . . . After a little of my extacy had subsided, I went down to where I left poor Doctor, and insisted upon his exerting himself to ascend, doing my utmost to drag him up, in which I finally succeeded. . . . From the air I did not suffer in the least, any more than my companion; indeed, when once on the top, he was as well as ever he was in his life.'

Rita [ps. i.e. Eliza M. J. Humphreys.] Edelweiss. A romance.

8vo, pp. 160.

London, Blackett, 1890

The scene is on the Rigi.

Ritter, C. Geographisch-historisch-topographisch Beschreibung zu K. W. Kummer's Stereorama oder Relief des Montblanc-Gebirges und dessen nächsten Umgebung. 8vo, pp. viii, 107. Berlin, Kummer, 1824

- Strasser, Pfarrer Gottfried.** Illustrierter Führer der Berner-Oberland-Bahnen und Umgebungen. Beschreibung—Geschichte—Sage. 8vo, pp. 131; map, ill. Basel, Wackernagel (1892)
- Switzerland.** Mémoire d'une toute petite tournée en Suisse. A vol d'hirondelle dédié à mon ami Sept-Croix. Imprimé chez Joh. Enschedé et fils à Harlem, 1868
8vo, pp. 94. Oberland, Grindelwald, Chamonix.
- Taylor, Baron I.** Les Pyrénées. Roy. 8vo, pp. 618. Paris, Gide, 1843
Chiefly historical.
- Tschudi, Iwan.** Guide Suisse. Livre de poche du voyageur . . . Nouvelle édition . . . St-Gall, Scheitlin & Zollikofer; etc, 1864
Sm. 8vo, pp. 450; maps.
- Walcher, S.** Taschenbuch zu Schweizer-Reisen. 4. verbesserte Aufl. Schaffhausen, Brodtmann, 1851
Sm. 8vo, pp. xxviii, 342.
- Wilmsen, F. P.** Merkwürdige Bergreisen, Seefahrten und Abenteuer unserer Zeit. Der Jugend lehrreich erzählt. Berlin, Hasselberg [c. 1850]
Sq. 8vo.
Switzerland 153–290; including Savoy and Hamel's ascent of Mont Blanc.

Club Publications.

- Appalachian Mountain Club.** Register. 8vo, annual. 1895–1906
- C.A.F. Provence.** Bulletin. 8vo, pp. 61. 1906
This contains;—
R. Gombault, Exploration d'un abîme dans le massif de Marsiho-Veyre.
E. Burnand, Deux premières: Sasso d. Laghetto, Pizzo Penca.
J. Javet, Sur le mont Ste-Victoire.
M. Durand, Ascension du Pentélique.
Excursions, Chronique, Nouvelles diverses.
Liste d. membres.
- C.A.I. Sez. Ligure; see Dellepiane, G.**
- Camonica.** Associazione "Pro Valle Camonica," sede in Breno. Bollettino Ufficiale. Pubblicazione Bimestrale. Anno 1, nos. 1, 2, 3; Anno 2, no. 4. 1905–1906
4to.
- see Camonica, under 'New Books.'
- Canada.** Alpine Club of Canada. Notice of formation. 8vo, pp. 3. 1906
- Notice of First summer camp in the Yoho Park. 8vo, pp. 3. 1906
- In March last in Winnipeg a meeting was held for the formation of 'The Alpine Club of Canada.' A constitution was adopted and the following officers elected for a term of two years: Patron, A. O. Wheeler; Vice-Presidents, Rev. J. C. Herdman, and Prof. A. P. Coleman; Secretary, Mrs H. J. Parker. The objects of the Club are: (1) the promotion of scientific study and exploration of Canadian Alpine and glacial regions; (2) the cultivation of Art in relation to mountain scenery; (3) the education of Canadians to an appreciation of their glorious mountain heritage; (4) the encouragement of the mountain craft and the opening of new regions as a national playground; (5) the preservation of the natural beauties of the mountain places and of the fauna and flora in their habitats; (6) and the interchange of ideas with other Alpine organisations.
- In 1883 Sir Sandford Fleming and others with him, while surveying for the Canadian Pacific Railway, founded a Canadian Alpine Club, which however did not get beyond its foundation.
- D. u. Ö. A.-V.** Anleitung zur Ausübung des Bergführerberufes, Handbuch für den Gebrauch bei den Bergführerkursen und zum Selbstunterricht. 4. Aufl. 8vo, pp. 191; map, ill. Innsbruck, 1906
This contains;—
J. Emmer, Führerberuf: Die Alpen.
J. Aichinger, Technik d. Bergsteigens.
E. Richter, Erdkunde: Landkarten.
The third edition was issued in 1896.

- D. u. Ö. A.-V. Allgäu-Immenstadt.** Jahresbericht. 8vo, pp. 14. 1905
 — **Baden bei Wien (1873-1878: 1904).** Jahresbericht 1905. 1906
 8vo, pp. 15.
 — **Cottbus (1901).** Satzungen. 8vo, pp. 9. 1901
 — **Berichte f. 1902-1905.**
 8vo, pp. 8, 12, 18, 14; lithographed.
 — **Deutsch-Fersental (1905).** I. Jahresbericht. 8vo, pp. 12. 1906
 — **Gleiwitz.** Tätigkeitsbericht. 8vo, pp. 48. 1905
 — **Gotha.** Bericht ü. d. ersten zehn Jahre des Bestehens der Ortsgruppe
 Gotha. 8vo, pp. 21. 1906
 — **Heidelberg.** Satzungen. 8vo, pp. 4. n.d.
 — **Jahresbericht f. 1905.** 8vo, pp. 12; ill. 1906
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 Jan. pp. 18-35: W. Weston, Japanese Alps.
 Feb. pp. 129-143: F. B. Workman, Hoh Lumba and Sosbon Glaciers.
 May, pp. 477-481: Another attempt on Ruwenzori.
 pp. 481-486: D. W. Freshfield, A note on the Ruwenzori Group.
 pp. 487-491: V. H. Gatty, Glacial aspect of Ben Nevis.
 June, pp. 586-606: R. A. Daly, Nomenclature of N. American
 cordillera.
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 K. Siegmeth, In d. liptóer Karpathen.
 M. Lövy, Traum u. Wirklichkeit.
 K. v. Englisch, Aus d. tiroler Alpen.
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 S. Weber, Dr Samuel Generisch.
 S. Häberlein, Fünf Tage in d. Hohen Tátra.
 A. Grosz, Drei Tátratouren.
 E. Dubke, Im Winter z. Tátraspitze.
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 The contents are;—
 D. Grønvold, Ældre engelske reiser i Norge.
 This very interesting article gives a summary of the journeys of
 Price (with reproductions of the numerous fine mezzotints issued
 by him), Inglis ("Derwent Conway"), and Everest.
 T. Nielsen, Fra mitreiselig Rokoberget.
 J. Thoner, Fra Alnas Njarggas fjorde og jøkler af læge.
 O. Olafsen, Fra Eidfjord om Fjeldberg.
 H. Tønsberg, Gjennem Horungtinderne over Rüngsskaret.
 F. Schjelderup, Stortinderne om vinteren.
 P. A. Øyen, Forandringer hosvore bræer.

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C. Täuber, Lauterbrunnen z. Mont Blanc.
J. Gallet, A travers la région de l'Oberaar.
G. End, Campo Tencia-Gruppo.
J. Jacot Guillarmod, Vers le Kangchinjunga.
A. Weber, Im zentralen Kaukasus.
W. Schibler, In Korsika.
The 'Beilagen' contain;—
A. Barbey, Carte du massif du Mont Blanc.
F. Eymann, Panorama v. Grauhaupt.
R. Zinggeler-Danioth, Panorama v. P. Muraun.
Jacot Guillarmod, Panorama du Camp I Liligo.
— Panorama du Camp VII Doxam.
— Cirque supérieur du glacier de Yalung.
- Mitglieder-Verzeichniss. 1865
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— — — 8vo, pp. 51. 1872
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— — — 8vo, pp. 28. 1876
- — mit Notizen u. Auskünften ü. d. Club u. d. Sectionen.
8vo, pp. 43. 1878
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P. E. Stucki, La peinture jurassienne.
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A. Berger, Aus d. Venatorea-Gipfel.
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J. Binder, Tour v. Hatszeger Tal.
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B. Szalay, Eine unbenannte Spitze im Vistea-Gebiete.
— — — Beilage, 4 Lichtdrücke.
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Very kindly presented by Mr W. S. Vaux.

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- Weber, J. B.** A short account of a journey to the Glacieres, in Savoy. Written in form of a Letter to Lady Mary Blair.
8vo, pp. 28. Bath, Printed for the Author, and sold by J. Watts (1778)
Messrs Cox (not the Rev. Wm Coxe), Churchill, Weston and Weber left Geneva 30th July 1777, and visited Chamonix, the Montanvert, and Glacier d. Boissons. Of the Montanvert, the author writes;—'We proceeded to climb this terrible rock, about five in the evening, and reached the summit, after a fatiguing and dangerous ascent, of three hours and a half. This rock is quite covered with fir trees, which we found very serviceable, when the stones rolled from under our feet. . . . Mr Bourit (*sic*) favoured us with a French psalm; the echo of his voice redounding on the neighbouring rocks had an admirable effect.'
- Widmer, C.** Die Schweizerische Alpenbahn. Zürich, Bürkli, 1865
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Size 2" x 3½".
A pocket note-book, containing lists (Packing—Expedition—Hut and Camp), Distress Signal, and other information. Compact and useful.
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A pleasing coloured picture, 9" x 6½".
- Photographs.** New Zealand. 42 photographs, 6" x 7¾", and two large photographs, 16" x 12", of the Southern Alps of N.Z. have been presented by the Tourist and Health Resorts Department.
- Post cards.** 21 Cartes géographiques, Tyrol. Berne, Kümmerly & Frey, 1906
— B. Leuzinger's Relief-Ansichts-Postkarten d. Schweiz: 16.
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- Views.** The following views lithographed by Hasler, Bern, after J. Rothmüller, 1834;—
Thoune vers le Niesen.
Village & Glacier de Grindelwald.
Interlachen.
Château du Staubbach.
Vue prise sur le Wengern-Alp.
Le Wetterhorn, Schreckhorn, etc.

NEW EXPEDITIONS IN 1906.

DUWONI PEAK.—Messrs. A. F. R. Wollaston, R. B. Woosnam and D. Carruthers ascended this peak on April 1. Leaving the lower ice-fall of the Mubuku Glacier on their left, they ascended a gully of moss and stones for about 600 ft. to a small plateau. Thence turning sharply to the left 200 ft. on to a wider plateau, bounded on the N. and E. sides by a wall of steep rocks, and on the W. by an almost sheer drop on to the Mubuku Glacier. Eight or nine hundred feet up the rocks to the North, mostly in a gully full

of melting snow, brought them on to the main ridge of the mountain. Crossing the ridge they ascended by the upper snow slopes of the Eastern side for about 500 ft. Thence by steep rocks about 100 ft. to the top of the Southern peak of the mountain. Height by boiling point thermometer 15,898 ft. The Northern peak is due N. about half a mile, and appears to be of almost exactly the same height as the S. peak, but there was not sufficient time to reach it. The weather was bad and no distant views were seen in the N. and W. directions. Fresh and melting snow made the rocks unpleasant and in some places dangerous; in good weather the climb should be an easy one.

KIYANJA PEAK.—The same party made a second ascent of this peak on April 8 to determine the height more accurately and the direction of the two-topped peak (probably the highest in the range) seen on the occasion of the first ascent. The height of Kiyanja was found to be 16,879 ft. and the two-topped peak was found to be in a direction N.N.W. from the summit of Kiyanja. Unfortunately, as before, clouds obscured the view, and the relation of the two-topped peak to the rest of the range could not be determined.

Mr. Wollaston adds in a private letter of later date that the Duke of the Abruzzi had gone up to Bujongolo, and that a spell of exceptionally fine weather favoured his enterprise.

RUWENZORI.—No direct news with regard to the Italian expedition has reached the Club. We reprint extracts from an account published in the 'Tribune' of August 8:—

'A private letter from a member of the Duke of the Abruzzi's expedition has just reached Italy, giving the first interesting particulars of the journey through Uganda, and of the ascent of Ruwenzori.

'The party left Entebbe on May 14, and arrived at Fort Portal fifteen days later.

'On June 1 the expedition moved towards the valley of the Mubuku River; the weather, which during the first part of the journey had been very hot, grew gradually cooler, until when the high glaciers were approached it became bitterly cold.

'At Bujongolo the Duke ordered camp to be struck, and, taking with him four trusted Italian guides of the Aosta valley, started on June 9 for the ascent of the first peak of the Ruwenzori. During the Duke's absence the camp had to be removed and pitched higher up nearer the glaciers, but of the eighty carriers only seven could be induced to proceed, and those only after the promise of a large gift in money. Three days later the Duke returned, after having reached the first peak, which is 16,000 ft. high.

'On June 18 the Duke reached the highest and hitherto untrodden peak of Ruwenzori (18,220 ft.). This he named "The Margherita," in honour of the Dowager Queen of Italy. A careful topographical survey of this mountain chain was made. It seems that the loftiest peaks are in the Congo State, and not in Uganda.

'After the ascent of Ruwenzori the Duke returned to Fort Portal,

where he accompanied the British Commissioner on an elephant hunt. The party is now on its way home.'

The 'Geographical Journal' for July contains a valuable article on 'The Snow Peaks of Ruwenzori: their probable Positions and Heights,' by Lieutenant T. T. Behrens, R.E., a member of the recent Boundary Commission appointed to define the Anglo-German boundary south of Uganda. The position of the two tops of the highest summit visible from the camps of the Boundary Commission was trigonometrically fixed, and their height ascertained by six height determinations for each. "The heights given for these summits (16,625 ft. and 16,549 ft.) may be considered correct within ± 80 ft. at most. The lower point is 655 ft. south of, 256 ft. to the west of, and 76 ft. lower than, the main and more northern summit. The longitude is the same as that in the Hamburg Society's map.*

These peaks lie a mile and a half west and slightly south of Duwoni, and Lieutenant Behrens gives the reasons which made him believe they were probably the culminating summits of the range. He adopts for them the name 'Kanyangungwe.'

ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 8s., can be obtained from all book-sellers, or from Messrs. Stanford, 12 Long Acre, W.C.

THE LIBRARY CATALOGUE may be obtained, bound in cloth, on application to the Assistant Secretary, 23 Savile Row. Price 8s.; postage, 4d.

THE MEMORIAL TO CHARLES EDWARD MATHEWS.—At a meeting held in the Club Rooms in May, a majority of the Committee being present, it was unanimously resolved to adopt the proposal to erect the memorial to the memory of C. E. Mathews in the garden of Couttet's Hotel at Chamonix.

Mr. Freshfield having stated that he would shortly have to visit Chamonix on business connected with a monument to François Dévouassoud, and having expressed his willingness to represent the Committee, his offer was gratefully accepted.

The Bishop of Bristol, with Mr. Freshfield, kindly undertook to provide a suitable inscription for the memorial, and Messrs. Couttet undertook to forward an estimate of the cost of the work.

It was agreed that any surplus left after the completion of a

* Vol. xvii. of the *Mitteilungen*.

suitable monument at Chamonix should be devoted to helping the fund for a memorial on Snowdon.

CAROLO EDVARDO MATHEWS

MONTIVM AMATORI
AMATORES
FRATERNITATIS ALPINEAE SODALI
SODALES
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Rev. F. T. Wethered	1	1	0	Philip Fletcher	1	1	0
Harry S. Williams	1	0	0	Winward Hooper	1	1	0
Thos. Middlemore	1	1	0	J. T. Bramston	1	1	0
P. Watson	1	1	0	S. D. Williams	1	1	0
Mrs. Fisher Unwin	1	1	0	Sydney Spencer	1	1	0
E. A. Broome	1	1	0	F. F. Tuckett	1	1	0
G. Stallard		10	6	P. H. Gosset	1	1	0
R. L. Furneaux		5	0	Dr. H. Dübi	1	0	0
E. B. Moser	1	1	0	Horace Walker	1	1	0
Thos. Blanford	1	1	0	Lucy Walker	1	1	0
Robert Walters	1	1	0	G. W. Hartley	1	1	0
Harry Runge	1	1	0	J. H. Wicks	1	1	0
E. H. F. Bradby	1	1	0	G. Wherry	1	1	0
J. J. Brigg		10	0	Chas. E. Layton	1	1	0
R. A. Arkle	1	1	0	Walter W. Wiggin	1	1	0
A. L. Mumm	1	1	0	From Members of Shake-			
D. W. Freshfield	1	0	0	speare Club, Birming-			
Chas. Pilkington	1	1	0	ham, per Whitworth			
C. H. R. Wollaston	1	1	0	Wallis, Esq.		5	0
Lawrence Pilkington	1	1	0				
Carried forward	102	19	0		£136	3	6

MONUMENT TO FRANÇOIS J. DÉVOUASSOUD.—Mr. Douglas Freshfield desires to acknowledge the receipt or promise of subscriptions towards placing a suitable memorial of François Dévouassoud in the Chamonix Cemetery from Sir R. M. Beachcroft, the Rev. W. A. B. Coolidge, Mr. Joseph H. Fox, the Rev. Hereford B. George, Mr. C. Comyns Tucker, Mr. Francis F. Tuckett, Mr. J. H. Wainwright, and the Rev. F. T. Wethered.

There must be some delay in the erection of the memorial stone, owing to the fact that a new cemetery is about to be laid out at Chamonix, to which it is proposed to remove the principal monuments from the present churchyard. It has been decided, after visiting Chamonix and taking counsel with the family, the 'maire,' and the curé, to place the memorial in a suitable site in the new cemetery. It will be in the form of a modified Iona cross with rope ornament, and stand about 6 ft. high. The lower portion will carry the following inscription:—'François J. Dévouassoud MDCCCXXXII.—MDCCCXCV. Viro integro Comiti Amico Sodali jucundo dilecto desiderato Duci sagaci indomito per XL. annos spectato ne

tantæ Virtutis Memoria et Exemplum perderetur hunc Lapidem nonnulli ex Amicis quos sæpe inter Alpium Juga et Caucasi Nives duxerat ponendum curaverunt.' The names of the subscribers will be placed on the pedestal. Meantime a simple stone with name and dates has been placed at the head of the actual grave, which it is hoped may not be disturbed.

THE REFUGES OF THE FRENCH ALPINE CLUB.—The President of the Alpine Club has received the following letter :—

Rue du Bac, 30 : Paris, le 1^{er} Août 1906.

MONSIEUR LE PRÉSIDENT,—La Direction Centrale du Club Alpin Français a décidé que les membres du Club Alpin Anglais seraient admis dans les refuges de l'Association aux droits et avantages dont jouissent ses propres membres, sur la présentation de leur carte de sociétaire.

J'ai l'honneur de porter à votre connaissance cette décision prise en raison des services que le Club Alpin Anglais a rendus à l'alpinisme.

Veuillez agréer, Monsieur le Président, l'hommage de mon respect.

V. CHEVILLARD,

Le Secrétaire Général.

THE MEASUREMENT OF HIMALAYAN GLACIERS.—Mr. Douglas Freshfield sends for publication the following letter :—

'Dear Sir,—The request addressed by you to the Trigonometrical Survey of India in April of last year to assist in the measurements of the movements of Himalayan glaciers is at last, I am glad to inform you, in a fair way to produce the result desired. The question was discussed at a meeting of the Board of Scientific Advice in December last, and it was resolved that the Geological Survey should undertake the work, as the Surveyor-General (Colonel Longe) could not spare men for it. Mr. Holland, Director of the Geological Survey, was unable to take the matter up before he went on leave in May, and left it to me to do so. I accordingly drafted proposals, and submitted them to the Government of India as soon as Mr. Holland left, and have just received sanction for them.

'I have already instructed two of our officers, who have gone up to Kumaon to report on various minerals there, to make plans of the ends of at least three of the glaciers in that district—the Milam, Pindari, and Shunkalpu glaciers, all of which are fairly easily accessible—and to fix marks near the ends of the glaciers for future measurements, and also to take photographs. When their reports are received I hope to be in a position to issue suggestions to travellers and sportsmen for continuing the measurements, and have these posted up in the dāk bungalows along the routes to these glaciers. The same will be done for other glaciers in the Himalayas as opportunity offers, and I hope to be able to send men up to Kulu, Spiti and Kashmir during the autumn.

'In the meantime I have drawn up a set of suggestions for the taking of photographs by travellers, &c., a copy of which I hope to

be able to send you next week, and will send a number to Dr. A. Neve, in Kashmir, who has kindly promised to assist us in the work, in order that he may distribute them to his friends. I had intended to have these suggestions posted up in dāk bungalows all over the Himalayas, but there has been so much delay in obtaining the sanction of Government that I think there will be little use in doing so this year, especially as they will, I hope, soon be superseded by the more definite measurements and instructions which ought to result from Messrs. Cotter and Brown's work in Kumaon.

'I have seen a good deal of the Himalayan glaciers myself, and think that there will not be much difficulty in fixing permanent marks near the glacier snouts, though Colonel Burrard thinks that any marks cut on the rocks would soon be destroyed by weathering. If glacial striæ can remain visible for the number of years they do, I do not see why deeply cut chisel-marks, or holes "jumped" into the rock, should not be equally lasting. I will send you a copy of my instructions to Messrs. Cotter and Brown on these points.

'The main difficulty, I think, will be to fix the exact position of the snout of the glacier at any particular time in most cases, seeing how deeply the ice is usually buried beneath moraine stuff; but I think that, in many cases, the ice cave will give a fairly well defined point to measure to.

'Colonel Burrard tells me that he will have several men working in the Himalayas next year, and that they will no doubt be able to make measurements. The main thing is to get permanent marks fixed in the first instance. Afterwards there will be plenty of men willing to carry on the observations.

'Yours sincerely,

'THOMAS D. LA TOUCHE,

'Officiating Director Geol. Survey of India.

'Douglas W. Freshfield, Esq., Member of the
Commission Internationale des Glaciers.'

The Director has also sent a draft of the very practical set of 'Suggestions for Glacier Observations' which it is intended to issue for the use of surveyors and travellers.

WINDHAM AND POCOCCO'S VISIT TO CHAMONIX.—The first tourists to visit the valley of Chamonix have been often ridiculed for their precaution in taking arms. The following extract from a manuscript letter from H. B. de Saussure, to the celebrated Dr. Haller, which I copied the other day in the public library at Bern, shows, I think, that this may have been, and probably was, at the time a very reasonable precaution. It is true that it refers to a period twenty years later than that of our countrymen's journey. But if Savoy was insecure in 1761 it is, to say the least, probable that it was not wholly safe twenty years earlier.

Saussure, writing under date September 10, 1761, tells Haller the following story. Two German savants had been missing for some time. Their bodies, giving proof of robbery and murder, were at last found in a gorge on the Salève. They had fallen

victims to a band of 'Bohemians' who were lurking 'in the forests of the Alps.' These outlaws had been bold enough to enter villages and plunder houses in open daylight. 'The Chamoniards had turned out in a body to hunt them as if they had been wild beasts.' Fortunately for the Bohemians they had escaped, for if caught they would assuredly have been put to death without any form of trial. Saussure concludes by lamenting that he shall have henceforth to give up his solitary rambles on the heights round Geneva.

DOUGLAS W. FRESHFIELD.

REVIEWS AND NOTICES.

Kaukasus. Reisen und Forschungen im kaukasischen Hochgebirge. Von Moriz von Déchy. (Berlin: Dietrich Reimer. 1905.)

IF it is difficult for a mountaineer to explain the fascination which draws him year after year to the Alps, it is even more difficult to define the subtle influence which seems to exist in the very air of the Caucasus, which fixes scenes, sounds, impressions, and experiences so vividly and deeply in the memory and which has led so many travellers to repeat their visits to that magnificent mountain region.

Herr von Déchy must have felt the power of this mysterious charm in an exceptional degree, since he has made no less than seven expeditions to various parts of the chain, and his enthusiastic admiration for the great range has impelled him to take an important part in its exploration.

It is not easy at the present day to realise that only forty years ago so very little was known, even by geographers and scientists, about the mountains and glaciers of the Caucasus, nor is it easy to understand why this ignorance died so hard and why, even for years after Mr. Freshfield's party of 1868 had drawn aside the veil, the old legend about the insignificance of the Caucasian glaciers lingered on with a vitality which seems to be characteristic of geographical myths.

In the course of the last twenty-five years, however, the ice-axe and camera have again been at work in the mountains, and it is in no small measure owing to the improvements made during the same period in photographic methods and processes that the magnitude of the Caucasian glaciers and the grandeur of the scenery have now become subjects of common knowledge. The modest octavos of the sixties and seventies have been succeeded by Mr. Freshfield's splendidly illustrated 'Exploration' in 1896, by Dr. Merzbacher's comprehensive 'Kaukasus' in 1901, and now Herr v. Déchy gives us two lavishly illustrated quartos with the promise of a third to follow.

The author's method differs somewhat from that of the two previous writers, inasmuch as he does not devote special chapters to orography, ethnology, &c., but deals with these subjects in the

narratives of his successive journeys. The plan of describing so many as seven expeditions independently has the disadvantage of taking the reader two or three times over the same ground in certain districts; on the other hand, it enables him to follow more clearly the various stages in the opening up of the Caucasus. The result, at all events, is a most readable book which, in respect of excellence of type, quality of illustrations, and general finish leaves nothing to be desired.

Volume I. contains the records of the author's first four journeys made in 1884, 1885, 1886, and 1887, and the first of these journeys marks the commencement of an important era. Since Mr. Grove's expedition ten years before no experienced mountaineers had visited the Central Caucasus, and to Herr v. Déchy belongs the credit of having inaugurated a new period of climbing activity by his ascent of a peak in the Adai Khokh group, of which a description was given in vol. xii. of the 'Alpine Journal.'

The account of this ascent is rather difficult to follow on the map; but the author has satisfied himself that the summit he climbed is the true Adai Khokh, the culminating point of the group, so that the splendid peak, Chanchakhi, which towers above the western approach to the Mamison Pass, must now be classed amongst the still numerous virgin Caucasian summits. Indeed there is still so much to be done in this interesting group, and it is so easily accessible by means of the Mamison Road, that it deserves more attention than it has hitherto received from mountaineers.

It was during this expedition that the second ascent of the N.W. peak of Elbruz was made. On this occasion the snow was in bad condition and the weather most unfavourable, and a graphic account is given of the arduous struggle with storm, cold and darkness before the party succeeded in regaining the bivouac. The author agrees with Mr. Freshfield in dismissing as incredible the story of the native Killar's ascent of the mountain in 1829. Another local tradition for which he failed to discover any substantial foundation is that of the alleged Hungarian origin of the Urusbieh family.

On this first visit Herr v. Déchy was accompanied by the Swiss guides A. Burgener and P. Ruppen; the following year, being intent chiefly on photographic and topographical work, he travelled without guides or interpreter, and relied solely on the assistance of the natives. After the usual difficulty in obtaining porters, and at the expense of much trouble, worry, and anxiety in managing them, he broke entirely new ground by crossing the main chain from the Baksan Valley to Suanetia by the Jiper-Azau Pass, and later returned to the N. side of the watershed by the Tviber Pass. Although the natives frequently drive cattle over this splendid glacier pass, Herr v. Déchy was the first traveller to accomplish the passage. Since that time the pass has been crossed on two occasions with laden horses, but not without difficulty and risk which no Swiss peasant would nowadays think of incurring in the Alps.

The object of the author's third expedition was to explore the

main chain W. of Elbruz; but his plans were thwarted by the indolence and want of enterprise not only of the Teberdians but also of the Karachai Tartars, with whom he fared no better than Mr. Grove's party in 1874. Eventually he reached Urusbieh by making the circuit of the N. side of Elbruz. In 1885 and 1886 he devoted much time to glacier measurement in the Adai Khokh and Elbruz groups; his observations proved that the Azau Glacier had advanced, while during the same period the neighbouring Terskol Glacier—also fed by the snows of Elbruz—had slightly receded.

The story of the fourth journey made in 1887 in company with Mr. Freshfield is already familiar to English readers of Alpine literature. Moreover, Herr v. Déchy pays the author of 'The Exploration' the compliment of describing the crossing of the Zanner Pass, for the most part, in the latter writer's own words. After this expedition—with which volume I. concludes—the author abandoned the Central Caucasus to climbing specialists and to the government officers then engaged on the new survey, and ten years elapsed before he returned to the country to devote his attention henceforth to the less known Eastern and Western Caucasus.

The opening chapter of volume II. brings us to the year 1897, when Herr v. Déchy, accompanied by two Zillerthal guides—H. Moser and G. Kroll—repaired to the Chechen country, E. of Kazbek, explored the N. side of the Donos Range and ascended its highest peak, Datach Kort or Komito (4,272 mètres), not knowing at the time that it had been climbed in 1892 by Dr. Merzbacher, the explorer of the S. side of the Donos Range. After this ascent the author gained the Alasan Valley by the Kachu Pass, and, then travelling westward, crossing the Atsunta and four other passes and traversing the wild, lonely valleys and bare hills of the Khevsur country, made his way to the Georgian Military Road. Finally he climbed Kazbek by a variation of the route taken by the first successful party in 1868.

The following summer (1898) the author turned his attention once more to the Western Caucasus. Taking with him a Tirol guide—Unterberger—and six Karachai porters, he crossed the main chain by a new glacier pass—the Gonderai Pass (3,025 m.), descended the Gvandra Glen to its junction with the richly wooded Klych Valley, and returned to the N. side of the chain by the Klukhor Pass; he then made his way to the head of the Amanauz Valley, in the heart of the picturesque Klukhor Group, which has since been more fully explored by Herr v. Meck and Professor A. Fischer. On this occasion the Karachai porters belied their reputation by giving very little trouble, and, as is often the case with other Caucasians, when once induced to start completed their toilsome journey with patient endurance.

At this point Unterberger's health broke down, and after he had been conveyed to the railway Herr v. Déchy changed his plans and travelled eastward to Daghestan. Here he entered on a long journey southward, visited the Addala or Bogos Group—the scene

of several of Dr. Merzbacher's ascents in 1892—traversed the Ikho and Sabakunis valleys, and finally reached Kakhetia by the Kodor Pass. This part of the Eastern Caucasus is a remarkable region ; the numerous torrents, assisted by a heavy rainfall, have carved the whole country into a network of deep ravines and wonderful gorges, most interesting to the geologist and strikingly picturesque, but entailing endless labour to the traveller encumbered with baggage.

Four years later—*i.e.* in 1902—the author, with two Tirol guides, returned to Daghestan on his seventh and final visit to the Caucasus. Starting from Gunib (Schamyl's famous stronghold), he travelled southward through the hill country drained by the Kara Koisu, crossed the Julty Dagh, a mountain range with several summits of more than 4,000 m., and, after descending the Samur valley, made his way to the foot of Shalbuz, taking up his quarters at Kurush, said to be the highest village in the Caucasus, and finding it to be as dirty and malodorous as when visited by Messrs. Yeld and Baker in 1890. A few days later Bazardjusi was ascended from the E., and then the party descended the Kussar valley to the sandy waste which borders the Caspian Sea near the mouths of the Samur.

Before leaving the country, however, Herr v. Déchy made one more excursion in the Western Caucasus, passing through a most interesting country, previously almost unknown to travellers. Procuring horses at Psebai, in the Kuban district, he ascended the valleys of the Little and Great Laba, traversing a region of dense forests—part of the hunting domain of the Grand Duke Sergius Mikhailovich—and, after crossing the main chain by the Tsagerker Pass, descended through the deserted valleys of Abkhasia to Sukhum Kale. The scenery is described as being most attractive. Although the Abkhasian Alps to the W. of the Marukh Pass cannot boast of extensive glaciers, their forms are strikingly picturesque, and the richly wooded valleys provide charming foregrounds to all the views.

On four of the expeditions, briefly outlined above, the author's wanderings were shared by one or more scientific companions—of these Professors Lojka and Hollós were botanists, and Doctors Schafarzik, Papp and Laczko geologists. The results of their researches are promised in the forthcoming third volume.

The illustrations, considered whether as to their number, variety, or quality, form a most noteworthy feature of the book. Photographic work occupied a foremost place in the purpose of every journey, and Herr v. Déchy spared no pains to record every view or object of interest. As a result of his labours the 720 pages in the two volumes are embellished with over 400 illustrations in the text, in addition to the full-page and panoramic views.

Of the twenty-eight full-page photogravures almost every one is good, and the great majority are remarkably good ; this description applies without exception to the portraits and groups of natives, in which one cannot but notice the natural and dignified attitudes

which the Mohammedans, in particular, assume when before the camera. The conformation of the Caucasian mountain ranges is, as a rule, peculiarly favourable for obtaining panoramic views, and full advantage has been taken of this circumstance; the mountain panoramas—eighteen in number—are a valuable addition to the work.

The smaller photographs in the text are for the most part excellent, and some charming representations of fossils, weapons, ornaments, &c., have been happily adapted as tailpieces to many of the chapters. Considering the length of the journeys undertaken, the roughness of the country, the difficulties of transport and the many and various risks which beset the wandering photographer, the harvest of the author's industry must be regarded as most satisfactory.

The two sheets of Herr v. Déchy's map include the country between Pitsunda, on the Black Sea, and Derbend, on the Caspian, and thus contain all the important mountain groups from Shugus to Basardjusi. With a scale of 1 : 400,000 it must not be expected to satisfy the requirements of climbers; but as a convenient 'Uebersichtskarte' brought up to date, and showing clearly the mountain and river systems, it supplies a distinct want.

The book is essentially a record of personal travel, with descriptions of the districts traversed; but running through the accounts of the various journeys will be found much historical, ethnological and general information about this most interesting country. The author is at his best in narrating episodes of camp life and incidents of the road, and his unexaggerated and vivid descriptions of the distracting scenes with the natives will be appreciated by those who have passed through similar experiences.

There is something delightfully Caucasian about the story of the second journey through Suanetia, in which charming pictures of the exquisite scenery alternate with woeful tales of exasperation, bitterness and despair each time fresh horses have to be hired, when the landscape is invaded by a frenzied crowd of screaming, quarrelling natives, unconscious of the value of time and indifferent as to the fulfilment of their promises. Again, the author's description of his début as a medical practitioner at Urusbieh and of the miraculous cure of the comatose Tartar is excellent.

The reader who follows Herr v. Déchy on his series of trying and toilsome journeys through a difficult country cannot fail to be impressed by the energy and perseverance with which he has carried out his purpose. Although he did not ascend many of the higher peaks, he traversed a large number of passes, crossing the main watershed itself some fifteen times; and, as in the course of his exploration of between 400 and 500 miles of the Caucasian Range he visited every important mountain group from the Tsagerker Pass in the W. to Basardjusi in the E., his book might not inaptly be entitled 'The Caucasus from End to End.'

CORRESPONDENCE.

To the Editor of the ALPINE JOURNAL.

DEAR SIR,—Having been congratulated by several mountaineering friends on an article which appeared in 'The Illustrated Sporting and Dramatic News' for March 17 last, concerning the trip which I made last year in the Himalayas, I write to say that I have never published, or authorised any one else to publish, any article or any of my photographs in any newspaper or any magazine. Nor did I know that any were being published. Nor should I have given any one permission had I known.

I have now obtained copies of 'L' Illustrazione Italiana,' 'Le Monde Illustré,' 'The Illustrated London News,' and 'The Illustrated Sporting and Dramatic News,' containing reproductions of some of my photographs and very curious accounts of the trip in three languages. As these accounts all have a common origin, the versatile pen of J. Brocherel, a cousin of my good friends Alexis and Henri Brocherel, of Courmayeur, it will save space if I deal briefly with a few of the more absurd statements in the last-mentioned paper only.

Naini Tal is *not* in Central India. It is *not* 'probable that during the ascension of Nanda Devi, on June 10, 1905, the tourists had beaten the record of altitude,' because, as the barometer was *not* broken, I ascertained that the highest point we reached was about 19,700 feet. Nor was it 'indisposition of a member of the caravan,' nor 'the lack of provisions' that 'forced them to go back on the way.' I did *not* ascend Nanda Kot, which is *not* a peak of Nanda Devi. A Yak is *not* a human being, as the writer seems to imply, but a quadruped known to science as *Bos grunniens*.

I could go on indefinitely should you be in need of copy, but think I have said sufficient to justify me in asking you to publish my disclaimer in the 'Journal.'—Yours sincerely,

TOM G. LONGSTAFF.

Ridgeland, Wimbledon, May 30, 1906.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, April 3, at 8.30, the Bishop of Bristol, *President*, in the chair.

The Accounts for 1905 were presented by the HONORARY SECRETARY and were adopted. On the motion of Mr. TOPHAM it was agreed that the Accounts should not in future be bound up with the List of Members.

The PRESIDENT announced that Mr. Withers had presented to the Club three large cases for holding mounted photographs, and a hearty vote of thanks was accorded to Mr. Withers.

Dr. O. K. WILLIAMSON read a paper entitled 'The Dent Blanche from the West and the Breithornjoch,' which was illustrated by lantern slides.

Mr. READE said that he had been along the ridge crossed by Dr. Williamson, and that there appeared to be several points where one might get down to the south. He had gone over the Lauithor, which was reputed to be dangerous, but which he found quite safe in 1893, and he had been told that the pass had only been crossed once since Tyndall's time.

Mr. SYMONS said that he found the climb of the northern slope of the Breithornjoch one of the most enjoyable he had ever done in the Alps; but it was not a climb which should be undertaken late in the season. The couloir on the Dent Blanche referred to by Dr. Williamson was very steep, and the slip of any one member of the party would have been fatal to all. As to the time taken, the Breithornjoch could be crossed in less time by a party knowing the route. Probably the chimney mentioned by Mr. Hill, which his party did not attempt, owing to its being glazed, might under more favourable conditions afford the best route.

Mr. HILL said that he did not remember having been in the couloir on the Dent Blanche, as his party in 1899 had kept on the ridge while ascending. As to the fatal Gendarme, he had thought it obvious that the route was up the chimney, which had seemed to him easy enough but for the glaze upon it, which made it dangerous. The leaders of his party, trying to avoid this, made a détour to the left to attack a buttress, when they ought to have gone to the right, where the ground was not particularly difficult. The buttress, however, seemed a perfectly safe thing to attack, and a perfectly fair climb. The fact that it turned out otherwise was no fault of theirs. The other way, up the chimney, was not attractive-looking, as it was a mixture of rock and snow and ice.

The PRESIDENT had found the paper remarkably graphic in detail, and illustrated by photographs of singular clearness and beauty. He did not understand how a camera was carried in such inconvenient places.

A very hearty vote of thanks was passed to Dr. Williamson.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, May 1, at 8.30, the Bishop of Bristol, *President*, in the chair.

General Lord Methuen and Messrs. F. R. Finch and C. G. Brown were balloted for and elected members of the Club.

The PRESIDENT referred to the loss the Club had sustained by the death of Mr. G. E. Foster.

The Rev. WALTER WESTON read a letter he had received from Japan with reference to the recently formed Japanese Alpine Club, and also referred to some of their rules.

Mr. BOURDILLON read a paper entitled 'Another Way of (Mountain) Love.'

Mr. FRESHFIELD said that they had listened to a very charming

paper. He had himself tried chalet life at St. Gervais and on the Prarion. There was much attraction in such life, far from the crowded hotels, with one's own family and perhaps a few friends. He also fully agreed with the reader of the paper when he spoke of the pleasure of going thoroughly into a district, and he could strongly recommend that from his own experience of the Savoy and Grisons Alps. All would agree with Mr. Bourdillon as to the secret charm of mountains, which represented nature perfectly pure from the invasion of humanity, a charm especially welcome to those who lived in crowded towns.

Mr. KENNEDY said that there was yet another way of enjoyment, and that was to take your own chalet about with you in the form of a tent. He could not conceive of any more delightful way of living, as long as the weather kept fine.

The PRESIDENT said that a hearty vote of thanks was due to Mr. Bourdillon for his delightful paper. He had had some experience of chalet life, and certainly found it very pleasant. He thought that members had not before listened to a more eloquent exponent of mountain beauty; and he had been glad to observe that the reader had been unable to define the cause of our love for the mountains, for it was in the mystery that the great enjoyment lay.

A GENERAL MEETING of the Club was held in the Hall on the evening of Tuesday, June 12, at 8.30, the Bishop of Bristol, *President*, in the chair.

Dr. T. G. LONGSTAFF read a paper entitled 'Six Months' Wandering in the Himalaya,' which was illustrated by lantern-slides.

Captain O'CONNOR said that few of the officers in the Indian service had had any experience in the Alps, and it was dangerous for untrained men to venture on ice and snow, and the natives did not care to venture. Although they could climb on rocks, they did not know how to use the ice-axe and the rope, and this made serious climbing practically impossible for them. The only fully-equipped man that he knew was Major Bruce. The only chance there was of their making important ascents in the future would be by their coming to Europe for training in ice and snow work on the Alps. With that training it might then be possible to teach some of the hillmen.

The PRESIDENT asked what effect altitude had had with Mr. Longstaff's party, and whether it had affected their rate of progress.

Mr. C. PILKINGTON asked whether the party became acclimatised to heights after being some time high up.

Mr. LONGSTAFF said that he could only give his personal opinion on the matter. He did not believe that anyone became acclimatised by a lengthy stay at very high altitudes, but, on the contrary, that the longer anyone stayed very high up the worse was the effect of altitude. He hoped that it was clear from the paper that he merely referred to the general physical condition of the climbers: that

was what he thought would deteriorate during a prolonged stay at over 18,000 ft. Of acute attacks of mountain-sickness, incapacitating the climber from further exertion, he had no experience whatever, although it was true that he suffered frequently and sometimes severely from headache, at some times certainly due to the altitude and at others equally certainly due to the power of the sun. He had slept at 29,000 ft., and did not see why one should not be able to sleep some thousands of feet higher. He had lived for nearly two months at 15,000 ft., but got very weak after an attack of illness, and did not regain his strength until he came lower down to about 12,000 ft. He personally thought that if an easy way up existed, it would be possible for some exceptionally strong climber to reach 29,000 ft., but if the route were hard he doubted that height being reached. Some of Major Bruce's men were first-rate, but he thought that if high peaks were to be ascended it would be much better to take eight or ten Italian porters to carry up provisions.

Dr. COLLIE congratulated Mr. Longstaff on his success and on his most interesting paper, which dealt with an entirely new country. He was pleased that he brought forward again the ascent made by Mr. Graham, which had recently been so much disputed.

The PRESIDENT said it was now evident that the time was not yet ripe for a joint effort to be made to ascend the two highest peaks known. Much and long preparation, and providing and training of guides and porters, was still necessary before a successful effort could be made for an ascent of those peaks. His own impression was that it would be many years before anyone could attempt the great heights. He proposed a vote of thanks to Mr. Longstaff for his paper. This was carried unanimously, and the meeting ended.

Addenda to Mr. Longstaff's Paper.

Page 218, line 6 from the bottom, *after* 'in spite of the cold,' *add* 'Yet the thermometer stood at 29° F. when we started.'

Page 223, line 13. 'In 1864 W. H. Johnson when surveying in Ladak was compelled to pass a night at 22,600 ft.'

Page 225. Add to note * : 'Their map, published in the "Geo. Journal" for 1900, gives a more accurate representation of the Gurla group than is to be found on any of the more recent G.T.S. publications.'

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ALPINE JOURNAL.

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(No. 174.)

TWO NOTES ON THE WEISSHORN.

WITH A POSTSCRIPT.

By G. WINTHROP YOUNG.

(Read before the Alpine Club, February 6, 1906.)

I FEEL that your natural criticism may justly expect some explanation, and my own sense of modesty certainly demands some gentle excuse, for the audacity of my venturing to speak to you of such an old friend as the Weisshorn. Mountaineers are notoriously jealous wooers, and this summit many of you must have known and courted far longer than myself. I might make the usual claim that I was told to do so, and that obedience to one's leader is a lesson early enforced upon us climbers at a rope's end, or perhaps more frequently at its middle. I prefer, however, to ask you to look upon me as a messenger carrying news between old friends, something like the foot pages in the ballads :—

But never a look had the great Lord James
For the little foot page upon bended knee ;
For he brought him news from a distant land,
News of the love of his White Ladye.

If service of 'foot' or 'bended knee' entitle the messenger to any share in the attachment of any Lord James here present, there is some justification for the pages of my message. It is a number of years since the incomparable symmetry of the Weisshorn drew me to commence a very importunate acquaintance, and I might claim to have performed acts of devotion upon 'foot' and 'bended knee' over a large proportion of its possible surfaces. Even old admirers may not be unwilling occasionally to hear of some fresh characteristic, some unexpected attraction in the object

of their devotion, and in the case of such a perennially reigning beauty as the Weisshorn a younger climber may, perhaps, claim indulgence, if he has sought to establish a relationship upon lines less a matter of public property than the approaches discovered by his fortunate predecessors, and charted and printed in handbooks, where the record-breaker who merely 'runs' may read.

My first message is from the west face of your 'White Ladye.'

In 1879 Mr. Passingham,* with F. Imseng and L. Zurbrücken, tried this face twice. On the first attempt they reckoned to have got within 3 hrs. of the top. Bad weather compelled a return under very trying conditions. On their second attempt they slept out at the top of a snow couloir. Stones fell during their ascent. They finally reached the ridge rather to the north of the summit. Mr. Passingham wrote, 'If future climbers make for our first stone-man and thence right up for our second, they will have no difficulty about the route.' As Mr. Passingham was climbing 4 hrs. to the first and 6 or 7 hrs. to the next cairn it is not surprising that later climbers have found some difficulty in identifying or following his excellent climb. He took 12 hrs. in the ascent.

In 1889 Mr. J. P. Farrar,† with J. Kederbacher, crossed the rib which divides the Weisshorn Glacier, and ascended 'the steep and narrow couloir which opens on the large snow-field half-way up.' From this he saw 'a huge couloir sweeping down to his left.' He traversed across almost to the Schalligrat, then struck straight up, then traversed at a level back to the left. There he spent the night, and reached the summit from the north. 'Very few stones fell,' but 'over the slabs little assistance beyond example is possible,' and the 'easy way is very difficult to find.' This remarkable ascent occupied some two days and a night.

In 1888 the intrepid Herr Winkler lost his life in attempting the ascent alone from this side; it is supposed at a height of 3,800 metres.

In 1889 Mr. Cornish,‡ with Hans and Ulrich Almer, made a sensational ascent, following approximately Mr. Farrar's route. They reached the N. ridge half an hour from the summit. Mr. Cornish 'never saw such rotten or friable rocks.' His account is worth reading. He took 13 hrs.

* See *Alpine Journal*, vol. ix. p. 366, and pp. 427 foll.

† See *ibid.* vol. xi. pp. 416-7. ‡ *Ibid.* vol. xv. pp. 192 foll.

Magnificent as these climbs must have been, in security and facility they still left something to be desired, and, presuming that the true 'Badminton' ascent from Zinal had still to be found, I had fixed on the long rib, or rather wrinkle, that ascends at a high angle from the Weisshorn Glacier to the great Tower on the N. ridge as the only route presumably free from the risks attending the smooth expanses of formidable slabs which go to make up this face.

After three seasons' occasional and somewhat tentative exploration, in September 1900 the two brothers Louis and Benoit Theytaz, of Zinal, and myself definitely moved up to the attack. In 1899 I had seen nothing of the mountain. In 1900 it promised hardly better. Twice we slept out in soothing rain in a transparent stone shanty on the Arpitetta Alp, consoled at night by glimpses of stars through the unassuming roof, and cheating the malignant day by bathing in the little lake below, whose waters are, to my experience, even more breathlessly icy for a header than those of the Märjelen See itself. A clearing sunset at last enticed us to try, in defiance of a possible complication of ice or fresh snow. Pressure of time advised the attempt, combined with a respect for the valley patriotism of my two guides, whose local feeling had impelled them the previous year to make by themselves the ascent of a ridge on the Dent Blanche which we had designed to do together, and had left me only the poor consolation of following subsequently as 'first amateur.'

We left at 2.50 A.M. The traverse of the somewhat complicated north bay of the Weisshorn glacier, crossed on its southern rim, had been simplified by previous exploration; but we lost much time in darkness among the icefalls, and it was not until 6 o'clock that we scaled by a steep ice-slope the back of our rib, just where it leaves the main mass of the mountain and curls round to enclose the lower, southern bay of the glacier. For the first 10 minutes the rocks went very rapidly, then we passed slightly to the left, and for some 15 minutes followed iced rocks and snow patches, returning again above on to the edge of the rib. Care was necessary in dealing with the glaze on these first few hundred feet. This diminished with sunlight, and we made cheerful progress, though the progressively steepening ridge and an occasional awkward step checked the pace more and more as time went on. The angle was high, but the rock excellently firm, and there was no call to concern oneself with anything but one's own holds. The climbing was exceptionally interesting. The wrinkle looked very narrow, winding up the face above

like a large rough caterpillar. At any moment one felt it might be broken by some impassable step, and the smooth hopeless-looking slabs, a little below to left and right, swept by occasional rockfalls, offered very little hope of lateral escape or of a strategic turning movement. The boots and stockings of the guide ahead, contorting on the rough granite notches, only occasionally decoyed the eye from the few feet of steep rock that formed the field of active interest.

I afforded some distraction to the professional element by leading on the first part of the climb. But two or perhaps three passages occurring, which called for some support of the leader from the second man, made it evident that the brothers worked more rapidly and harmoniously together. In compensation I gradually found all the heavy luggage of the party gravitating, pack by pack, on to the top of my own. At about half the height of the ridge the crux of the climb was reached, one which had caused agitation to the further end of the telescope on previous examinations. The rib rises in a precipitous step, unassailable direct. Fortunately, however, the step itself is not quite so broad as the rib below and above it, and on its N. side it had looked possible to traverse on a ledge, to the left of the projecting buttress, into the right-angled corner where it springs from the main mass. The ledge proved to be crumbling chips, cemented with ice, and had to be laboriously refashioned by the axe; but there was excellent anchorage half-way along it, and also again in the corner. At the half-way pinnacle I took a double turn with the rope, and prepared to watch the brothers give a *matinée* performance of 'Man and Superman.' The corner was some 30 to 40 ft. high, a right angle enclosed by smooth walls and capped at the top by a projecting block. Half the height went easily enough, but then it was necessary for Louis to help his brother, first on to his shoulders, then his head, and finally on to his axe, while Benoit clawed for hold, out and round the block, on the sheer right-hand wall. From his gasps and kicks he obviously found it none too easy. Thrice he tried it, while I quoted caution from Tennyson:—

But ever when he reached a hand to climb
One stayed him: 'Climb not, lest thou break thy neck;'

and twice, accordingly, he redescended lightly on to his brother's cranium. With suitable applause from the gallery he at last disappeared over the edge and vanished up an ice chimney, which sloped back at an easier angle in the direction

of the main ridge to our right. The rope soon ran out, and Louis was forced to follow, with a good deal of patois and some ethical support. Just at the moment when he was squirming round and over the smooth corner came a shout from above. A large flat stone, some two ft. square, loosened by the rope, spun cheerfully out of the invisible, ricocheted flatly off his back, and hummed off into space, playfully opening the back of my right hand in passing. I mention this incident because it has a temperance moral. I had protested previously, on principle, against the number of bottles thought necessary to celebrate this expedition. Louis had maintained, also on principle, that

Mountain grapes and mountain cheer
Make the merry mountaineer.

Now, the stone left Louis uninjured, but every bottle but one in his sack was smashed! I had only time for a very short homily in polished patois, when I was interrupted by the call to follow. My right arm was for the moment useless, but I was reassured from above, and started. All went well up to the overhanging block, but here the right hand failed at the pull, and for the first and, so far, the only time in my Alpine experience I swung out, gently oscillating, across the polished wall of the tower. My requests for additional support were met by an emphatic statement from the unseen Louis that, whereas his situation was all that was satisfactory according to cantonal canons of security, he could *not* spare more than one hand to the rope. The feat of lifting oneself by one arm on a rope, when dangling at its end, is one that is best practised first in less stimulating surroundings. It was only after three failures that with the help of my teeth I got high enough to secure a toe-hold on the rock. I had plenty of time to meditate on the incompleteness of Ecclesiastes as a climbing prophet, who declares, if you recollect, that 'two are better than one, for if they fall, the one *will* lift up his fellow.' The ice chimney after this seemed comparatively simple.

On regaining the rib the climb followed its old lines, somewhat steeper perhaps, the holds somewhat slighter, but all generally firm and satisfying. Where the rib soars up in the final wall of the great tower a very little examination advised its abandonment. It was the appearance of this tower that enabled the north ridge so long to preserve its reputation for impassability. We turned to seek another way. The wrinkle by this time had lifted itself some

height off the face, and was occasionally projecting in large irregular rock cornices over the slabs to our right; down the face of this cornice a loose, easy chimney, debouching just above the highest small pinnacle, gave ready access to the uncompromising expanse of couloir. We descended on to the slabs some 100–150 ft. below the small well-marked col to the south of the great tower. The holds on the Platten, ascended diagonally, were microscopic, but quite solid enough for one, with an occasional reassurance of a foothold enough for two. The col was gained at 10 A.M., after $4\frac{1}{2}$ hours' actual climbing from the glacier. Here the first short halt for food was taken. The snow of the north ridge to the summit proved in admirably frozen condition, and the top was surmounted, going quickly in 55 minutes, or in $8\frac{1}{2}$ hours in all from the *gîte*. Any slight exultation resulting on the ascent was soon corrected. On the cone sat a lady, a proud lady of somewhat mediæval aspect, who chillily refused all overtures for space until a proper, formal introduction had been performed for all the new arrivals. This at once restored the normal, suburban equilibrium of our party, and served to let us know our place, in case the height might have gone to our heads as well as to our feet.

The guides, it subsequently transpired, had an engagement at Zinal the following day, and the attractions of a return by the whole north ridge, the Bies-Joch, and the Col de Tracuit were chanted so flamboyantly that any mild protests on the score of fatigue or snowy weather faded away:—

Indeed, we were waxen weary; but who heedeth weariness
Who hath been daylong on the mountain, in the winter weather's
stress?

When a mere mortal is fated to enjoy at one and the same moment the fascination of looking down on the Matterhorn and the charm of a conventional drawing-room conversation it is difficult to protest that anything would be impossible.

We gave our censorious 'Vision of the Heights' a long start, and I confess (even to a masculine audience), with a timorous consciousness of my want of gallantry, that, as I watched the slow descent of that prim, grim dame I found myself murmuring—of course only to myself—

He clasps the crag with crooked hands;
Close to the sun in lonely lands,
Ringed with the azure world he stands.
He watches from his mountain walls,
The wrinkled *she* beneath him crawls;
Then——



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THE WEISSHORN FROM THE BIESHORN.

Alfred Holmes, photo.

We hurried off the peak.

The north ridge, by which we descended, is now too well known to call for description. At that time, if I remember rightly, it had been traversed only twice or three times at most. In 1871* Mr. Kitson, with Christian and Ulrich Almer, had ascended the ice of the north face from a *gîte* on the Bies-Joch, and had joined the north arête just beyond the great tower. He was followed shortly by Mr. Coolidge † and Miss Brevoort. In 1898 Herr Biehly ‡ traversed the whole ridge, and was followed in 1899 by Mr. Cooke § with the Theytaz, who made, in passing, the first ascent of the tip of the great tower.

We went over the top of the great tower on the return, in 50 minutes from the summit, just for the satisfaction of doing it; but the impressiveness of the north ridge and its great series of impending castles, plastered with ice and inconvenient snow, appealed rather faintly to fatigued muscles—travelling, perhaps, somewhat beyond a rational pace. Later in the day a silent trio cut protesting steps down the ice of the Bies-Joch, and tramped doggedly, but with returning good humour, over the Col de Tracuit. We regained Zinal in a cloudy, storm-ray sunset, at 7.20, in 7½ hours from the top; the whole expedition occupying 16½ hours.

The later history of the ridge has been killed by kindness. *Sursum corda* is an excellent climbers' motto, but the guides have read a subtle secondary meaning into *sursum corda* that has resulted in tying up many a vigorous climb in infantile swaddling bands. The following year eleven of them, led by the Theytaz, fixed 1,000 metres of rope on this rib. A Teuton brother subsequently wrote to several papers proclaiming his first uplifting on these cords. In 1903 they were, I think, renewed, and at the difficult corner a loosened stone again attacked one of the Theytaz, this time more seriously. On our ascent, however, with the one exception mentioned, the climb was free from all the accidental risks, and I know of none, and I can imagine there are but few, big rock climbs in the Pennines to compare with it in sustained and varied interest. That is, in its natural state. An easy climb it can never be; in any but favourable conditions it might be found really difficult, but I have little doubt that in

* *Alpine Journal*, vol. v. p. 274.

† *Ibid.* p. 277.

‡ *Jahrbuch S.A.C.* vol. xxiv. pp. 76-90.

§ *Alpine Journal*, vol. xix. p. 597.

objective security and comfort it compares well with other recorded ascents of the mountain from Zinal. The ridge does not emerge on the actual summit, but it enjoys the distinction of a separate and recognisable identity. It has been suggested that it might be called the *Turmgrat*, from its relation to the great tower. To prophesy is dangerous, but when Nature has had time to remove from this rib some of the cordage, rope-wrack and rigging, at present masking hand- and footholds to the public danger, I have every hope, if age and figure still permit, of getting up the 'steep corner' once again; and this time, I trust, in a more seemly manner.

And now for another message.

Seen from a distance, there are few more hopeless-looking faces in the Zermatt district than the triangular, pallid smile that the 'White Ladye' turns south-east upon Zermatt. From neighbouring summits, and yet more often from that much-frequented point of abstract and idle speculation the peak of the Riffelhorn, I have often meditated on its evil reputation.

Professor Tyndall,* in his account of his first ascent by the east ridge in 1861, gives an eloquent description of the sight of a great rockfall on this face.

Mr. Leslie Stephen † in 1864, descending from the east ridge, 'watched one of those great showers of stones.'

In 1860 Mr. C. E. Mathews, with Melchior Anderegg and Kronig, ascended the great snow couloir at the east end of this south-eastern face, and were driven back by dangerous conditions when only 40 minutes distant from the ridge.

In 1869 Mr. Horace Walker ‡ and the late Mr. G. E. Foster, attempting to traverse below the east ridge, were forced down the face at its eastern end and descended on to the great buttress, thence making their way to the lower Schalliberg Glacier.

In 1877 Messrs. Davidson, Hartley, and Hoare § gained the Schalligrat, 1,500 feet below the summit of the mountain, by the couloir and buttress at the western end of this face. They ran considerable risks from rockfalls, and Mr. Hartley, in his delightful paper, was of opinion that 'the stones preferred going down the ribs.'

In 1900 the late Mr. Cockin, || with Messrs. Corry and Brant, descended this face in an irregular traverse from the

* *Hours of Exercise in the Alps* (London, 1871), pp. 91-113.

† *Alpine Journal*, vol. i. p. 43. ‡ *Ibid.* vol. xxiii. pp. 180-1.

§ *Ibid.* vol. viii. pp. 340 and 419-25.

|| *Ibid.* vol. xx. pp. 255-9.

summit towards the east. In their account of their terrible experiences they mention the special danger incurred from stone avalanches.

I had noticed in almost all these descriptions that stones were spoken of as only falling from immediately below the summit itself, and I was encouraged to hope that an ascent inclining from the east might avoid the chief danger during a great part of the day. I shall return to this point shortly. The recollection of the firm rocks of the *Turmgrat* encouraged me to hope also that some ridge might yet be found to clear the general character of the face. Chance and weather were the real agents responsible for a fulfilment of these old hopes in 1905. Mr. Ryan, with Josef and Gabriel Lochmatter, and myself with Joseph Knubel, were combined for an attack on the Schalligrat. (I refrain from recording that that year, for obvious reasons, the unkindly ridge was locally renamed the Schantigrat.) Weather and fear of the open Schalli Glacier drove us down from the hut and put an end to much indolent chess-playing. In the subsequent recriminations we vowed that, if we could not get across the glacier to the Schallijoch to reach the old route, we could at least strike straight up the face and make our own. In this mood chance brought us across Mr. W. E. Davidson's path in Randa, and with real generosity he supplied us with a sketch and a description of his own and other previous ascents on this face. This served to determine our purpose. In bad weather we returned on Sunday, August 27, to the hut, pledged to wait for a favouring day, and with confidence in the 'Monday luck' so noticeable that year. There had been some talk of a *gite* on the rocks, but I have never attained to the superexcellence of Goldsmith's 'Traveller' in this department, who professed to find that

Though the rocky summits frown,
These rocks, by *custom*, turn to beds of down,

and where possible, in uncertain weather, I prefer the distant but at least waterproof Capua of a *cabane*. Ryan's persistent wakefulness proved too much for the efforts of mist and guides alike, and a somewhat doubtful party was launched from shelter at 4.45 A.M. We followed the ordinary route across the little glacier and up the chimney in the small containing ridge, trudging steadily; a mere matter of 'boots, boots, boots, going up and down again.' Striking to the left, north-west across the eastern bay of the Schalliberg Glacier, we threaded the crevasses at a high level, and turning slightly down again struck the great split buttress by an easy

chimney somewhere below its ultimate fork.* This was the buttress from which Mr. Mathews started in 1860, on to which Mr. Walker descended in 1869, and which has formed the starting-point of most attempts on this face. We followed it to some height, and rested at its top, below the snow slopes, for breakfast and a pipe. Personally I rank a pipe before all the articles of the mountaineering creed. A confession of faith is dangerous, I am quite aware, so I will temperately limit myself to saying that it supplies the place for me of food, of drink, sometimes of sleep, and, to a certain extent, of warmth. In this last respect, however, I must admit that it can be tried too highly. I remember once negotiating with unspeakable struggles the exit of a delightful, 100-foot quartz-funnel, discovered by a friend and myself on the Hohstock above Bel Alp. I emerged triumphant, but accompanied only by the rags of a silk shirt, my pipe, and my boots. I cannot say that, during the period of waiting in a bitter wind until my companion rejoined me with the remnants which he had collected on his ascent, I found smoking more than a rather cloudy substitute. But all merit has limitations. Leaving the buttress we turned diagonally up to the left, across steep hard snow, past the foot of the great couloir by which Mr. Mathews all but reached the east arête in 1860. The bergschrund was crossed with little loss of time or of step-cutting, and passing still further to the left we struck the end of the second of the long, shallow ribs which descend to the Schalliberg Glacier from various points on the east arête. A powdering of new snow and an occasional glaze of ice were not sufficient to interfere with the good firm holds and comfortable angles that these rocks enjoy. We ascended rapidly for about half an hour, then crossed upward and westward over a depression to the next rib, followed this some distance, and then struck west again. The climbing was quite straightforward, and we were making as far as possible a direct line for the summit. The guides pretended a desire to follow one rib right up to the east ridge, but they were glad to be overruled. 'Dieser Querweg ist a very queer way,' was Joseph's attempt at a bilingual pun. Some 800 to 900 feet, approximately, below the summit the rocks became steeper and less frictional, and drapings of ice and snow suggested caution in traversing. So a short halt was called, and the ropes, which had hitherto not suggested themselves

* We found this chimney difficult in 1906: it is sensitive to weather changes.



W. H. Gocer. photo.

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THE WEISSHORN FROM THE N. END OF THE PLATTENHÖRNER.

as necessary, were put on by both parties. The majority, Ryan with the two Lochmatters, led the advance; a minority of myself and Knubel followed, slightly varying the route of the first party at our pleasure. The first passage to the left called for some care; then followed another upward, easy-going wrinkle, and another careful, shallow couloir. Finally, some 200 feet immediately below the summit, a very fine stretch of precipitous slabs had to be clung across on an upward diagonal. I let Knubel have his full 70 feet out before following. The minute but firm holds at long intervals made this a most stimulating crossing. About half-way over I was checked for some time by an utter absence of further handhold, although Knubel, whose reach is considerably shorter than mine, had not apparently found much difficulty in advancing. At last a tiny but sole-supporting crinkle revealed itself behind a projecting corner, and suggested to me, as I put it to its proper use, a new interpretation of the old maxim that to 'know-ledge is better than reach-is.' This traverse brought us out on to a broken little rib rather to our left of the top. Then we pelted direct for the summit and surmounted the final snow crest, I say five, but Ryan obstinately maintains three, feet to the west of the highest point. This was at 11.15. The whole climb so far had taken $6\frac{1}{2}$ hours. Not a stone was seen to fall during the ascent, and the lower snows showed little trace of previous falls. A considerable covering of fresh snow made it difficult to judge, but the general appearance of the rocks confirmed my previous impression that such falls as there are come generally from the still unsettled rocks just under the summit, and confine their principal action to the couloirs immediately below it and off the line of ascents from the east.* This agrees with the experience of Mr. Davidson's party in traversing immediately below the summit on their first ascent to the Schalligrat. It also is confirmed by the starting-place of the falls, as witnessed by Professor Tyndall, Sir Leslie Stephen, and others. I have not had the advantage of Mr. Broome's † observations when he made the first ascent from the Schallijoch in 1895, but Mr. Davidson, following the same route in 1902, 'particularly observed into the matter of falling stones and ice, and though the day was magnificent and cloudless he did not see one single stone fall.' He believes, however, 'that it

* This view is confirmed by the observations of Mr. Mayor and myself during our ascent of the west rib in August 1906.

† *Alpine Journal*, vol. xviii, pp. 145-55.

was abnormal and wrong on their part not to have done so in showers.' His actual observation agrees with our immunity in 1905, but I cannot do better than record his opinion that 'the face fulfils all the conditions of a decidedly dangerous face,' and that 'it is so lofty that anything big that does come from fairly high up must ricochet all over the shallow ribs, once it has struck.' Apart from this risk the climbing is devoid of any special features, and in a good year it might well be possible for a party, starting early and travelling fast, to ascend the surprisingly easy angles of the face at almost any point and in almost any direction.

In spite of keen wind and snow we halted under the top for lunch, for we had

Found hard rocks, hard cheer, or none,
And we were emptier than a friar's brains.

The breaking weather induced us to abandon our intention of descending by the Schalligrat. Indeed, the powdery snow of the ordinary, sharp east ridge gave us difficulty enough. Coming off the steep slope of the final peak, a sitting glissade was suggested. As a sometime schoolmaster I should not have forgotten my Roger Ascham, who as early as the year 1545 had discovered that 'a man may, I graunt, sit on a brante hill-syde, but yf he gyve never so lytle forwarde he cannot stoppe though he woulde never so fayne, but he must nedes runne heedling, he knoweth not how far.' I did, however, neglect him for the moment. I did 'gyve a lytle forwarde,' with the result that I crossed the well-covered schrund in one of those attitudes which are familiar to all of us, but which never lose their freshness of humour from the spectator's point of view. The remainder of the climb just kept the interest going. A strange diffusion of yellow light in the gathering mist made a singular and spectral wasteland of even the last dreary rubble-heaps of the descent. Josef Lochmatter was sent on from the ridge to arrange for the return from Randa to Zermatt. He vanished like an animated grey avalanche, and we followed more quietly, reaching Randa in dreamy contentment in about 3½ hours from the top. On the way we passed four-and-twenty unhappy souls ascending to our previously lonely hut, for a night of discomfort and a morrow of disappointment. We could only sympathise. They suffered for want of faith in the year's Monday-luck.

Kindly Fortune thus made it possible for me in only two completed ascents to make the acquaintance of four

several routes up and down this most perfect of all mountain forms. The Schalligrat alone of the main ridges invites another visit, and since, in order to maintain the average, some sixth way will have to be found for the descent, it may have to wait some time. Possibly it may be reserved for some remote 'combined' ascent that shall fulfil more closely Tennyson's conditional approval, who bids us each take, if you remember,

Some comfortable Bride to grace
Thy Climbing life.

These are the two messages from an old acquaintance; they have, I fear, lost much of the original freshness with which they were given, and have grown shamelessly blurred and dog's-eared on the way to you. But I have been asked to add to them, with no cover of excuse—for it is not even a new message—a short scrawl from the Furggen Ridge of the Matterhorn. I will ask you to allow me to call it a postscript to the messages. I inquired of a small cousin of mine what he thought 'P.S.' at the end of a letter meant, and he suggested 'Positively Scandalous.' This is the nature of so many postscripts that I feel it may even cover the sort of way I am introducing this one.

It is a commonplace now to say that there is an incomparable fascination for mountaineers in the sombre magnificence of the Matterhorn. Whatever our views as to the comparative merits of our favourite climbs and peaks, I suppose we should most of us agree that as a mountain to look at, a mountain to spend time and energy in lurking round and exploring in all its mysterious, mist-haunted recesses, a mountain on to which we find ourselves drifting almost inevitably every season, and with which we hope to keep in touch as long as years will allow us to totter up to a Théodule Pass or a Staffelalp, nothing can really take its place.

Personally I find it almost magnetic in its infinite varieties and fascinating in its memories—nights of wild storm and snow in the hut on the Italian ridge, when the timbers creaked in their efforts to parachute into space, and it took three of us $2\frac{1}{2}$ hours to regain the Col du Lion by iced slabs on which we had ascended in twenty minutes the evening before; days of scorched and monotonous pounding up and down the parched and dusty east ridge, whose innumerable drearinesses can only be compared with Dante's descent through the circles of his *Inferno* (be it noticed, by the way, that Dante always took a Guide); weeks of wandering round the Furggen

Grat and the tremendous ruins of the southern precipices, where we made an abortive and ill-timed attempt, wisely abandoned, to reach the Pic Tyndall direct from its base, and 'departing, left behind us footsteps' (more than I care to remember) on the ice of the southern and eastern glaciers.* Of all perhaps the most memorable was a night spent round the camp fire, on the side of the Zmutt ridge, the eve before our ascent, while a circle of Lochmatters and Pollingers jödelled into the frosty starlight, and in the distance the Dent d'Hérens and the Dent Blanche chuckled a hoarse chorus of spasmodic avalanches. It is not surprising then, that the Furggrat, the last of the four main ridges, drew Knubel and myself to attempt at least an examination. We laid a lot of emphasis to one another on the fact that we only meant to examine it.

The previous history of the ridge is probably well known to you. Mr. Whympfer looked at it, and tried it from the huge couloir on its west, whence he was driven by a terrific stone-fall. When he started by himself up to the right—the true line of attack—his guides refused to follow him.

In 1880 Mr. Mummery made the first ascent in stormy weather, and just below the head traversed across to the top of the Swiss shoulder under rather perilous conditions.

In 1899 the indomitable Signor Guido Rey failed to get beyond this same point without the aid of a cord let down from above; some 200 ft. higher he was compelled to return. He subsequently ascended by the west ridge, and had himself lowered on a rope-ladder over the cliff to his previous highest point, reascending and then descending to Zermatt, 'thus visiting,' as he modestly says, 'every foot of the ridge.'

At the Schwarz-See hotel I met Mr. Ryan with his two Lochmatters, bent on the same errand; only, whereas I thought at most of trying the traverse to the east ridge, he had conceived the bold idea of prospecting a possible traverse across the south face to the Italian ridge. Mr. Farrar kindly informs me that Daniel Macquignaz also suggested this. We agreed to work together, though keeping our several parties. We started at 12, an hour too soon I thought, and arrived, still in starry darkness, at Ryan's previous *gîte* on the top of the ridge north of the Furggjoch. We tried to while away time in inspecting his admirably constructed sleeping-

* A successful ascent direct to the Pic Tyndall was made this year (1906) on August 10 and 11 by SS. Ugo de Amicis Ferraris and Augusto Ferraris without guides.

place and abandoned stores. Ryan makes a *sine qua non* of a large fowl, with the occasional alternative of several beef-steaks, for hut cookery; to this perhaps he owes something of his exceptional staying power. Knubel and myself agree on light rucksacks. Knubel's argument is striking. 'If you get back,' he maintains, 'you can always eat; if you don't, good food is wasted; and you are more likely to get back if you have a light sack.' It is something like the reasoning of the man—you possibly know it—who refused to subscribe money towards sending missionaries to the savages of the New Hebrides, because, he said, he was a vegetarian.

The wind soon beat our patience, and so, still in the dark, we made for the narrow crack that gives access from the Furggrat to the Furggen ridge—or rather edge, for it is more properly the edge of the south-east face than a definite ridge. The crack was so sporting that it raised hopes of the climb to come, all too soon to be disappointed. Once on the face one can run practically anywhere one pleases; and adopting the line of least resistance, for reasons of pace, we must at one time have been ascending on a line fully a third or more out across the face towards the east ridge. This line cuts the arc of the first great outward curve in the edge, and rejoins the actual ridge where it again swerves in. Dawn indulgently waited to appear until we were probably about half-way up to the head; but, as it at once announced its arrival on the summit by a succession of express messengers, despatched with a careless disregard of their destination, we bore back discreetly to the edge on our left. Progress was very rapid, and only occasionally checked by anything calling for slower negotiation or more than ordinary care. The actual passage, up and across some steep broken chimneys, on to the shoulder, or rather notch, just under the overhang of the head, was not so easy. The rocks were iced and friable, and a slight cord, probably left by Signor Guido Rey, proved more of a hindrance than help.

Once in the notch three of the party secured sketchy front seats on the base of the rocks. The other two sat astride of the little snow fork. The situation here is certainly impressive: below and under the left foot the face falls away, with its edge swaying in and out, in one gigantic swirl to the Matterhorn Glacier; under the right foot gapes the vast couloir where, thousands of feet below, clouds are seething in a seemingly fathomless cauldron, whose sheer, pitiless walls seem a perpetual prison for the hollow writhings of lost mountain mists. Above, the precipices, wet, crumbling, red and black, in twisted,

shattered strata, overhang with the most uncompromising aloofness. The idea of a traverse across the south face was at once abandoned. On firm rocks, such as are found lower on the ridge, the attempt might be just possible, though hazardous ; but on these disintegrated, peeling, shale shelves it should never be in question. To return down the ridge was a dull notion, and would mean longer exposure to assault than on the traverse to the Swiss shoulder. The risks of this traverse were known to us before, and our hearing and sight now confirmed them. 'In all kinds of climbing,' writes Edgar Allan Poe, 'it is, as Catalani says of singing, easier to get up than to come down.' At all events if we had difficulty in leaving our high notes it was not for want of wind, of which there was much too much for long meditation. The discussion that took place was, however, given the circumstances, curiously amusing. One amateur was all for trying the corner above us—of which some 50 ft. more would probably go—in spite of a stone-douche down the only line of attack ; to which one guide responded with a murmur as to his growing family, and another with dry references to an incipient attachment which ran risk of premature closure. Finally the traverse was resolved on, and it may be here stated that no sooner were we out on the face and in a better position for seeing, than all unanimously agreed—even the youngest of us—that the corner was impossible, even apart from its inevitable risks. The only conceivable line of advance leads for a short way up a stone channel to end in an overhang. We found the start from the shoulder was not easy, down a steep slab and under an impending corner. Then followed the traverse of an open, loosely built couloir, where the risk of falling stones is greater than on the rest of the traverse. We took this very rapidly, and on unsatisfactory, featureless slabs, coated with fresh snow and broken shale, we wound across the face, contorting ourselves into all the attitudes inevitable in hanging on to loose, rotten rocks, sloped at a high angle and uncertain in their own minds whether they, too, do not want a change of station.

Unhappy, most like tortured men,
Their joints new set to be new racked again,
To mountains they for shelter pray ;
The mountains shake and run about, no less confused than they.

Cowley must really have known what it felt like to make a traverse on crumbling rock. From above only a few stones fell, and those chiefly outside us. We were, in fact, surprised

throughout the day at our comparative immunity. The last 200 ft. on to the Swiss shoulder, as we expected, proved the real difficulty. Had we not remembered Mr. Mummery's account we should have been tempted, as he was, to descend on to the next sloping, repulsive snow-terrace below, and try on that level. Of course some 500 ft. lower the difficulties almost disappear, but there the risk of stones would be greater. The leader here moved meditatively. To the second party he seemed to crawl like the hour hand of a clock. Possibly our gentle passivity may have suggested to the crowd watching us from the Swiss shoulder that we were stationed there permanently to register the action of falling stones, and were indulging to the full the delight of 'counting the dewy pebbles, fixed in thought.' Knubel was firmly anchored behind me, but I noticed that all the first party were performing on very insufficient hold. With real altruism I suggested that we should join on and give them a firm basis of operations. With all five on the two ropes it was just possible for the leader to get a secure position on the shoulder before the tail left its base. Incidentally I may remark that I do not think that a less altruistic pair than Knubel and I had shown ourselves would have had at all a comfortable time in getting on to the shoulder unassisted. Virtue, however, is its owner's reward. The traverse ends at the very top of the shoulder just at its junction with the steep slabs of the head. Much of the crowd that had assembled there to watch our traverse had dispersed by now, and we managed to jostle and shoulder and shove our way to the summit in about 20 min. In spite of bitter weather and frozen rocks it was a 'parade day' for Zermatt, and solid peasants were hauling themselves and yet more solid masses through the trackless mazes of ropes and chains. I half suspect it may have been in prophetic anticipation of the usual 'Sunday out' on the Zermatt ridge of the Matterhorn that John, Duke of Buckingham, remarked centuries ago—

Behold some toiling up a slippery hill,
Where, though arrived, they must be toiling still ;
Some with unsteady feet, just fall'n to ground,
Others at top whose heads are turning round ;
To this high hill it happens still that some
The most unfit are forwardest to come.

We are told that 'of old sat Freedom on the heights,' but 'freedom' would now be an inapt description of the manacled Matterhorn. Would it not at least be as much in the interests of the best guides as of the mountain itself and its

admirers if these gyves were removed, and the cords unwound which are twined grotesquely like the straggling straws of insanity round Cervin's sombre head? Subscriptions are even asked at the hotels to renew these atrocities: in one place this year a cord was represented only by just a little bit of string, as a forcible hint that more funds were needed. Ryan, indeed, incurred some additional odium by picking up the end of this and offering it to a perspiring guide in the crowd, under the misconception that it was hanging out of his pocket. In spite of these assistances one stout party blocked the narrow corner so long that a permanent residence seemed our only outlook. At last, however, I remembered my Wordsworth, and appealed tragically to his guides.

A word from me was like a charm :
 They pulled together with one mind,
 And their huge burthen, safe from harm,
 Moved like a vessel in the wind.

At least he swung out of the way and let us pass. At the top we waited an hour, pondering on the infinite void and filling a perhaps more finite one from the sacks.

Even so the shoulder proved a hardly less congested district on our descent; some parties hardly seemed to have altered anything but their expression. We unroped below the old hut and hurried down as best we might to get the penance of that monotonous and detestable descent over. A dangerous solitary climber, one of the numerous crowd we passed, amused himself by discharging a hundredweight of loose rock at our vanishing heads. We urged him pressingly to wait until the shot should be at least taken from a more sporting distance. He complied, but solaced his soul by dismal and derisive howls, growing gradually more distant until they finished with a final wail and a resumptive stone-discharge as we turned the corner below the couloir. As we had got into the way of using Wordsworth it will probably have occurred to you that we at once quoted 'Peter Bell' in chorus:—

Among the rocks and winding crags,
 Among the mountains far away,
 Once more that ass did lengthen out
 More ruefully a deep-drawn shout.

Just below the last little wall of rock above the new hut we descended upon a triple line of tourists, seated in a gaily-garbed half-circle. They were applauding the returning heroes as they severally descended, and immortalising with

a gross of cameras the dashing fashion in which their grandfathers and grandsons negotiated the final step into the auditorium.

You will probably agree by now that the content of my P.S. is 'positively scandalous;' but if I have talked scandal of the Zermatt Ridge it is because I wished the postscript to supplement the notes, by emphasising in its contrasts any justification that might be needed for the previous climbs.

The vulgarisation—if one may call it so—of many of our chief ridges is the inevitable result of the growing popularity of mountaineering. The price that mountaineers have had to pay for their present immunity from journalistic charges of lunacy is that they have become something of a fashion. They are now no longer left to wander in enforced but pleasant solitude among 'the precious things of heaven, and the dew, and the deeps that couch beneath,' and 'the chief things of the ancient mountains, and the precious things of the lasting hills.' In further lands it may be still possible, within the compass of a fortnight's holiday, to find something of the romance with which the Alps were invested for the earlier generation, but it has to be sought, it no longer runs to meet us. To sleep in the huge and noisy caravanserai on the summit of the Brocken in the Hartz Mountains during Walpurgis-Nacht, when the only devils that assail you will be little demons of an extremely irritating and concrete species, will dispel most of your Goethesque illusions; but a night in the little lightning-shattered chapel, half filled with snow, on the summit of Mount Athos, watching the storm surging in the great gulleys of its northern face, and drinking herb-tea maybe with a white-haired hermit, whose only previous thought of England has been the sight of the solemn procession of British battleships passing on their silent watch 5,000 ft. below his eyrie, is a romance a little more remote of attainment. Within four days (if you will) you can see from Parnassus the snowy range of Olympus floating in mid-air, like some silvery cloudland of the gods, upon a haze of blue shadow that fades into the indistinguishable greyness of the sea. Within four days, too, you may find yourself toiling up the long snow slopes of that other Olympus in Asia, with the red roofs and dazzling minarets of Brusa nestled in green mulberry trees in a fold of the hills at your feet. Within but two days more you can be seated on Zeus' own rock-throne on the summit of Ida, looking away to the north where the impetuous Scamander bursts its course through rocky gorge and olive grove out on to the soft green levels of

wind-enchanted Troy, while behind you the blue waves of the Ægean fringe with white surf innumerable lilac islands, and to the south the low barren uplands of Asia melt into a hot distance of sun-coloured mist.

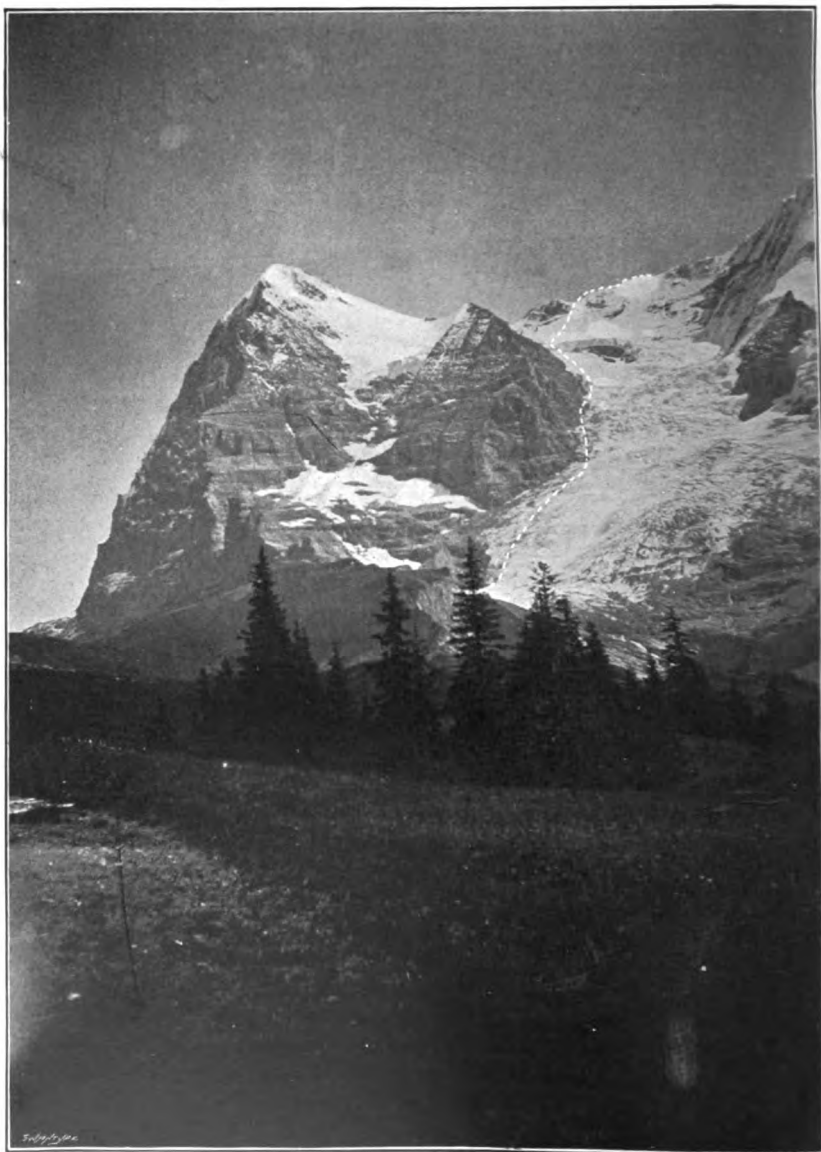
But in the nearer region of the Alps romance has retreated into remoter fastnesses, and those who seek it there must often incur the charge of wilful avoidance of the obvious way. We have spoken of the Matterhorn, but any popular climb would yield as good a moral. Have you ascended the Jungfrau in a good year from the Concordia Pavilion? The shriek of the train is just round the corner; the snow track is visible at 10 miles; near the summit guides and parties have trodden out a vast set of 'woppin' old stairs.' It befell me once to fall into one of these so-called 'steps,' and I was only extricated with much difficulty. If I had perished there, imprisoned, the words found graven upon my heart would have been 'Eiger Junction.'

Year by year a melancholy antiphone grows louder in an ever larger number of Swiss valleys. Listen any still evening to the voice of the Rhone, growling hoarsely to drown the hoot of the busy engines bustling their long burthens up and down the desecrated valleys. It is chanting in a clamour of indignant surprise, 'Line upon line, line upon line!' Listen again and you will hear from the distant silver peaks, as they lift appealing heads to the uneasy wind that frets in vain to free them from their ravelled drapery of cord and chain and iron, an echo like a drowsy anger of response, 'Woe unto them that draw iniquity with cords, and sin as it were with a cart rope.'

It is, indeed, only the climber prepared to leave, with all due precaution and knowledge of the conditions he is encountering, the snowfield trampled into buffalo-wallows or the ridge-climb polished pink with frequent feet, who can still find the cloud-wisps of romance clinging round glacier and peak, in the new pleasure of untrodden snow-way or unviolated summit.

If it were needful to find a motto to embody the essential doctrines of the mountaineer's creed I should myself choose the 'good and godly' distich attributed to James V. of Scotland—

Brother, hearken what I say,
Grip ere thou slide, and, keep forth the highway.



Mrs. Walter Weston, photo.

Swan Electric Engraving Co.

EIGER AND EIGER GLACIER

FROM NEAR WENGERN ALP.

AN ADVENTURE ON THE EIGER JOCH.

BY WALTER WESTON.

ONCE upon a time—in the summer of 1897, to be precise—my friend Somerset Bullock and I, after some delightful guideless climbs elsewhere in the Bernese Oberland, found ourselves at last face to face with the *pièce de résistance* of our mountaineering menu in the shape of the Eiger Joch. The story of its first conquest, nearly forty years earlier, had always exercised a fascination over us, and perhaps the experiences that befell us thereon may be sufficient apology for venturing on a small 'plain tale from the hills' on our own account. At least the recollections of them will long last fresh and green for two of the trio that shared them; for one now feels towards the Eiger Joch the gratitude once expressed by a Japanese student to a friend of mine in the somewhat startling assurance, 'Your noble spirit is prowling in my mind. My lamp of hope is still kept burning by your vivid kerosene.'

On a glorious morning in mid-July we left our quarters at the well-known hotel on the Kleine Scheidegg to reconnoitre our route before venturing upon a final attack. The guides at Lauterbrunnen whom we had invited to come with us on our way from the Ober Steinberg had one and all declined our offers. Driven, therefore, to make a virtue of necessity, and not unwilling to score, if possible, off croakers disposed to laugh us to scorn, we determined to play the game without professionals and to see if, in our match *v.* the Eiger Joch, we could not win it off our own axes.

The splendid terrace-shaped ice masses, cleft by great chasms, or rent and torn in wild confusion, towered above our heads and above one another, like the ruined defences of some Titanic fortifications. An hour's walk over the broken, grassy slopes of the Kleine Scheidegg took us to the foot of the Eiger, and we were soon on the Eiger glacier and struggling with the crux of the climb, the intricacies of the great icefall. At one time, like Sir Leslie Stephen, we found ourselves lying flat in little gutters on the faces of the séracs, worming ourselves along like boa constrictors. The next moment we were balancing ourselves on a knife edge between two crevasses, or plunging into the very depths of the glacier, with a natural arch of ice meeting above our heads. But bit by bit we gained ground, and at length emerged towards the centre of the frozen cataract, skirting under some threatening séracs which soon began to melt into chilly

tears of pity at our presumption in venturing to storm such a fortress unaided. We were soon rewarded by the sight of one of the grandest crevasses I have ever seen.

The picture was framed, as Bullock aptly described it, in a setting of gigantic spear-points and wedges of ice, towering 60 ft. above us, while in the depths of its cold blue vault hung huge icicles like monster organ pipes. But the only music was the slow drip, drip of melting snow and the hollow clatter of fallen *débris*. Some of the séracs rose in the most fantastic shapes, sometimes like a gigantic toadstool balanced on a slender stalk, or like church spires or square towers defended by trenches of unfathomable blue depth. Here our way was barred, and further progress seemed impossible. However we had been working hard, so I suggested a good square meal, after which our vision might grow clearer. We then sat down on our rucksacks under the shade of a firm-based, spreading sérac, a shelter pleasant enough when it ceased to drop its icy tears of unneeded sympathy down the back of our necks.

The result of our consultation led us to determine to keep close to the base of the Klein Eiger, and to force our way through the maze of crevasses to the glacier's (true) right bank. In Sir Leslie Stephen's historic first ascent this had been proposed, but was negatived—a mistake that afterwards proved nearly fatal to the expedition. As a matter of fact the crevasses of this icefall are so intricate, and their size so huge, that when once one has got into their jaws it is almost impossible to tell where you are till you get out again, either at the bottom or the top. Working hard, however, we somehow succeeded in climbing, crawling, or cutting our way through till we were again nearly in the shadow of the dark rocks on our left. Here we entered a gully in the ice, thinly caked with snow, at an angle of nearly 60°. By dint of hard step-cutting we reached the top, only to find that half an hour had been wasted, for a *détour* of a few yards lower down would have avoided the ascent altogether. The 'longest way round' would have been 'the shortest way home.'

On the other side of the gully we found a mighty rift partly choked by the *débris* of a great sérac, which afforded a safe but rugged road across. This gave access to a snow slope abutting on the Klein Eiger, for which we were aiming. Up this we soon kicked steps, and to our intense delight reached steep but solid rocks that gave a welcome and safer way of progression. Climbing these quickly we rose nearly 500 ft. in half an hour. With our bodies rose our

spirits also, for we found we had overtopped the icefall and its dangers, and there was no chance of sérac or avalanche interfering with our enjoyment.

The rocks we crossed transversely until we once more neared the glacier, with which they were connected by another tongue of snow. To get on to this we had somehow to surmount a perpendicular wall of snow twelve feet high. My friend, as the lighter man, kindly volunteered to use me as a ladder, and mounted first on my back and then on my shoulders, but still failed to reach and grip the edge of the snowy barrier. He finally solved the difficulty by stepping on to my head, and the way he 'took off' from that spot, shod as he was in the heaviest Alpine boots I ever knew, left, in more senses than one, a very decided and permanent impression behind.

He then calmly remarked that there was a grand view, that our difficulties were over, and that he felt uncommonly pleased with himself. I, rubbing my head at the foot of the snow wall in semi-darkness, was not in a position to see it from his point of view! However, with the help of a long silk sash let down from above, and with much struggling and kicking on my own part, I overtopped the edge, stood by my friend, and then was able to shout 'hurrah' with him at our success. Behind us was the Eiger; in front rose the mighty Mönch, its dark precipitous cliffs draped with shining, hanging glaciers, that send down their avalanches with a thunderous roar, re-echoed from the opposite cliffs with appalling effect. Below us, to our right, lay the séracs and crevasses we had climbed or circumvented: to the left an obvious route was at our disposal through less broken ice, and beyond and above this towered the tremendous ice-slopes for nearly 1,500 ft. over which the rest of our upward way we knew must lie.

A close, quick survey of the scene, to photograph it clearly in our memory for the morrow's venture, and we turned to descend. In 3½ hrs. we were back at our hotel at tea, followed by a shower bath and, after that—the deluge. It seemed hard lines to have overcome the main difficulties, to have, so to speak, got out our most dangerous opponents, and then for rain to stop play! The match was postponed for a fortnight owing to continuous bad weather.

At 2.45 A.M. on Monday, August 2, three sleepy individuals 'might have been seen,' had any others been so foolish as to be looking out at such an unearthly hour, stealing burglar-like away from the Bellevue Hotel, where all

the other guests and domestics were sound asleep. My friend and I had with us a porter, known to be strong and stated to be a capable climber. His qualifications subsequently proved to be as limited as those of another I heard recommended mainly as 'a good fellow who doesn't snore in huts.'

In spite of the storms and snow of the past two weeks we succeeded in retracing our route without a check, to the astonishment of our companion, and in 3½ hrs. or so had regained the highest point originally reached. Here we sat down for our 'second breakfast,' and then hauled ourselves up to the top of the snow wall and 'made tracks' for the foot of the great ice slopes far above us without delay. Soon we had left the crevassed glacier behind, crossed a level plateau of snow, and found ourselves at the great bergschrund.

After crossing this we began to kick steps in the snow, and for half an hour our upward progress was fairly fast. By-and-by the snowy covering of the slopes began to thin out. Step-kicking soon gave way to step-scraping, and at last step-cutting in earnest became the order of the day. At first the slope was only about 50°; it then steepened to 55° or more.

Up to this time Bullock had been leading, and splendidly had he worked for nearly five hours, so now I took my turn and went in front. I admired his skill more than ever when I got there! At every yard the ice grew harder until our progress rivalled the average pace of a Japanese legal process, or a snail not fond of active exercise. The fragments of ice chipped out by the axe skidded with a musical ring down the glassy steep to the bergschrund below.

The porter at the bottom of the rope now began to lose his head, as a preliminary to losing his feet, and insisted upon either tying himself into a knot with his share of the rope or letting it drag after him in a huge loop, in his frantic efforts to embrace Bullock as a precautionary measure in case of a slip. In pathetic tones he begged me, from 40 ft. below, to 'please make bigger holes, as my feet are so big and your steps so small.' To please him and keep him quiet Bullock enlarged the steps between himself and me; but even this was not enough, and the porter found it needful to enlarge the icy staircase till a small elephant could almost have romped up it!

Meanwhile I cut steadily on—sometimes with both hands at the axe, sometimes with one hand only, to give the other a rest. Bullock offered to relieve me at the work, but we

could not have reversed the order of our going without risking a catastrophe through the porter's unsteadiness, and I held on. Hour after hour went by and the distance seemed scarcely to decrease, and the crest of the icy ridge to grow no nearer. And yet the time passed quickly somehow. Probably the constant tension of the nerves, and the absolute need for presence of mind, forbade all thought of anything but the next step in front and our ultimate goal. 'Look but one step ahead, and secure that step,' was our motto. My friend tells me that, for him, motion upward at length became merely mechanical, as he realised that no personal effort on his part would accelerate arrival any more than a railway passenger could quicken the speed of the train by anxiously poking his head out of the window. He remembered wishing for the loan of a pair of wings, but his anxiety to be off the slope was mainly due to the constant reminders of insecurity which he received from our elephantine friend below.

After four hours' ceaseless cutting at length came a rest. I hacked out the last step, and was able to grip the edge of an outcrop of rocks jutting from the snow. But we found them too rotten to climb, and we had to cut steps in the ice again for thirty or forty feet before we could reach a ledge firm enough to cling to, while we made a long-needed meal. Half an hour's well-earned repose was broken all too soon, and at 2 o'clock we were again on the move. As far as possible we kept to the rock, treading as lightly as we could, though now and then the porter despatched the larger part of some projecting mass with a thunderous clatter down the slopes beneath. We were now approaching the foot of the great wall of broken red rocks that forms the actual crest of the topmost ridge between the Eiger and the Mönch. Disintegration had worked ceaselessly and surely to compass the ruin of the rocky fortress, whose tall towers uplifted their fantastic forms to a now angry-looking sky.

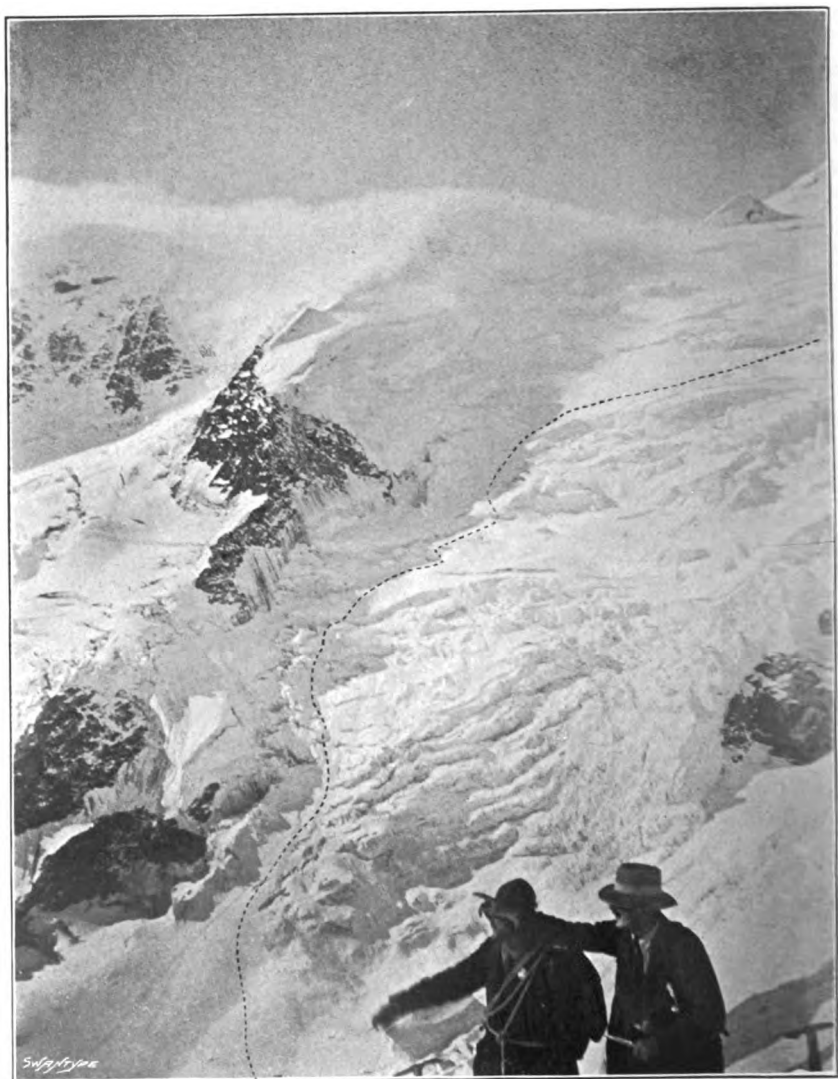
Half an hour's interesting scrambling landed us on the highest point of the ridge; on the left is a jagged rocky arête, on our right a narrow corniced edge of snow.

During the intense excitement and interest of the last two hours our attention had been so wholly absorbed in our work that we had had no time to think of the weather. But with the tension relaxed we began to look about, and saw that lurid clouds were brooding over the distant peaks, and that the sooner we got off the ridge the better. On our right were the slopes on which we had spent nearly eight hours of

unceasing toil: on our left black cliffs falling nearly sheer for 2,000 ft. to the Viescher Glacier below were impracticable. We must go straight on.

The porter, whose fears, dispelled by our victory over the ice slope, had now returned with reinforcements, became our chief danger. The low muttering of the thunder, and the weird lights and shadows playing across the ridge on which we were balanced, were too much for him. His teeth chattering with terror he closed up to me and begged us in agonised tones to go back. A sudden flash of lightning shot from the clouds, but without waiting for the music we started along the narrow edge of the corniced ridge. With a mixture of German and Japanese I frightened our frantic friend into keeping his tears and his embraces for a more fitting time, and we steadily moved on. The wild beauty of the ice world here was astonishingly impressive. The edge of snow below which we were passing exhibited every variety of form. Here it rose like a wave arrested and frozen at the moment of breaking into spray, or like a gigantic arum lily, there a fringe of fantastic lace, or the teeth of some fabled monster of myth. Cautiously but quickly we pressed on at a safe distance from the edge of the cornice, but before we could quite gain the point where we could cross, and turn downwards on the southern side, the storm burst upon us.

As Bullock remarked, we were in an atmosphere charged with electricity, surrounded by the very thunder cloud itself. Like the hiss of a hundred serpents the lightning sizzed over the snow, and sang weird strains about our steel axe-heads. Woollen gloves provided a certain amount of protection as non-conductors, but the sensations were still sufficiently uncanny. Bullock said his head felt as if a tiny whirlwind had started in his hair, and that his funnybones behaved in an inconveniently jocular way. I saw him take off his hat to see if his hair was on fire, and then he found it standing erect like a blacking brush. As the electricity seemed to be charging him too much I insisted on having a change of axes, but he still felt, he said, uncommonly like an animated lightning conductor. Before us the white bulk of the Mönch now loomed out of the mist with strange distinctness, or again appeared wrapped in semi-transparent vapours. Below us, in the great glacier basin to the south, whole armies of dark clouds were massing, and I have rarely seen a stranger sight than this silent hurrying on of panic-stricken black battalions, soundless only until with startling suddenness the ranks lit



Mrs. Walter Weston, photo.

Swan Electric Engraving Co..

ICEFALL OF GRINDELWALD FIESCHER GLACIER
FROM BELOW MITTELEGGI ARETE OF THE EIGER.

up, and then the roll of heaven's artillery echoed and re-echoed from peak to peak.

The passage along the final crest to the highest point of the Eiger Joch was comparatively simple. It was now 4.30 P.M., and we had been working hard, with the exception of about fifty minutes' halt for food, for over thirteen hours continuously. As we left the top of the hard-won pass it was rather an anti-climax to turn to the left, through the gathering mists, and begin a gentle descent over the soft deep snow that the past fortnight's Föhn wind had piled on its southern side.

We had been going steadily for nearly an hour from the top, intending to make for the Bergli 'Club Hut' as our night quarters, when the séracs of the Viescher glacier hove in sight. Mindful, however, of warm welcomes and cosy shelter lower down on past expeditions, we suddenly made up our minds to exchange the doubtful luxuries of a night at nearly 11,000 ft., on mouse-infested straw and short rations, for the certain pleasure of good beds and fresh food in plenty at the Bäregg.

Instead, therefore, of crossing the Mönch Joch to the Bergli Hut, we gave it a wide berth, to our right, and steered straight for the icefall that dropped abruptly from the snow plateau which we were now crossing.

For two hours onwards the work was of a very difficult and intricate character, with crevasses of great size and depth, and only the amount of snow that partly filled them made the passage possible. We were more than pleased at the result, when at length we emerged from the icy labyrinth, and looked up at it, for we saw we had come down by the only possible route, and we afterwards learnt that the passage had probably never before been accomplished.

After consuming the remainder of our store of bread and marmalade we continued our march across the now easy glacier, and succeeded in reaching the further side, where we unroped, just as twilight was softening the passes and the peaks above and around us.

Darkness had now risen from valley to peak, and as we left the glacier for the rocks we felt our difficulties were even not yet done with. The faint track, needing care even by daylight, was now trying in the extreme. The porter declared it was impossible, and his eye lighting on some dark slimy rocks over which small icy cascades were pouring, he coolly suggested we should sleep under them. Such a course would have led to repose of too permanent a character, and the proposition

was dismissed with scorn. By-and-by we came to a rickety ladder, down which we crept gingerly, and below it I stumbled on an empty wine bottle. A lucky stroke with the point of my ice axe made a clean hole in the bottom of this, which a candle I fortunately had in my pocket exactly fitted, but only after vainly striking some dozens of damp matches did we manage to get a light. Our own alpine lantern had unfortunately slipped out of its owner's pocket, and found a grave in the Eiger Joch bergschrund, earlier in the day, and the loss we felt considerably. With the aid of our solitary flickering flame we picked our way slowly down, and wind and rain ceased as we finally stepped off the rocks on to the hummocky surface of the Lower Grindelwald Glacier, which was now the only barrier between us and the Bäregg Chalet.

Like fireflies we flitted to and fro, threading the crevasses where they were wide and jumping them when narrow. Slowly we zigzagged across, only to find ourselves cut off by a foaming torrent in an icy channel. We retreated and tried lower down, but again with no success. Just then a terrific roar burst through the stillness of the night, and down from a hanging glacier crowning the Kalli cliffs to our left a mighty avalanche thundered on to the glacier below. It was several minutes before the echoes had ceased to reverberate in the great defile, and by that time we had managed to lose each other in our tantalising search for a way off the glacier. Up and down in the hollows amongst the waves of ice the candle flitted. Was this will o' the wisp wandering never to cease, we were beginning to ask, when suddenly a cry from the leader is heard, 'Here it is; we're off.'

And sure enough so we were. Half a dozen steps took us off the last ice-hummock; on to the path we scrambled, and by it we mounted to the well-known wooden ladders below our haven of rest. The windows of the lonely chalet showed no light, and long and loud we knocked before the welcome answer came. It was one o'clock in the morning, but they received us as warmly as long looked for friends. Soon we were sitting before a roaring fire, revelling in such coffee, honey, bread, and butter as never were. Considering we had been hard at work for twenty-two hours, with very little rest, we felt surprisingly fresh. At 2 A.M. we turned in and slept the sleep of the satisfied.

SOME EARLY VISITS TO ZERMATT AND SAAS.

By W. A. B. COOLIDGE.

DURING the long winter evenings the thoughts of a mountaineer turn naturally towards the spots in the Alps which he has visited in past summers or towards those which he proposes to visit in the future. In either case he can scarcely help wondering, unless he is a member of the strictest school of 'greased pole' scramblers, what has been the past of these Alpine valleys and villages. He may perhaps be led to look into this subject for himself, and so shorten the weary interval during which he must be absent from these much-loved haunts. Now such a subject can be treated from several points of view, exclusive of all matters relating to natural science. One man may be attracted by the local history of a particular Alpine valley or village, or by questions relating to the ethnology, the legends, the customs of its inhabitants. Another may fix his attention rather on the local names, and especially on the forms they assume on the older maps or in the older works of travel. A third may amuse himself by following on old maps the slow stages by which an accurate topographical survey of the region in question has been obtained after many strange and curious hallucinations. Yet another may like to trace out the history of the invasion of his favourite resort by travellers and tourists, or in particular the history of the conquest of the various peaks and passes around it. Still another interesting branch of inquiry consists in working out the history of the easier and more historical passes, whether glacier passes or not, in the neighbourhood. In short, there are many ways in which a bookish mountaineer may profitably employ his leisure while away from the mountains. I have myself found out the fascination of some of the lines of study suggested above, and have endeavoured in many articles to work out one or the other separately, or even several at the same time. Hence I can recommend others to take up a subject of this kind, especially if they find that their legs are not as sturdy as of old, though their brain remains clear and their love of the everlasting hills is still unabated. Some day I may treat in these pages of the early history of some valley (*e.g.* Hérens, Anniviers, Bagnes, Grindelwald, &c.) for which I have accumulated a goodly store of notes. The present paper is meant to supplement the investigations already published into the history of the

manner in which Zermatt and Saas became known to travellers. I refer in particular to my history of Zermatt (the *first* detailed history of the place ever published in English, for the first edition of Mr. Whymper's 'Guide to Zermatt' did not appear till 1897), contained in my book entitled 'Swiss Travel and Swiss Guide-Books' (London, 1889), and to that of Saas, given in my friend Dr. H. Dübi's excellent work 'Saas-Fee und Umgebung' (Bern, 1902). It has been my good fortune to light on the narratives of several travellers who visited these valleys before the great rush began, narratives which, it is true, have all appeared in print previously, though Alpine historians have hitherto overlooked them. As will be seen from the texts I print below (carefully preserving the original orthography) these accounts are dated between 1777 and 1803, so that they are among the earliest—perhaps quite the earliest—detailed notices of these regions which we as yet possess. No doubt other travellers had previously visited these districts, though they did not print any account of their impressions, so that the three documents in question have the importance of Windham's and Martel's descriptions of their visits to Chamonix in 1741–2 rather than the extreme interest which would attach to the exploration of an Alpine valley which had certainly never been visited by travellers before. In the one case a mere chance has led to the publication of the narrative, while in the other it would be the deliberate act of a conscious 'discoverer.' Still, in default of other sources, these narratives, which have been preserved to us as it were by an historical accident, are often very interesting, while there is always the possibility of a still earlier account turning up some of these days. To these three early accounts I add some extracts from the narrative of a visit to Zermatt made in 1843 by Juste Olivier, a well-known minor Swiss poet, as it seems to have escaped notice, and usefully supplements the descriptions of Engelhardt, Desor, and Forbes, who were at Zermatt in 1835–41, 1839, and 1841–2 respectively.

I.

Zermatt in 1777.

This very curious account of Zermatt as the scene of the Golden Age appeared in the 'Journal de Paris' for 1777 (to which my attention was drawn by entry No. 899 in vol. i., 1785, of G. F. von Haller's 'Bibliographie der Schweizer-Geschichte,' this entry being reproduced in Herr A. Wäber's

excellent 'Landes- und Reisebeschreibungen der Schweiz,' 1899, p. 211), and seems to rest upon the personal experiences of the unknown and anonymous writer during a visit to the valley. It is possible, however, that it is merely a sort of academical exercise, for a little earlier (in 1760) Rousseau, in his 'Nouvelle Héloïse' (Lettre xxiii.), had depicted from his personal experiences a similar ideal state of things existing in the Valais generally, as rather later (in 1781) did Bourrit,* who quotes Rousseau's account at length. But as against this possibility we have the personal note of the narrative of 1777, and the quaint little anecdote as to M. de Courten. In any case this narrative is the earliest known to me in which a detailed account of the village of Zermatt and its inhabitants is contained, for up to this date we find only brief and passing mentions of either, and those mainly relating to political matters.

It is worth noting, however, that the notion of the existence of a sort of Golden Age in the Valais was not uncommon in the eighteenth century. Thus another anonymous writer (said by Haller, *ubi supra*, No. 898, to be Ramond) to the 'Journal de Paris,' No. 311, dated November 6, 1780, in the course of a lengthy description of the Valais in general (continued from a previous letter in No. 304, October 30, 1780), affirms the existence of such a primitive state of things in the part of the Valais which includes Zermatt, though that village is not specially named.

C'est surtout dans la partie occidentale et méridionale que cette bienveillance, cette douceur de mœurs qui tient à l'innocence des premiers âges, et en perpétue la crédulité, occupe le premier rang parmi les vertus naturelles des Valaisiens. . . . C'est dans les vallées méridionales, dans ces retraites où les Voyageurs ont peu pénétré, qu'il faut chercher cette simplicité, ces mœurs patriarcales, qui ont fourni au peintre [*i.e.* Rousseau] de Julie l'un de ses plus touchans tableaux. C'est là que se sont réfugiées ces vertus primitives qui ont fui devant nos lumières, et qui bientôt abandonneront ce dernier asyle; car c'en est fait de l'innocence que l'on commence à remarquer. Si vous voulez donc vous retracer l'image, non de l'âge d'or et de la *belle nature*, mais de la *simple nature* et de la probité de nos ancêtres, hâtez-vous, cherchez ces vallées privilégiées, mais n'en sortez pas pour voir si le reste du Valais leur ressemble; hors de ces retraites tout va comme dans le reste du monde. Vous trouverez les grandes routes fréquentées par les Voyageurs et les Marchands, des Auberges où vous serez rançonné, des forêts infestées de brigands, et l'effroyable appareil de la justice ven-

* *Description des Alpes Pennines*, vol. i. pp. 197, 205-6.

geresse qui couronne toutes les hauteurs, donnant un démenti formel à tous ceux qui indiqueroient, hors de quelques vallées presque inconnues, le séjour de l'innocence.

Any one who knows Zermatt at the present day, or knew it thirty years ago, can amuse himself by contrasting the idyllic state of the dwellers there as described in 1777, with their feverish existence (at least in summer) in 1877 or in 1907.

'*Journal de Paris,*' No. 148, 28 Mai 1777.

MESSIEURS,—L'Age d'or, le Règne d'Astrée . . . vieilles Fables qu'on n'a la bonté d'écouter que lorsqu'elles sont embellies des charmes de la Poésie, mais si l'on veut en voir la réalité, il faut l'aller chercher en Suisse, dans une Vallée nommée *Praborgne*, en allemand *Zermatt* ; elle occupe un terrain de neuf lieues de longueur sur une largeur assez étroite, et est à dix-huit lieues de distance de *Sion*, Ville capitale du Valais. C'est là qu'on trouve une Nation vraiment libre, sans distinction de rang et de préséance, sans luxe qui l'énerve, sans ambition qui la tourmente ; défendue par les remparts de ses montagnes ; elle coule des jours dans une paix profonde, et ne s'occupe que de cultiver ses terres et soigner ses troupeaux. Ce Peuple soumis aux loix qu'il s'est données, en est l'observateur le plus scrupuleux ; des mœurs pures, douces, religieuses, la bonne foi dans toute sa naïveté, caractérise ces habitans généreux et simples à la fois, qui ont conservé tous les anciens usages, et pour qui l'hospitalité est une des premières vertus. Les Procureurs et les Notaires sont des êtres inconnus dans cette Vallée ; hé, que pourroient-ils gagner avec des hommes qui connaissent peu l'écriture, et pour qui une convention verbale a la valeur d'un serment ? Les contrats, quels qu'ils soient, s'inscrivent sur des morceaux de bois tels que les ont conservé nos boulangers ; ils n'ont d'autres dépositaires de leurs engagements que ces *tailles* grossières qui constatent les ventes, les échanges, assurent les propriétés, et contre lesquelles il est sans exemple qu'on ait jamais réclamé. Une autre particularité qui fera d'un seul trait connoître ce Peuple estimable, c'est que les serrures sont pour lui un meuble inconnu. Le jour ni la nuit n'est jamais troublé par la cupidité d'un voleur ou l'adresse d'un escroc. Ce que renferme un bâtiment est sous la sauvegarde d'un *loquet* de bois, et cette légère précaution fait de chaque maison un asyle que personne n'ose violer. Un mauvais plaisant seroit peut-être tenté de citer le vers d'un de nos premiers Poètes—

Pauvres de tout, et riches d'abstinences.

Mais l'application en seroit également fautive dans ses deux parties ; les richesses, il est vrai, sont inconnues à *Praborgne*, mais la pauvreté ne l'est pas moins : tout vit, tout est heureux chez ce Peuple cultivateur ; c'est à la lettre *l'auream mediocritatem* d'Horace, et peut-on sentir une privation de ce qu'on ne peut pas

désirer? Voilà, M.M, l'esquisse de ce que j'ai vu dans le Valais : heureux Peuple, qui ne connoît pas même par relation tous les maux qui affligent notre globe, toutes les passions qui tyrannisent les hommes, tous les maux que nous nous créons sans penser à nous préserver de ceux que nous pouvons éviter : son bonheur est garanti par la nature même qui ne permet qu'avec peine les communications ; sans quoi l'Etranger y porteroit bientôt ses arts, ses sciences, ses talens, sa cupidité, et bientôt toutes les vertus disparaîtroient d'une Vallée où elles se sont, pour ainsi dire, réfugiées.

O fortunatos nimium, sua si bona norint !

J'ai l'honneur d'être, &c.

No. 149, 29 Mai 1777.

MESSIEURS,—Il est tant de tableaux effrayans pour l'humanité qu'on ne doit pas négliger de lui en présenter qui la consolent. Permettez-moi donc, Messieurs, de revenir à mes habitans de *Praborgne*. Ces bons Suisses, dont la vie retrace celle des Patriarches par les vertus et la simplicité, vivent ensemble comme frères, sans que rien altère jamais leur union. Si par hazard il s'élève dans une famille un nuage capable d'en troubler l'harmonie, il est dans l'instant dissipé par l'autorité d'un Chef, ou d'un Vieillard dont les jugemens sont toujours écoutés avec respect et docilité. L'autorité paternelle, ce tribunal dont on appelle d'aussi bonne heure dans nos pays, ne perd jamais rien dans le Valais de son influence et de sa force. La bonté et l'honnêteté des *Valaisiens* est bientôt sentie par un étranger qui traverse leur pays : dès qu'il s'arrête dans un endroit, on voit sortir des maisons voisines des personnes de l'un et de l'autre sexe qui portent des vases pleins de crème ou de lait, des paniers remplis de pain, de fruits ou de fromages, viennent généreusement lui offrir tout ce qu'ils possèdent, et s'indigneroient qu'on voulût payer leurs présens. Cette peinture pourroit passer pour un Roman, si je n'avois une Anecdote à rapporter, qui confirmera tout ce que je viens de dire. Mr. le Cte. de Courten (père de celui que nous voyons aujourd'hui Grand-Croix et Colonel au service de France) avoit avancé des sommes très-considérables aux habitans de *Praborgne*. Il n'existoit d'autre reconnaissance que les marques faites sur les tailles de bois dont j'ai parlé. A la mort de M. de Courten, ses héritiers comptoient peu sur la rentrée de ses fonds, mais il ne se trouve pas un seul Paysan qui ne vint reconnoître sa dette, et tous payèrent aux époques avec la plus scrupuleuse exactitude.

Convenons, Messieurs, que tous nos Traités de morale et de bienséance, écrits avec tant de faste et de prétention, sont bien peu de chose quand on les compare avec la pratique si facile, si naturelle des vertus, dont on tireroit vanité dans tout autre pays que le *Valais*.

J'ai l'honneur d'être, &c.

II.

Saas, Zermatt, the Riffel, and the St. Théodule in 1795.

M. Eugène Rambert * boasts with justice: 'Ce sont nos botanistes suisses, et Thomas le premier, qui ont découvert Zermatt.' He refers to Abraham Thomas (1740-1824), and also to Laurent Joseph Murith (1742-1816), who himself says of Thomas: 'Nouveau Colomb, il fit la découverte des vallées de Saas et de St. Nicolas, où aucun botaniste n'avoit été avant lui.' † We know ‡ that the former had visited Zermatt before 1795, while the latter had been to Saas before 1803. But the earliest published records of a visit by either botanist to Saas and Zermatt are contained in the letters dated 1795 and 1803, which they exchanged on the subject of their botanical wanderings. M. Mouillefarine indeed rather cruelly expresses his opinion § that the two friends really travelled much together, 'et que le chanoine rédigeait au retour le bulletin de la course sous l'un ou l'autre nom. L'unité du style, un peu maniéré et sentant fort le pastiche de Jean-Jacques, permet de l'affirmer. La bonne Madame Jean-Louis Thomas [grandson of Abraham] me disait naïvement qu'elle avait beau chercher dans ses papiers de famille, elle n'avait jamais pu retrouver les originaux de ces lettres-là.' For our present purpose the question of the authorship of each letter is of small importance so long as it is admitted that they were drawn up (and this is not denied) on the basis of an actual visit to the places described and at a date not long after the journey in question was made.

The two letters which we print below (omitting much of the purely botanical information, which does not concern our proper subject, the early visits by travellers to those regions) appeared in 1810 at Lausanne in an odd little quarto work entitled 'Le Guide du Botaniste qui voyage dans le Valais, avec un Catalogue des Plantes de ce Pays,' and written by M. Murith, one of the Austin Canons Regular of the Great St. Bernard. I apply the epithet 'odd' to this book because, while the Catalogue fills pp. 49 to 108, the first portion of the work (pp. 1-48) is taken up by a series of letters describing

* *Ascensions et Flâneries*, 1888, vol. i. p. 205.

† *Guide du Botaniste*, p. iv.

‡ Murith's *Guide du Botaniste*, pp. 14 and 29.

§ *Rameau de Sapin*, p. 88.

the botanical journeys during which most of the information set forth in the dry Catalogue was gathered (habitats, &c.). Of these nineteen letters (dated at various times from 1793 to 1806) six are addressed by Prior Murith to Abraham Thomas, twelve by Thomas to Murith, and one (in 1806) by Louis Thomas (Abraham's son) to Murith. They are interesting in many points, especially to a botanist. That of 1795, signed by Abraham Thomas, receives as it were an answer in 1808 only, when Murith visited many of the same spots, the delay being no doubt due to the political unrest; this had calmed down in 1802, when the Valais, having previously (since 1798) been a Canton of the Helvetic Republic, became an independent State under the name of the 'Rhodanic Republic,' which lasted till 1810, then becoming (till 1814) the Department of the Simplon of the French Republic. At any rate, for our purpose, these two letters should be read together.

Despite the fact that they appeared in print in 1810 only, they give us practically the earliest detailed description of the Zermatt valley as yet known, and certainly the earliest of the Saas valley (for the first account quoted by Dr. Dübi, p. 120, is that of Hirzel-Escher's visit in 1822, followed by that of Brockedon in 1825). No doubt Saussure visited Zermatt in 1789 (he seems never to have been to Saas), but his account of the Zermatt valley (as distinguished from that of the St. Théodule and the neighbouring peaks) is limited (Section 2222) to a few lines, doubtless owing to his difficulty in finding sleeping accommodation in the village, while these few lines did not appear till 1796, and on his visit to the St. Théodule in 1792 he did not descend into the Zermatt valley. Saussure acknowledged (Section 2277) the communication of valuable botanical information by J. C. Schleicher (d. 1834), an apothecary, who, like the Thomases, collected dried plants for sale, and whose visit is placed by Saussure as shortly after his of 1792, and of course before 1796, the date of publication of that volume of the '*Voyages dans les Alpes.*' But, as far as I am aware, no account of Schleicher's journey has been preserved to us. The published account* of the visit (a notice of which was first published in 1876) of Mr. Cade's party in 1800 to Zermatt relates chiefly to the St. Théodule, and passes briefly over the valley and village itself. The first edition (1793) of Ebel's '*Guide*'

* *Alpine Journal*, vol. vii. pp. 485-6, and Mr. Whymper's *Guide to Zermatt*, pp. 13-4.

does not seem to mention either village or valley. The second edition (1805), however, does so (vol. iv. pp. 205-13), this description being reproduced in the third edition (1810), iv. pp. 440-9. It seems to be based almost entirely upon Saussure's narrative, supplemented by botanical information received from the Thomases, who may also have given other hints; but the whole section deals with topographical and scientific facts, and does not indulge in any picturesque details. It is only in 1818 that Ebel's French edition (vol. iii. p. 624) makes an extract from the correspondence which interests us, and which had been published eight years previously.

Hence these two letters of 1795 and 1803 have great importance as giving the earliest detailed descriptions of the valleys of Saas and Zermatt, while the passage of the St. Théodule in 1795 is the first known since those of Saussure and Schleicher, and is five years earlier than that of Mr. Cade, who was unaware of either Schleicher's or Thomas's expeditions. The minute details set down in each of these letters as to the excursions to Fee, to the Gletscher Alp, to the Distel Alp, to the Z'Mutt glacier, to the Schwarzsee, to the Riffel, and to the Findelen glacier are most curious, while the passage (1803) of the Augstbord Pass from Gruben to St. Niklaus by Murith, and also of some pass N. of the Bistenen Pass from Saas to the Simplon Pass, reveal to the Alpine historian two new routes, as yet unknown to travellers, to our valleys.

Some account must now be given of the two correspondents who lived respectively at Martigny and near Bex, and so were almost neighbours.*

* For Murith see especially the biography in the *Echo des Alpes*, 1874, pp. 202-6 (German translation in vol. ii. of the *Neue Alpenpost*). For the Thomases the detailed account by M. E. Mouillefarine printed in the *Bulletin de la Société botanique de France*, about 1889, and reprinted in the *Rameau de Sapin* (Neuchâtel), numbers for August, September, October, and November 1889, is our chief source; but there are some interesting details in E. Rambert's *Ascensions et Flâneries* (Lausanne, 1888), vol. i. pp. 205-10. Scattered mentions of Thomas are to be found in B. Studer's *Geschichte der physischen Geographie der Schweiz bis 1815* (Bern, 1863), pp. 251, 394-5, 646, and of Murith on pp. 498-9, 503, 616, and 646, while in my *Swiss Travel* (1889) I mentioned the Thomases on pp. 270 and 312, and Murith on p. 25, in connection with the first ascent of the Vêlan. A short personal sketch of Abraham Thomas is given by Frederick Matthisson in his *Letters* (German edition, Zürich, 1795, vol. ii. pp. 2-5; French translation, Zürich, 1802, pp. 166-9).

Laurent Joseph Murith (1742–1816) was born of a peasant stock at Sembrancher, and his whole life was associated with the Great St. Bernard. His parents gave him a good education, but he early gave up a secular career, being received in 1760 as a novice at the Hospice of the Great St. Bernard, and taking the solemn vows in 1761 as an Austin Canon Regular, or full member of that devoted community. In 1766 he was ordained priest, and by 1774 was ‘clavandier’ (the officer charged with the reception of guests) of the house, becoming Claustral Prior there in 1775, but in 1778, as one of the seniors, retiring to the incumbency of the parish of Liddes. He tells us himself* that his taste for geology came from his intercourse with Saussure, just as his devotion to botany took its rise from the visits of Abraham Thomas to the convent in the course of his botanical wanderings. In 1767 and again in 1778 he guided Saussure to the Valsorey glacier,† while in 1774 he took Bourrit on the same expedition,‡ as well as to the Pain de Sucre at some uncertain date,§ and in 1778 up the Val de Bagnes to Chermontane and the great Otemma glacier.|| It was but natural that Murith, who saw the snowy summit of Mont Vélan from the windows of his house at Liddes, should have been led to attempt its ascent, succeeding finally in attaining the summit (accompanied by two local hunters) on August 30, 1779.¶ In 1785 Murith visited (apparently not for the first time) the peaks on the left bank of the Orny glacier, in order to obtain geological information for Saussure,** who says (Section 990) of him while curé of Liddes: ‘Il aime et cultive avec beaucoup de succès l’histoire naturelle.’ In 1791 he became Prior or Dean at Martigny and was there visited by Bourrit, who writes as follows:—

On ne quitte pas Martigni sans visiter les objets d’histoire naturelle rassemblés par Mr. le Prieur Murith. Doué de génie, il aurait couru la carrière la plus brillante, s’il n’avait été arrêté de trop bonne heure par les fonctions de son état et les charges de sa maison : rempli de feu, parlant bien, très-supérieur dans cette partie des sciences à tous ses collègues, il a fait le généreux sacrifice de ses talens et de tous ses avantages aux soins que sa maison

* Letter i. in his *Guide*.

† *Voyages*, Sections 1011 to 1018.

‡ *Description des Aspects du Mont-Blanc*, p. 103.

§ *Description des Alpes Pennines*, vol. i. p. 81.

|| *Ibid.* vol. i. pp. 42–79.

¶ *Ibid.* vol. i. pp. 81–94, and Saussure, Sections 1009 and 1021–2.

** *Voyages*, Section 1022.

demandait de lui. On l'a vu dans ses momens de relâche parcourir avec succès les montagnes du St. Bernard et celles de Charmontane, et enfin atteindre la sommité du Vêlan, l'une des plus élevées des Alpes.*

In May, 1800, Murith, as Prior, received Napoleon at Martigny and accompanied him across the Great St. Bernard. He was one of the founders in 1815 of the Swiss Natural History Society, though unable to be present at the inaugural meeting, as his health was then failing. He died at Martigny on October 9, 1816. It will thus be seen that his botanical letters (we have not here to deal with his geological and antiquarian writings) all fall within the period during which he lived at Martigny after many years' service at the St. Bernard Hospice. He was also probably more free to wander at that time than previously. His 'Guide du Botaniste' crowns his career as Alpine explorer and botanist. In his paternal house at Sembrancher a special meeting was held in September, 1862, by the Botanical Society of the Valais, which very appropriately took (on its foundation in November, 1861) the name of the 'Société Murithienne.'

Let us now turn to the Thomas family, which lived in succession at different villages near Bex (Les Plans de Frenières, Fenalet, and Les Devens). By profession the Thomases, a peasant family, were *gardes forestiers*, entrusted with the care of the forests above their home. In this capacity they were naturally under the orders of the celebrated Albert von Haller (1708-77), who from 1758 to 1764 was the Director of the salt mines of the district of Aigle, and for two of those years also deputy prefect. Tradition has it that by accident he came across Pierre Thomas at Les Plans, lodged in his house, and employed him to collect plants for him. Pierre's son, Abraham (1740-1824), profited much by the favours of the great man, and became a skilful botanist, though we must always bear in mind that his purely scientific studies (like those of his descendants) were necessarily subordinate to his means of gaining his livelihood by the sale of collections of dried plants. He tells us (p. 27 of Murith's 'Guide du Botaniste') that at the age of 18 he was sent, with his father, by Haller to botanise on the Furka, and M. Mouillefarine † adds that, apparently at the same age, he made a solitary journey by way of Trient to Chamonix, thus anticipating Saussure, who did not visit that valley till 1760.

* *Cols ou Passages des Alpes*, vol. i. pp. 248-9.

† *Rameau de Sapin*, p. 32.

The explorations of Abraham Thomas are recalled with warm thanks by Haller in the preface to his great work the 'Historia Stirpium indigenarum Helvetiae' (1768).

Matthisson, writing to C. V. von Bonstetten on July 30, 1792 (a date not far distant from that of Thomas's letter to Murith, given below), communicates his impressions of Thomas's knowledge and activity. He took Thomas with him on a botanical ramble in the upper valley of the Sarine, and was much struck by his extraordinary knowledge of the plants of the region, though he was rather a collector of plants than a botanist in the strict sense of the term. He compares him to a librarian who knows precisely the outward appearance and exact place of every book in the library under his charge, but is ignorant of their contents; so Thomas knew where exactly to find the plants and could identify them at once, but knew nothing of the philosophy of botany. Matthisson narrates how two years previously, being with Thomas near Anzeindaz, he asked his companion if perchance a certain plant, the *Campanula thyrsoïdea*, grew anywhere in the neighbourhood. Thomas at once led him to some rocks half an hour distant from the path, climbed up a projecting buttress, then, without looking, put his arm over a ledge, and withdrew it with the desired plant in his hand, which he had found at once, just as if he had been looking for some article in a familiar cupboard. He adds that for some time past Thomas had done a considerable trade in trees and shrubs, especially in England and in France. Thomas was, so says Matthisson, the *juge de paix* of his home, the village of Fenalet. He adds that you might point out any mountain in the region of Aigle to Thomas, and he would tell you at once what plants grew on it, when they flowered, and on what kind of ground they flourished best. Thomas was acquainted with the botanical names used by Linnæus as well as with those settled by Haller, and had discovered a new species of gentian, which he christened *G. elegantissima*, but which is now best known as *G. tenella*.

Murith ('Guide,' p. iv.) in 1810 gives the following flattering notice of Abraham's activity in the service of Haller:—

Aucun de ceux qui le servirent ne lui fut d'un plus grand secours qu'Abraham Thomas, du village de Fenalet, près de Bex. Doué d'une agilité, d'une mémoire et d'une vue étonnantes, cet homme étoit plus propre qu'aucun autre au but que se proposoit Haller. Il visita successivement les différentes parties du Valais: nouveau Christophe Colomb, il fit la découverte des vallées de Saas et de St. Nicolas, où aucun botaniste n'avoit été avant lui: il fit connoître,

mieux qu'elles ne l'avoient été jusqu'alors, les vallées de Bagne, d'Annivié, d'Herens et de Binn, les montagnes du St. Bernard, du Cervin, du Montmort, du Simplon, du Griés, de la Fourche, du Grimsel, de la Gemmi, du Sanetsch, du Fulli, &c., sans parler de ceux d'Aigle et de Bex, sa patrie. Quelque succès que Haller se fut promis des expéditions botaniques d'Abraham Thomas, le résultat surpassa de beaucoup son attente: il se vit tout d'un coup enrichi des trésors de notre pays, et son immortel ouvrage ne tarda pas à paroitre. Aussi Haller rend-il à Abraham Thomas le témoignage le plus flatteur, comme le plus mérité, dans la préface de son ouvrage. C'est ainsi que le botaniste de Fenalet exploita le premier une mine où d'autres devoient encore s'enrichir après lui.

Through the influence of Haller and in the course of his different journeys Abraham Thomas became associated, as an humble helper in the practical sphere, with all the prominent Swiss botanists of the day, and the same was the case with his sons, *e.g.* Murith (see above), Jean de Charpentier, 1786–1855, who from 1813 to his death was Director of the salt mines of the Aigle region, and J. Gaudin, 1766–1833, who consulted Abraham as early as 1804, though his chief work did not appear till 1828–33.

Unluckily materials fail us for a complete itinerary of Abraham during all his Alpine wanderings throughout the Valais in search of plants; but in the letter of 1795 printed below he distinctly states that he then cut short his stay in the valley of Saas, 'pressé de revoir la vallée de S. Nicolas' (p. 14 of Murith's 'Guide'), so that he had certainly been to Zermatt before 1795. Rambert (p. 208; see too Mouillefarine, p. 82) has preserved the following amusing tradition of Abraham's experiences on his *first* visit (whatever be its date) to Zermatt:—

La première fois qu'il y fut, avec je ne sais quels compagnons, la population s'effraya de ces étrangers, armés de couteaux et de pioches, et munis d'énormes boîtes telles qu'on n'en avait jamais vu dans le pays. Des groupes se formèrent, on se consulta, on chuchota; chacun fit part de ses observations et de ses soupçons, si bien que tout Zermatt fut convaincu que ces étrangers étaient des espions, qui venaient observer les passages de la vallée, dans l'intention évidente de les franchir au retour avec les moutons que l'on pouvait voler sur les hauts alpages. Aussitôt la foule se porta devant la maison du curé, la seule du village où il fut alors possible de trouver un logement, et le somma de livrer les hommes qu'il venait de recevoir, attendu que ces hommes étaient des espions. Ce bon curé eut toutes les peines du monde à calmer ses paroissiens: il dut répondre personnellement des larcins de ses hôtes, et pour les mettre à l'abri de toute injure il les accompagna dans leurs courses.

Abraham had five sons, four of whom at least followed in the steps of their father. Francis (d. 1799) was one of the companions of Murith, who after his death took the next brother, Louis, with him. Louis became a forest inspector in Calabria and died in 1823. Another brother, Philippe, pursued his botanical researches chiefly in Sardinia, dying at Cagliari in 1831. Emmanuel (1788–1859) was the devoted companion of Charpentier, and continued the collecting work of his father, also issuing in 1818, 1837, and 1841 printed catalogues of the plants he had for sale. M. Mouillefarine gives portraits of Emmanuel as well as of his son, Jean Louis, who often accompanied M. Mouillefarine in his wanderings; and on the last occasion of their meeting (Jean Louis died about 1888) he was initiating his own son, Henri (the fourth generation of the dynasty), into the joys of such botanical wanderings by causing him to repeat the expedition which his great-grandfather, Pierre, had made 130 years previously by Haller's direction.

Several interesting points should be noticed in Abraham's 1795 letter, given below. It is an odd idea that the valley of the Visp, between Stalden and St. Niklaus, could ever have been made to resemble a 'jardin anglois' (p. 14 of the 'Guide') even by the addition of a few carefully placed huts and benches, but it is noticeable that he speaks of the population as being 'souvent trompé par des voyageurs' (p. 15), which seems to imply the presence of a greater number of visitors than one might have expected. He always uses 'montagne' in the proper sense of an alpine 'pasture,' while he is careful to limit the name of 'mont Silvio' to the St. Théodule, distinguishing from it the peak of the Matterhorn, which in the Val d'Aosta (he says) was called the Mont Cervin (pp. 16–7). Saussure tells us (Section 2221) that in 1789 none of the *cabaretiers* at Zermatt were at first willing to receive him, and that the curé, who sometimes lodged travellers, would not take him in, so that finally his Valtournanche guide, J. B. Hérin,* had to compel one of the innkeepers to admit the party. As we have seen above, on occasion of his first visit, Abraham Thomas was lodged by the curé, but in 1795 he was taken in (p. 16) by the surgeon, Kronig, who thus played the rôle later filled by his successor in that art, Lauber, the builder (1839) of the first real inn for visitors to Zermatt. (The 1818 French edition of Ebel repeats Thomas's recom-

* This is the proper orthography of the name—see Chanoine Carrell's *Les Alpes Pennines dans un Jour* (Aosta, 1855), p. 32.

mendation of Kronig, though dubbing him the 'châtelain,' and also reproduces Thomas's advice to appeal to the curés of the valley in case of difficulty—see vol. iii. p. 624, quoted in my 'Swiss Travel,' p. 272.) Mr. Cade's party in 1800 tried first the village inn, but finally had to appeal for hospitality to the curé.* In 1803 Murith (p. 80) found but a single inn, kept by one Joseph Brenni.

LETTRE VII.

Abraham Thomas to Prior Murith.

[P. 11.]

Fenalet, 15 Juillet, 1795.

MONSIEUR,—Que n'ai-je le pinceau de *Gesner*, [Solomon, 1780–1788, the pastoral poet] que n'ai-je la lyre d'un poète, je chanterois mon voyage ; mais, hélas ! je ne puis vous le tracer qu'en simple botaniste. . . . [P. 12.] De *Viège*, je suivis la route de *Stalden* qui est à deux lieues. Au sortir de *Stalden*, la vallée se partage en deux branches, [séparées] par de hautes montagnes ; à gauche est la vallée de *Saas* et à la droite celle de *St. Nicolas*. Je me déterminai à parcourir la première, et je m'y acheminai par un pont de pierre très-élevé, appuyé sur deux pointes de rocher ; le torrent précipite sous vos pieds ses eaux écumeuses blanchies par les sables granitiques des glaciers et par la décomposition des roches magnésiennes.

Dès qu'on a traversé le pont, la montée devient plus rapide ; et au bout d'une demi heure de marche on gravit des monticules garnis de mélèzes. Le chemin n'est plus alors qu'un sentier pour les chevaux et les mulets de bât, frayé à travers des précipices et des ravins. Plus loin on rencontre des maisons semées en petits groupes, qui sont situées sous des rochers sourcilleux qui semblent les menacer de leur chute. A quelque distance, le vallon se resserre et forme une gorge dans laquelle on passe et repasse le torrent sur des ponts de bois solides et assez bien faits. Tantôt vous entrez dans de noires forêts de sapins, tantôt vous marchez sur des éboulemens descendus des énormes glaciers qui dominent la vallée ; les rochers qui les soutiennent ressemblent de loin à des murs construits de pierres posées horizontalement. Il y a une alternative frappante de couches, dont les unes sont nues et les autres boisées, toutes à-peu-près de la même épaisseur ; ce qui se répète jusqu'à sept fois, depuis le torrent jusqu'au haut des montagnes. Dans cette gorge, au-delà d'un pont, sur la gauche de la *Viège*, est une petite croix datée de 1788, avec cette marque

P
I.V. C'est là que la belle *Linnaea borealis* croit en quantité.

[P. 18.] A l'aspect de ces lieux sauvages et ce bouleversement de

* *A. J.* vol. vii. p. 486.

la nature, le voyageur est saisi d'un frissonnement involontaire ; son esprit recule devant ces masses énormes, tantôt éparses à ses pieds, tantôt suspendues sur sa tête ; à ce tableau, il croit reconnoître le squelette des montagnes. Il traverse promptement ces tristes lieux, et bientôt il pourra reposer agréablement ses yeux sur la plaine de *Saas*. Des terres labourées et de beaux champs de seigle s'offrent à lui avant qu'il l'ait atteinte. C'est sur la lisière de ces champs que je cueillis l'*Hypochaeris helvetica* Jacq. [Jacquin]; ses fleurs surpassoient en beauté et en grandeur toutes celles que j'avois rencontrées jusques-là.

Le *Carduus heterophyllus* Hall. fils est assez abondante dans la plaine de *Saas*. C'est le nom du village principal de cette vallée ; il est situé entre la montagne et le torrent. En passant le pont que traverse ce dernier, j'ai observé le *Trifolium saxatile* All. [Allioni].

Quoique le village de *Saas* soit très élevé dans la montagne, le voyageur découvre avec étonnement des habitations plus élevées encore ; c'est le vallon de *Fez* [Fee], que sa situation rend extrêmement curieux. Pour y parvenir, on suit un petit chemin qui traverse des rocailles et des bois de mélèzes ; le peuple religieux de cette paroisse y a fait bâtir quantité de petits oratoires où l'on voit représentée successivement l'histoire de la passion et de la mort de Jésus-Christ.

De *Saas* à *Fez* on compte une lieue et demie. En arrivant au haut de la montagne, avant d'être à *Fez*, l'on trouve une église belle et bien entretenue qui est appuyée contre un rocher creux entouré de sapins et de mélèzes ; on est plus étonné encore, lorsqu'après avoir fait quelques pas on découvre tout-à-coup une jolie plaine terminée par un village avec une autre jolie église ornée d'un clocher. Ce petit vallon offre une scène frappante ; les montagnes d'alentour sont couronnées de glaces et le voyageur, saisi d'un respect religieux, entend en même temps le son des cloches et les éclats des glaciers qui imitent le bruit du tonnerre.

A deux lieues de *Fez*, au fond de la vallée, s'élève une montagne nommée *Alpesinc* [certainly the Gletscher Alp, the name given being perhaps a misprint for 'Alpelin,' or 'little Alp'], toute entourée de glaces ; je me décidai à aller la visiter. Je recueillis diverses plantes sur cette Alpe.

Je revins à *Saas*, et le lendemain je m'acheminai le long de la vallée pour aller sur le Montmort [Monte Moro] : cette vallée est longue et contient encore quelques villages dont le premier s'appelle *Mameguel* [Almagell] et le dernier *Maire* [Zermeiggern]. De là on gravit les éboulements ou morènes des glaciers ; c'est ici que le minéralogiste aura de quoi se satisfaire, car on y remarque quantité de *Jade* joint à l'*Ostracite*, et d'autres pierres curieuses. De *Saas* à Montmort, il y a trois lieues. Le chemin, qui est assez rapide jusqu'aux Alpes, passe enfin au bord d'un glacier qui, descendant des sommités, ferme le bas de la montagne, et qui, arrêtant le cours du torrent, forme un lac d'environ une lieue de tour. Le sentier conduit le long du lac par dessus des rocailles ; il est

soutenu dans quelques endroits par des murs. [P. 14.] Près de là sont deux petits torrens qui se déchargent dans le lac.

Dès que j'eus dépassé le lac solitaire, j'arrivai de l'autre côté aux chalets de Mackmar [Mattmark]; c'est au-delà de ces cabanes qu'abonde la *Primula longiflora*.

En suivant la vallée paroît, à quelque distance, un groupe de chalets. Cette montagne se nomme *Distel*; je traversai le torrent et je montai du côté gauche sur des gazons émaillés de fleurs et entremêlés de rocailles. Avant d'atteindre les morènes qui descendent des glaciers, tout près du torrent, j'ai cueilli avec empressement la *Valeriana celtica*. Je revins à *Distel* par la droite du torrent: on y trouve le *Senecio uniflorus* à chaque pas.

J'aurois désiré passer quelques jours dans ces lieux remarquables; mais pressé de revoir la vallée de *S. Nicolas*, je revins à Saas pour reprendre le chemin de *Stalden*.

Je couchai dans ce dernier village, d'où je sortis de grand matin pour me rendre à *S. Nicolas*, à deux lieues de *Stalden*. Le sentier par où l'on est obligé de passer est vraiment affreux; des ravins et des rochers suspendus sur la tête des voyageurs, menacent à tout moment de les écraser.

Plus on avance, plus la vallée devient pittoresque; pendant près de six lieues d'un chemin gagné sur les rocs et les torrens, vous éprouvez les sensations les plus neuves, au milieu, si je puis parler ainsi, des ruines d'un monde suranné et démoli, à l'aspect du majestueux entassement des décembroes d'une création bouleversée par quelque catastrophe supérieure à tout ce qu'on peut se figurer de plus désastreux et de plus terrible. Le portique d'une telle ruine fait un effet des plus imposants. Il est formé par deux rochers et par des montagnes voisines couronnées de sapins et de mélèzes antiques qui s'élèvent à une hauteur immense. A chaque pas la surprise augmente; on y voit la nature prodiguer tout ce qu'elle a de plus majestueux et de plus riche, en rochers granitiques, en eaux et en forêts. On diroit que le créateur a voulu ici donner, en grand, le modèle des plus formidables fortifications: des murs, des bastions, des remparts taillés à pic dans le roc, sont uniformément entassés des deux côtés à une hauteur effrayante; tels qu'une garnison nombreuse, d'énormes sapins rangés en bataille, hérissent de leur noire file ces superbes escarpemens.

Au fond de la gorge, la *Viège* roule ses eaux fougueuses dans les sinuosités du canal qu'elle s'est creusée; un grand nombre de blocs détachés des hauteurs s'élèvent du milieu de son lit, comme autant d'isles tapissées de mousses et de lichens; l'eau blanchie par des sables, produit de la décomposition des mica, des magnésies et des granits, se fait jour au travers de ces obstacles et s'échappe en bouillonnant. Il ne manque à cette contrée, vrai séjour de la mélancolie, pour en faire le premier de jardins anglois, que quelques habitations propres à rappeler à l'âme absorbée, l'homme et ses travaux champêtres. Un chalet, un toit pour abriter les troupeaux, un banc placé comme au hasard sous un arbre, reposeroient bien agréablement les yeux fatigués de tous ces grands effets.

[P. 15.] Ce qu'il peut y avoir de pittoresque dans cette description est l'ouvrage de la nature, ce qu'il y a de monotone est le défaut de l'auteur, et, le dirai-je? c'est le défaut de la langue; elle est trop pauvre pour rendre ces détails, et quoique l'impression que font ces grands objets, soit très-variée, l'expression est la même lorsqu'on les décrit.

Ici le voyageur, pour peu qu'il soit versé dans l'histoire naturelle, trouvera des choses du plus grand intérêt, tant en botanique qu'en minéralogie.

C'est de là que le voyageur pourra contempler un tableau très-pittoresque. S'il veut se donner la peine de jeter un dernier coup-d'œil sur le village de *S. Nicolas*, il le verra occuper un site des plus singuliers, au fond de la vallée et au pied d'énormes rochers qui semblent s'élever jusqu'aux nues; il verra que l'église du village d'Ems [Emd] est tellement sur le bord des rochers, qu'on la croirait presque suspendue en l'air, prête à tomber sur le village de *S. Nicolas*.

Quand vous croyez que le défilé va brusquement finir, il se prolonge soudain, comme par enchantement, au-delà même du vol de l'imagination, et précisément du côté où la barrière paroît la plus insurmontable. (*Note de l'auteur.*—Nous observons, en passant, qu'on peut loger à Randaz chez le chatelain Valter.)

Tout homme qui ne connoît que les plaines, y sera trompé, à coup sûr. C'est ce qui a lieu souvent, lorsqu'on voyage dans les gorges des Alpes; on se croit arrêté tout-à-coup, quand on voit la vallée s'ouvrir subitement, sans qu'on ait pu le prévoir.

C'est dans ces hautes contrées que le bras vigoureux du laboureur se fait remarquer; il a abattu les antiques sapins, il a creusé des canaux pour arroser les prairies, il a défriché la terre la plus ingrate, il a bâti des villages et élevé de charmantes églises. Le peuple de ces vallées est simple, laborieux, religieux, hospitalier et fidèle; mais méfiant envers les étrangers. Aussi je recommande aux voyageurs de faire connoissance avec Messieurs les Curés, ou avec les personnes les plus considérés de l'endroit, afin de s'attirer, par eux, la confiance d'un peuple à moitié sauvage, d'un peuple souvent trompé par des voyageurs, ou déçu dans ses espérances par des malheurs.

Après une lieue de marche paroît le village de *Techen* [Täsch]. Au sortir de ce village, la *Viège*, resserrée entre deux rocs, forme plusieurs cascades écumeuses sous un pont de bois très-solidement construit. Ensuite, le chemin est tantôt resserré entre la montagne et la *Viège*, tantôt égayé par de petits bassins cultivés: enfin, lorsqu'on a fait demi heure de marche, dans un sentier tortueux, la vallée s'élargit tout-à-coup, et présente à l'œil charmé du voyageur une plaine tapissée d'une belle verdure, que [p. 16] termine pittoresquement le village de *Zermatten*, à une lieue de *Techen*. On doit s'adresser au chirurgien *Kronigguen** qui procure avec empressement les secours dont on pourroit avoir besoin

* Johann Josef Kronig, b. 1773; see Ruden, p. 53.

et qui fournira en même temps aux amateurs toutes les plantes de la vallée, dont il tient le magasin.

Le bassin de la vallée de *Zermatten* est superbe ; les montagnes qui le dominent se présentent sous mille formes diverses et sont couronnées par des glaces et des neiges éblouissantes. Vous avez devant vous la superbe dent du *Matterhorn* qui semble percer le ciel de sa pointe altière. Au haut de la montagne, près du petit hameau de *Tzemout* [*Z'Mutt*] l'*Aretia tomentosa* Schl. [*Schleicher*] s'abrite dans les fentes des rochers caverneux. Près du glacier est une plaine bordée de petits monticules que nous trouvâmes tapissés d'un superbe bleu ; c'étoit la *Myosotis nana* qui les recouvroit. Le lendemain j'avançai vers le mont *Stock* [probably the *Stockje*].

Pour rendre mon voyage plus intéressant et dans l'espoir de faire encore de nouvelles trouvailles, je traversai le glacier qui s'étend au pied du *Matterhorn* (ou Mont-Cervin des Val d'Ostains) pour aller botaniser sur la montagne de *Swartsee*. Vis-à-vis cette montagne est celle de *Réfel* [*Riffel*] avec le mont *Silvio* entre deux ; les amateurs feront bien de monter sur la première, car elle est très-riche en fossiles et en plantes rares. Pour y parvenir, on suit un sentier tortueux, tracé dans des bois de mélèzes ; après plusieurs contours, l'on parvient à des chalets [*Augstkummen*] d'où l'on peut voir le chemin qu'il faut suivre pour atteindre le haut de la montagne ; la pente en est roide et pénible, mais on est amplement dédommagé des fatigues de la route par les beautés que la nature y étale. Un petit torrent, descendant de cette montagne, forme d'agréables cascades le long d'un roc parsemé de très-belles *pyrites*. Dès qu'on a gravi cette première pente, la montagne devient moins roide ; l'on y trouve de mauvaises huttes de berger.

Je traversai encore un gazon sur une pente très-rapide tirant du côté du mont *Silvio*, et j'aperçus devant moi la chaîne des rochers calcaires qui domine le glacier de *Blatten* [*Gorner glacier*, here called *Blatten glacier* from the hamlet of *Platten*, near its foot]. Je montai sur la première hauteur et j'y découvris un *Phyteuma* [*P. humile*] nouveau qui n'avoit été trouvé auparavant par aucun botaniste ; il se plaît particulièrement dans les fentes de rocher. Revenu sur mes pas, je remonte une autre pente gazonnée. [P. 17.] J'admirais toutes les beautés que ce point de vue offroit à mes yeux, et je ne pouvois me résoudre à les quitter. Enfin, je m'élève encore plus haut, et je ne tarde pas à découvrir des petits lacs d'une eau claire, formés par la fonte des neiges. Les *Lagopèdes* de Buffon ou *Perdrix Blanches* se promenoient en toute sécurité devant moi, et égayaient cette solitude sauvage. Je longeai la montagne par des pâturages entrecoupés de rocailles et de précipices, et enfin je parvins à une autre montagne nommée *Trefliè* [*Triftje*]. Là je trouvai le *Senecio uniflorus*, et, près d'une petite cascade, la *Rhodiola rosea* et le *Ranunculus glacialis* que les paysans du canton nomment *Genèpi rouge*, et qu'on nomme ailleurs *Caroline*.

Le glacier de *Flue* [*Findelen glacier*] se présente devant moi

comme une barrière insurmontable ; j'en étudie les glaces et les fentes, je me hazarde à y monter, et après plusieurs contours pénibles et dangereux je parvins à le franchir pour arriver enfin à la montagne de *Flue*. Quelle surprise agréable, en marchant sur les morènes des glaciers, de trouver à mes pieds quelques morceaux du cuir ou liège de montagne ! En avançant on rencontre un petit lac [Stellisee] au centre de la montagne. Au-dessous de *Flue* est un groupe de chalets qu'on nomme *Finelet* [Findelen], et plus bas sont des petits champs et des ravins, où l'on trouve l'*Andryala lanata* et le *Leontodon hirtum*, plantes qui n'habitent que les pays chauds. J'étois au bout de ma journée, je revins à *Tzermatten*.

Le lendemain, accompagné de guides, qui sont ici indispensables, je pris le chemin du mont *Silvio* par *Blatten* [Platten], hameau à demi lieue de *Tzermatten*. Depuis ce premier village on monte par des lieux escarpés dans des ravins où naît en quantité l'*Artemisia glacialis*. La montagne au-dessous du glacier est couverte d'un gazon agréablement coupé par le *Ranunculus glacialis*. J'aborde peu après le glacier qui est à une lieue et demie de *Blatten*. Dans un endroit nommé *Blat* [Leichenbretter], hérissé de monticules formés par les morènes des glaciers, j'observe la *Potentilla multifida*, l'*Astragalus Halleri* et l'*Astrag. campestris*. Après avoir franchi les morènes j'entre enfin dans une vaste plaine de glaces et de neiges éblouissantes : à droite est le *Matterhorn* : à gauche sont des plateaux immenses de glaces, couronnés d'aiguilles qui forment le plus beau comme le plus étonnant tableau.

Après une marche de deux lieues sur le glacier, vous atteignez enfin *S. Théodule*, au pied du *Matterhorn* ; c'est là que le célèbre de Saussure avoit fait bâtir une cabanne pour y passer quelques jours. On y découvre encore des murs, restes de fortifications antiques ; ici la végétation est suspendue, et l'on n'y aperçoit que l'*Aretia alpina* abritée dans les fentes de rocher.

On reprend, de là, par une pente assez roide, le glacier qui devient très-dangereux ; il est coupé par d'énormes crevasses que l'on ne sauroit franchir, et il s'en forme souvent de nouvelles où le voyageur imprudent peut se perdre et finir misérablement son voyage, plusieurs de ces fentes étant masquées par la neige non-seulement en hiver, mais même en été, lorsqu'il en est tombé de la nouvelle.

En quittant le glacier, on suit des gradins qui descendent de la montagne supérieure nommée la [p. 18] *Fournette* (Fornet) ; plus bas, là où le gazon commence, il est tapissé en jaune par un *Cheiranthus* nain, dont les fleurs sont très-belles, et qui, pour l'ordinaire, n'a qu'une pousse de hauteur. Il paroît que c'est plutôt le *Cheiranthus alpinus* qu'une nouvelle espèce.

La montagne forme un amphithéâtre embelli par des lacs, et au-dessous sont des rochers taillés à pic. Cet endroit se nomme le *Breuil* ; il est à trois lieues de *S. Théodule*. On peut s'arrêter au petit hameau qui s'appelle *au Breuil*, et s'y rafraîchir, car en été on y vend du vin.

A la descente, près du village de *Valtornanche*, le vallon se resserre et le torrent se précipite de cascade en cascade avec un fracas effrayant. De Valtornanche à Châtillon il y a trois lieues.

(*To be continued.*)

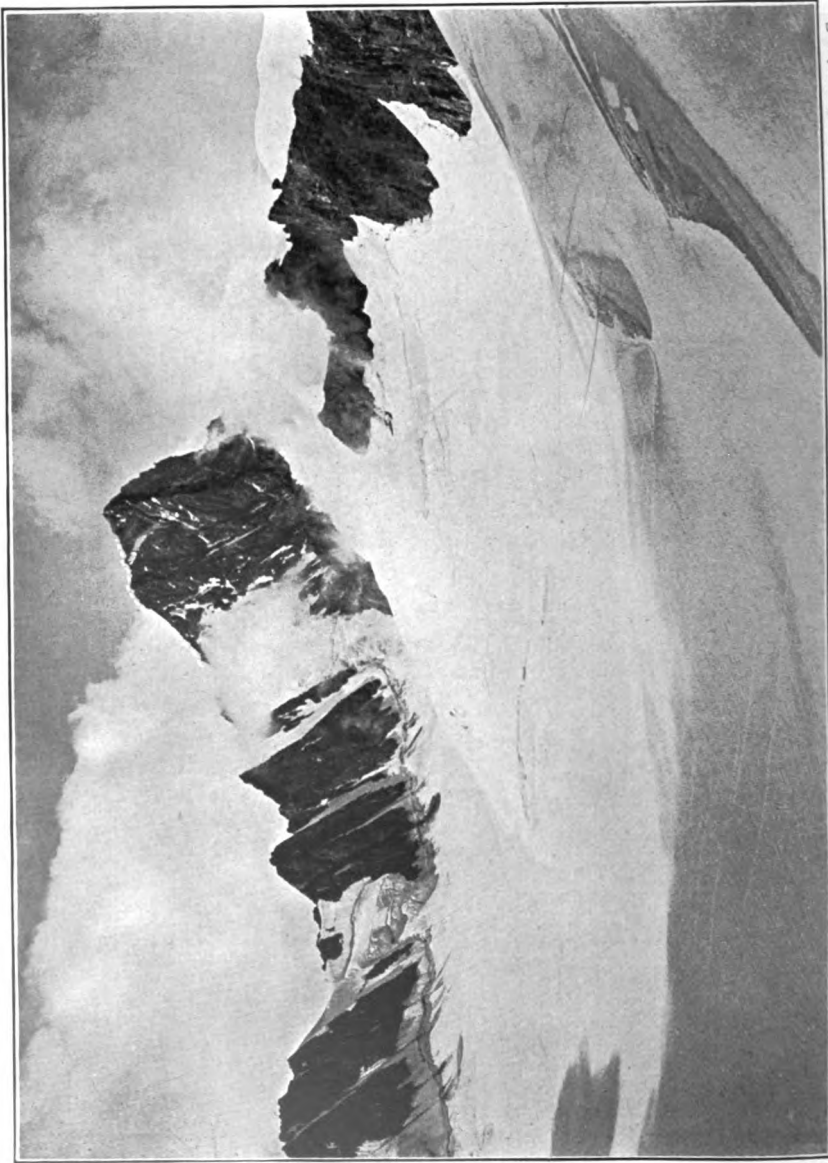
THE FINSTERAARHORN BY THE S.E. ARÊTE.

BY W. C. COMPTON.

HAVING a most pleasant recollection of the climb of the Finsteraarhorn by the S.E. arête on August 30, 1899, of which my companion, Mr. Valentine-Richards, has left a record,* I was glad to seize the opportunity afforded by one of the few spells of fine weather the climbers of August 1905 were favoured with to repeat the expedition in the company of my nephew, Mr. E. Harrison Compton, a young climber who had so far never reached the magical 'vier tausend Meter' that seems to exercise a peculiar charm over our comrades from the D.Ö.A.V. In doing so I was also influenced by the hope of making this route more popular by showing that, except in specially difficult conditions, the expedition need not be at all hazardous or exacting.

It was after one of those spells of bad weather that we started (August 18) from Stein for the Grimsel *via* the Zwischenthierbergen Limmi and the Trift hut, spending, on the following morning, a rather chilly half-hour upon the Dammasstock, and breaking up from the Grimsel for the Oberaar hut on the Monday (August 21), at a fairly comfortable hour of the day, with Johann Stoller, of Kandersteg, as our companion. It had been our intention to push on to the new Finsteraarhorn hut, just opened on the rock marked 3,237 m., almost due south of the summit of our peak; but a strong, guideless party, who had kept their intentions dark so far as concerned the hour of their departure, got the better of us, and were seen well up the Oberaar glacier when we left the green moraine. Their halt below the new Oberaar hut was just about to end when we overtook them. Our time up the glacier was probably rather less than theirs, thanks to the experiments they had made, with varying success, upon the bridged crevasses. The new hut perched at the foot of the Oberaarhorn—the old one on the opposite side of the col having been removed to the site selected for the Finsteraarhorn hut, mentioned above—seemed to invite inspection. This requires a scramble of a

* *Alpine Journal*, vol. xx. p. 142.



A. F. Valentine-Richards, photo.

FINSTERAARHORN (1) FROM OBERAARJÖCH.

Swiss Electric Engraving Co.

few minutes up the rocks to the right (N.) of the pass. On reaching this haven of rest the force of a well-worn proverb impressed itself upon our minds, especially that of our guide, and we resolved to desist from the pursuit of other fowl. A shout to our friends, now rapidly descending towards the Gemslücke, met with no response, but found its interpretation later on when they had the 'bush' to themselves—a bush, it may be added, which, if it contained a nest, had as yet no lining to it, for there were no blankets. Meanwhile the Capuan luxuries of the well-appointed Oberaar hut were ours; and could we not start all the earlier as there was a good morning moon, even though we might not, as we had hoped, find a way up the ridge before us from the east?*

A rapid ascent of the Oberaarhorn would help us to decide our route, if one could be found up the east face of the arête. So in a few minutes we were scrambling up the loose slabs that overhang the hut, and before long the snowy peak was under our feet and we had before us the view sketched by Mr. A. Cust.†

My original idea had been to try the east arête, climbed first on September 24, 1898 ‡—unless Meyer's ascent in 1812 was by this route; and it was a route of which the guides who then made it spoke very highly in the book at the then Oberaarjoch hut. But at the Grimsel other counsels prevailed. In 1904, it was said, a lady had spent 72 hrs. on the mountain, ascending it by the east face; and this event had occasioned a fall in the demand for the route in question. Yet the Meiringen guides had fixed the rope across the awkward slab (*see* illustration III.), in the hope of popularising this route from the Grimsel, and thus from Meiringen also. So, ruling this out of court, we had only to see how the slopes could be attacked from the Studerfirn, so as to reach the saddle I had made from the opposite side in 1899. Not having formed any definite plan of campaign before leaving England, I had unfortunately omitted to arm myself with a 'Climbers' Guide,' and without it or the fuller accounts of Herr Bodenehr's ascent,§ or that of Herr Blezinger,|| it was the more difficult to discover a way. At the foot of the slope at every point there appeared to be a yawning bergschlund

* *Alpine Journal*, vol. xi. p. 369.

† *Ibid.* vol. viii. p. 263.

‡ *Ibid.* vol. xx. p. 142.

§ *S.A.C.J.* vol. xx. p. 459.

|| *D.Ö.A.V. Zeitschrift*, vol. xiv. p. 505.

or a hanging glacier to negotiate.* To cut the matter short, shameful though it may be, wisdom pointed to a reversion to the route of 1899. This at any rate was familiar to one of the party and was not likely to afford serious difficulty.

On our return to the hut about sunset we found our title disputed by a rather noisy party of guides or the like. Gradually we were able to distinguish a German lady and gentleman—both quite young—their two guides, and about three labourers engaged in the construction of the other (Finsteraar) hut, for whom, for some reason, it appeared to be ordained that they must make ours their nightly resting-place. Perhaps the blankets, which had decoyed us from the path of sterner virtue, were also their justification. Something of pathos was imparted to the scene by the distress of the German couple, who had taken guides from Rhone Glacier (!) for the ascent of the Finsteraarhorn by the Hugisattel, and were betrayed by the hopeless incapacity of one of these during their ascent of the Oberaar glacier. They had allowed this guide, as it appeared, to order, as an indispensable item, a certain fluid, of which he seems to have been a devotee and of which he had possessed himself. That praiseworthy spirit of loyalty had made it impossible for the younger guide to send him back. What made the situation more desperate was the fact, which transpired later, that they had not provision to last over a day, while fresh forces could be summoned from below, and—though it was not then apparent—the following was destined to be the last good day for some time to come.

With a bright moon overhead we started at 2.30 for the Gemslücke (reached in 70 minutes), on the further side of which there was practically no snow. This made the descent less pleasant than it might have been. The stones were very loose and it was more difficult to see one's way on the dark side. As we crossed on to the rocks at the S. foot of the point 3,597 m. a chamois threw down a few small stones upon us. Thinking I must have dropped something into a hole at the edge of the rock we stopped to strike a light, but, as nothing was to be seen and I could not find anything missing, we proceeded, and soon heard more stones falling, knocked down, no doubt, by chamois. Day now began to dawn and the traverse of the rocks ended on the snow-slope, which afforded easy going till at 5.45 we reached the point 3,536 m. Here we

* The E. face is seen in Mr. Valentine-Richards's view from the Oberaarjoch.

Minor Summit.
Red Rib.



H. C. Compton, photo.

Swan Electric Engraving Co.

VINTERMÅNEDEN (II) I HØM WEST.

made a brief halt ($\frac{1}{2}$ hr.), partook of a very light meal, and left behind all that we could dispense with. A short half-hour brought us (6.40) across the bergschrund at the same point as that we had made in 1899. Hence our way, on that occasion, followed the red rib between the two snow couloirs (see illustration II.), and we should have saved, perhaps, as much as half an hour had we now followed the same line of ascent; but it appeared to our leader that the rocks on the left (N.) of the first (N.) couloir were equally good, and we proceeded up these with the couloir on our right. Soon, however, it became evident that the rock was not so sound, and it would be as well for those who make this ascent to prefer the rib between the couloirs. Taking once or twice to the couloir—which of course required step-cutting—we reached the arête by 8.10 A.M., and after a brief halt attacked the good rock leading up to the 'minor summit' (4,175 m.). This portion of the climb is steep, but the rock is exceedingly good, and there is no difficulty whatever. Arrived upon the 'minor summit,' we had the comparatively level ridge before us, with the 'slab' and the real peak a hundred feet or so above it (illustration III.). This is the portion of the ascent about which there has been considerable difference of opinion. The 'Climbers' Guide' describes it as a horizontal distance of 350 m., vertical 100 m.; 'yet 2-3 hrs. are required to cover it, save under very favourable circumstances. (The 1899 party climbed from the rope [slab] to the top in 20 min.)' [and from the minor peak in about $\frac{3}{4}$ hr.]. Herr Blezinger, who was with Captain Farrar in 1883, says, 'Noch nie sah ich einen Pfad mit solch' schroffen Abblicken wie von hier bis zur höchsten Spitze.'* His guide had estimated it as requiring 1 hr., but it required 3, of which 40 min. were taken in crossing the slab. The final chimney above the slab is described as a 'Schneerücken.' Dr. Strauss says his guide, 'Kederbacher, versicherte es sei dies eine seiner exponiertesten, wenn nicht die schlimmste seiner Klettereien gewesen.'† M. Cordier says he found 'rochers très difficiles, successivement à droite de l'arête, puis à gauche, puis de nouveau à droite, et enfin sur un trenchant même.'‡ In $1\frac{3}{4}$ hr. they came to a hopeless *impasse*. After a halt of half an hour they renewed the attack on an 'arête d'une incroyable difficulté—une série d'obélisques, bizarrement placés,' &c.

* *Zeitschr. D.A.Ö.V.* 1883.

† *Ibid.* 1889.

‡ *C.A.F. Ann.* vol. iii. p. 398.

Herr Bodenehr * ascending from the east reached the arête probably near the usual point (above our red rib) at 7.45, and, like M. Cordier, found 'Felsenacken' ('obélisques bizarres'), with some cornices overhanging to the east. At 9.30 he was face to face with the final obstacle, which he negotiated by a drop into the couloir below the slab, reaching the summit at 2 P.M. Thus it would appear that, in his case, 1½ hr. was required for the part from the point where the arête was struck, over the minor summit to the slab; and from thence to the top (a matter of about 150 ft.) 4½ hrs., including the halt, the length of which is not indicated.

A concise summary of 10 recorded ascents by the S.E. arête will be found in the 'Deutsche Alpenzeitung,' 1902-3, No. 17, pp. 118, 119.

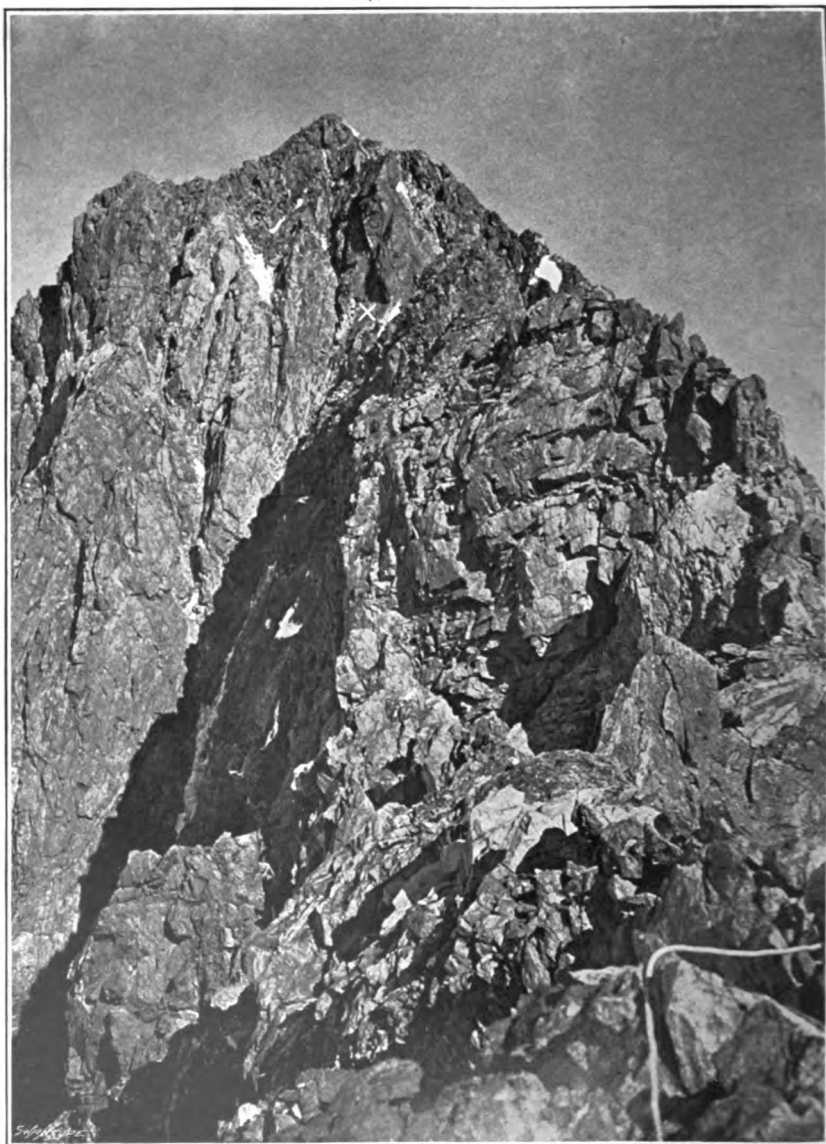
There is, however, an unrecorded ascent in 1903—the second by Capt. Farrar—who describes the ridge, as I learn from Mr. Coolidge, as 'really very difficult.'

On September 24, 1898, four Meiringen guides made the ascent from the Studerfirn, surely 'a new way,' though the 'Alpenzeitung' claims that it is only a repetition of Meyer's route in 1812. I read their account in the visitors' book at the Oberaarjoch hut in 1899, and fully understood that they followed a rib from the Studerjoch almost all the way to the final peak, crossing the S.E. arête just below the slab where they fixed the rope we found in 1899 and again in 1905. Their object appeared to be to open this east face ascent, as I have already mentioned.

Finally Herr Hasler (in the article mentioned above) describes a descent by the S.E. arête in 1902 (September 20). This party ascended from the Schwarzegg hut by the Agassiz Joch, and commenced the descent at 4.30 P.M. The rope was used that had been fixed across the slab, of which Herr Hasler says it was hardly needed, as a descent of a few steps would have made the traverse easy, though even so it is 'nicht besonders schwierig.' Hence followed a good climb over pinnacles, which, in view of the good rock, was a real delight. *The rocks are nowhere very difficult*, but such that a moderate cragsman can thoroughly enjoy ('Die Felsen sind nirgends sehr schwierig, sondern gerade so dass ein mittlerer Kletterer sein helles Vergnügen daran hat'). After 1 hr. and 35 min. on the ridge he decided to follow Meyer's route down on the W. side—apparently rather to the N. of the red rib by which we ascended in 1899, as Herr Hasler concluded when

* *S.A.C.J.* vol. xx. p. 459.

Slab.



← Slab.

A. V. Valentine-Richards, photo.

Swan Electric Engraving Co.,

FINSTERAARHORN (III)
SUMMIT WITH FINAL CHIMNEY AND "SLAB"

he compared his time with ours. Our ascent between the bergschrund and the ridge had taken about an hour and a quarter, and in his descent of the same portion of the mountain (in the moonlight) he took $11\frac{1}{2}$ hrs., reaching the glacier at 5.45 A.M.

After this digression upon the records of the ascent from the 'minor summit' to the top I must return to the fortunes of my party on August 22, 1905. The conditions were precisely as they had been in 1899, when we took $2\frac{1}{4}$ hrs. from the point at which the arête was struck to the summit. I have no record of the time taken on either occasion in reaching the 'minor summit;' but allowing only $\frac{3}{4}$ hr. for this—a low estimate, the time required for this part being given in the 'Climbers' Guide' as $1\frac{1}{2}$ to 2 hrs. (Farrar 1 hr. 20 m.)—there would remain $1\frac{1}{2}$ hr. for the rest. Our time in 1905 was just 2 hrs. from leaving the point at which we struck the arête; for we were on the final summit at 10.20. Mr. Coolidge, following the majority of the records referred to above, gives '2-3 hrs., save under very favourable circumstances' (referring to the 1899 party). But, as I hardly thought the circumstances exceptional, I was anxious to see how I might fare at a second attempt. When I wrote to acquaint him of the result, his reply, which I have now before me, indicated that he was 'of the same opinion still.' 'You have obviously had great good fortune on both your ascents.' So that I prefer to believe others must have had bad fortune, for there was nothing exceptional in the weather conditions on either occasion. The rocks were not iced: that is all. In a fairly large number of ascents I have brought off I have very rarely encountered the difficulty of glazed rocks. From this I infer that it is the exception, and that probably Captain Farrar—I hope he will see this and let us hear why he considers the rocks so difficult—was unfortunate enough to find the mountain in bad order. As for the older narratives, one knows that pioneers meet with difficulties which their experience has smoothed away for the humbler folk who follow in their tracks. The 'slab' which can be crossed without touching the rope in a couple of minutes (8 or 10 steps at the outside) took Herr Blezinger 40 min. out of the 3 hrs. occupied between the 'minor' and the final summit, a climb he describes as along a ridge from which the precipitous views down to the glaciers below were such as he had never witnessed before. It may be that the route I followed on both occasions avoided, by a traverse on to the west face, some of the 'very difficult' places that

may no doubt be encountered if the ridge is adhered to all the way. We did not, however, miss an interesting bit that recalled the 'enjambée' of the Matterhorn.

My friend Valentine-Richards, writing in 1899,* says of this climb that 'it may be reckoned among the finest climbs in the Alps, in some details resembling the Italian side of the Matterhorn; but when the mountain is in good order it presents no point of special difficulty.' I entirely endorse these words, confirmed as they are by a second acquaintance; but in doing so I should wish it to be understood that the Matterhorn has a stronger claim, by points, to the honours conferred by the epithets lavished upon the Finsteraarhorn by the S.E. arête. Since writing the above I have had an opportunity of reading Mr. Claude A. Macdonald's account which appears in 'Alpine Notes' in the present number of this 'Journal.' His experience seems sufficiently like my own to justify me in recommending our expedition in good weather to any members of the Club who may find themselves in the district.

RUWENZORI.

H.R.H. THE DUKE OF THE ABRUZZI has promised the Royal Geographical Society to furnish it with an account of his recent ascents in the Ruwenzori range. The paper, which will be read at the Meeting on January 14 next, will be illustrated by a number of photographic panoramas and views taken by Signor Vittorio Sella during the expedition. It is hoped that these may also be shown at the February meeting of the Club.

His Royal Highness, who has visited London since his return, reports that he has climbed the twelve highest peaks of the range, none of which exceed 17,000 ft. They all lie within a radius of seven or eight miles in a compact group, or rather a cluster of small glacier groups separated by high but snowless passes. On only one ascent, that of the highest peak, was any serious difficulty encountered. The party had no trouble with the natives, whom they found friendly and serviceable. Whatever reports to the contrary have been circulated were due to the imagination of a press correspondent at Entebbe.

The letter from Dr. Wollaston printed here gives an interesting account of his attempt to reach the western glaciers of Ruwenzori and of the reason of its failure:—

* *Alpine Journal*, vol. xx. No. 148, p. 142.

'Ituri Forest, between Fort Beni and Irumu,
Congo Free State:
August 12, 1906.

'DEAR MR. FRESHFIELD,—I think I told you in my last letter that I hoped soon to get round to the west side. After many difficulties and delays we arrived at Fort Beni, the Belgian post on the Semliki, about the middle of July. From there we set out with an escort, which the Belgian officer insisted on our taking, and which proved the cause of our undoing, and made the Butagu valley in three days. I left the party camped at 7,000 ft. (Kakalongo in Stuhlmann's map) and started full of hope for the upper parts of the valley, with ten porters, a camera, and your old Himalayan iceaxe. A good but very steep track, accurately marked in S.'s map, took me up to 10,000 ft., and I was just leaving my second camp, with only a short march ahead, when a message came from below that a detachment of the escort had been attacked a mile or two below our camp (at 7,000 ft.) by natives armed with guns—one soldier killed and five wounded, two fatally. My services were required to bring them together again, and my porters to carry them; so there was nothing for it but to go downhill as speedily as possible. As we retreated down the valley on the following day—the day on which I ought to have been within reach of the glaciers and taking photographs of immense interest—the snow peaks were all clear, as if to spite me, for an hour or more after their usual time, and I saw some superb views. It was impossible to take photographs, as we were dodging spears and arrows all the time. In fact it was a sort of running fight for three days back to Beni. A good many natives killed, but none of our people badly hurt. It was, I think, the cruellest disappointment I have ever known, to be within half a day's journey of our most coveted goal and then to be compelled to turn our back upon it. The root of the evil lay in the Belgian who had charge of the escort. In spite of protests he camped in the native gardens, cut down the shambas, at one place shot the village cow, while his soldiers looted the houses. In return for these and doubtless many former barbarities they rose up against him and we suffered for it. I am convinced that, had the Belgians let us go without escort, we should have had no trouble at all. When we left Beni a week ago they were preparing a punitive expedition to quell these wretched people, and will doubtless make bad worse. So until they have killed off all the natives, or until the Semliki becomes the Uganda boundary, the W. side of Ruwenzori will not be a very wholesome place for a white man. The latter event is, I suppose, too good a thing to hope for. Our people generally "climb down," I am afraid, in any boundary question, and a few miles of mountain seem a small thing hardly to be considered by the wise men of the Colonial Office. Is it out of the question for the Royal Geographical Society to bring some pressure to bear upon them? There can be no better evidence of the difference between the two Governments than the conditions of the Wakonjo on the east and the west sides of Ruwenzori.

'The rare views that I got of the range from this side show it to be much finer than from the east, as one would expect, the Semliki being about 2,900 ft. at Beni. There is a very fine valley I looked into (Russirubi in Stuhlmann; Paka is the name I got for it from a native thereabouts) which leads up to the snow, on the N. slopes of the highest peaks, I should imagine. No European has ever been into it yet. I confess that I am more than ever anxious to come back at the earliest opportunity, and this is a valley that would be well worth exploring. The Belgian Dr. David went up the Butagu valley, but how far he went I have been unable to find out. I found the relics of an English pair of breeches at 10,000 ft. ! Perhaps Scott Elliot's of 1894? Stuhlmann's photograph is of the highest peaks looking a little north of east.

'I hope the Duke of the Abruzzi will find some good native names for the highest peaks. "Birika" (boiling pot) is the only name I heard on the E. side for the snow peaks.

'I have a photograph of "King Edward's Rock," taken from above Bujongolo, which I don't think its godfathers would like to have published, it is so evidently the lowest point of the Mubuku ridge. I am afraid you will not find any of my photographs at the British Museum. I have them all here, and only a few of them are developed; but I shall have great pleasure in sending them to you when I get back to England next year. This expedition comes to an end at Entebbe in a few weeks; then I am off to the volcanoes Mfumbiro, at the S.W. of Lake Albert Edward, Kivu, and Tanganyika.

'If you think any extracts from this are of sufficient interest for the "A. J." or elsewhere, please send them with apologies. Writing letters in this forest of pigmies and okapis is none too easy.

'Approximate heights of peaks: Duwoni, 15,898 ft.; Kiyanja, 16,879 ft.; peaks N.W. of Kiyanja, 16,700 ft.; highest peaks, 17,000-17,200 ft.; big snow (? Saddle Mount), 16,000 ft.*

'A. F. R. WOLLASTON.'

ARAB LEGENDS REGARDING RUWENZORI.—In A.D. 1686 an Arab compiler, quoted by Sir H. M. Stanley ('In Darkest Africa,' vol. ii. pp. 280-1), undertook to describe from earlier authorities the legendary snows at the Nile sources. I make here a few extracts from his compilation:—

'Others say that the Nile flows from snowy mountains, and they are the mountains called Kaf.'

'There is a difference of opinion as to the derivation of the word Gumn. Some say that it ought to be pronounced Kamar, which means the Moon, but the traveller Ti Tarshi says that it was called by that name because "the eye is dazzled by the great brightness."

* The observations of the Duke of the Abruzzi will reduce these heights and bring them into close correspondence with those obtained trigonometrically by Captain Behrens, R.E.—D.W.F.

. . . This chain has peaks rising up into the air and other peaks lower. Some have said that certain people have reached these mountains and ascended them, and looked over to the other side, where they saw a sea with troubled waters, dark as night, this sea being traversed by a white stream, white as day, which enters the mountains from the north. . . . Some say that people have ascended the mountain, and one of them began to laugh and clap his hands and threw himself down on the further side of the mountain. The others were afraid of being seized with the same fit, and so came back. It is said that those who saw it saw bright snows, like white silver, glistening with light. Whoever looked at them became attracted and stuck to them until they died, and this science is called human magnetism.'

'It is said that a certain king sent an expedition to discover the Nile sources, and they reached copper mountains, and when the sun rose the rays reflected were so strong that they were burnt. Others say that these people arrived at bright mountains, like crystal, and when the rays of the sun were reflected they burnt them.'

Surely it is difficult to believe that no substratum of fact underlies these graphic details.

D. W. F.

NOTES FROM SIKHIM.

MR. DOUGLAS FRESHFIELD writes, 'I have received the following account of a journey made last summer in Upper Sikkim, behind Kangchenjunga, from M. de Righi, the proprietor of the Woodlands Hotel at Darjiling. It furnishes an agreeable proof how easy it may be for travellers with the necessary will and energy to travel in this part of the Eastern Himalaya. I trust that before long this wonderful region may become familiar to many of our countrymen resident in India.

'For me at least, and perhaps for some of your readers, M. de Righi's letter has a further interest. It may be remembered that in my volume "Round Kangchenjunga" (p. 191) I described how, in 1899, on our descent from the Jonsong La into Nepal one of our coolies was missing, and was reported by his companions to have begged them to leave him to die. This is what I wrote at the time: "They furnished him with a few biscuits, covered his face with a cloth, and continued their march. At first we had so many disappearances and returns that I was incredulous of the tale; and, until we regained Darjiling, I entertained strong hopes that the missing man would appear among the list of deserters. But he never did, and Rinsing finally brought forward a claim for damages for the life of his retainer or tenant."

'For this alleged loss to my party I incurred the blame of the egregious Mr. Crowley and sundry other press writers. They will doubtless be glad to learn, on the excellent authority of the missing

man's village chief and landlord, Rinsing Kazi, that my first feeling of incredulity was well founded, and that he is now reported to be alive and well in Nepal. 'D. W. F.

' " Woodlands Hotel, Darjiling, September 4, 1906.

" DEAR SIR,—As a total stranger I must ask you to excuse my liberty in addressing you, but, as I have just returned from a visit to the Zemu Glacier, where I found your upper camp, I thought you might be interested to hear that it was at the time of my visit, on August 17, a garden of alpine flowers, with heaps of edelweiss, primulas, gentians, primroses, &c. The remains of your camp were very evident, and I am sure I am the first human being to visit it. I give you here an extract from my diary:—' On coming across the highest camp abandoned by the Freshfield party I immediately searched around for what he says in his book he must have left behind—ice axe, &c. Although I thoroughly searched the place I found nothing but empty tins—oxtail soup, Lambert and Butler's bird's-eye—the labels being still legible. I also found two cups (native), one enamelled, in first-class condition, one of china with the bottom broken, an empty bottle, the cork inside. I concluded that the heat of the sun had drawn it in and the contents—possibly coolie rum—had evaporated. I also found two iron cooking pans (native) and a good many tent pegs, some *in situ*, with bits of rope tied to them, but rotten; also a couple of mallets, both split at one end, a broken toilet bottle, and last of all some remains of mutton or deer bones, but no ice axe of any kind. I had the place systematically searched by my coolies, but no sign of it. Very glad to find heaps of nice dry firewood collected by their coolies.'

" I experienced very bad weather while on the glacier, and, as my time was limited, I had to push on for the return journey. It was cloudy all the five days I was there. My highest camp was on the same spot as Mr. White's, on the shore of the Green Lake.

" My route was from Darjiling to Gantok, Dikchu, Singtam, Bé, Talung, Tizong, Yumtso La, Zemu Glacier by the yak route, then over the Tangchung La, Thé La, Lungnak La, Tangu, Lachen, Chung Thang, Gantok, and back to Darjiling. Time occupied, thirty-four days. As I was alone I had only seven coolies, and sent four back when I could hire yaks from Tizong to Lachen.

" It may interest you to know that Rinsing told me that the man who was supposed to have died during your crossing of the Jonsong La is alive and well in Nepal; at least so he has been informed by one of his men who said he saw him.

" I am forwarding to you the broken china cup as a memento of the camp from which you had such trouble to return. I can quite imagine it. It was bad enough with no snow on the ground. I am also enclosing some edelweiss from the same spot. I may add that I never saw Kangchenjunga from the glacier, it always being very cloudy, but I got a fine view from the top of the Thé La.

" Yours faithfully,

" A. DE RIGHI, C.A.I."

'I may conveniently note here that Dr. Jacot-Guillarmod has contributed to the "Jahrbuch" of the Swiss Alpine Club for 1906 an article on the unfortunate expedition conducted on behalf of the "Daily Mail" by Mr. Crowley in 1905. It is illustrated by a panorama of the Talung Glacier and other photographs, but the map, or at least corrections of Mr. Garwood's map, we had been led to expect, are not as yet forthcoming.'

THE ALPINE CLUB LIBRARY.

THE following additions have been made since July:—

New Books and New Editions. Presented by the Authors or Publishers.

- Baltzer, A.** Das Berner Oberland und Nachbargebiete. Ein geologischer Führer. Sammlung geolog. Führer XI.
Sm. 8vo, pp. xvi, 347; maps, ill. Berlin, Gebr. Borntraeger, 1906. M. 8
This, the first of two parts in which the Bernese Oberland is to be described geologically, is the part for practical use on geological excursions. The phenomena along main routes are described and well illustrated. The Oberland is an excellent district for field geology, for the faults and twists and strata are uncovered to the eye: and this book forms a good handbook. It is one of a series of small volumes, of which two are already in the Club Library, one on northern Italy and one on the district between the Bodensee and the Engadine.
- Coolidge, Rev. W. A. B.** Illustrierter Führer von Grindelwald. Revidierte Ausgabe. Grindelwald, Luf, 1906. Fr. 2
8vo, pp. 69; map, ill.
- Daudet, A.** Tartarin on the Alps. London, Maclaren [1905]
8vo, pp. 126.
This is a well printed 6d. edition.
- Dessauer, A.** "Das Totenwannerl." Ein humoristischer Roman aus dem Bergsteigerleben. Kürschners Bücherschatz, No. 499.
8vo, pp. 110. Berlin, etc. Hillger, 1905. Pfg. 20.
- Fördrerreuther, Max.** Die Allgäuer Alpen. Land und Leute. 1. u. 2. Lieferungen. Kempten u. München, Kösel, 1906. M. 1.20 each part
8vo, col. and other ill.
Very well illustrated. The coloured illustrations are from sketches by E. T. Compton. To be completed in 8-10 parts.
- Frölich, Major.** Militärgeographie der Schweiz, nebst kurzer Schilderung der Entstehung der Neutralität Savoyens und historischen Notizen über verschiedene Alpenpässe. Aarau, Sauerländer, 1906.
8vo, pp. iv, 118.
A work on the boundaries of Switzerland as affording protection from attack. Only on the north does the author consider that the broken nature of the ground affords serious protection.
- Gehring, L.** Die Lamprechtsofenloch-Höhlen bei Lofer im Salachtal (Pinzgau). Berchtesgaden, Ermisch, 1906. Pfg. 50
8vo, pp. 27.
- George, Marian M., Edited by.** A little journey to Switzerland. For home and school. Chicago, Flanagan (1902)
8vo, pp. 192; maps, ill.
An excellent school-book. The first ascents of Mont Blanc and of the Matterhorn are described and illustrated.
- Hardmeyer, J.;** see Illustrated Europe, 114-116.

- Hartmann, H.** Brief guide through the Oberland resorts and Interlaken. Published by the Bernese Oberland Traffic Association. 8vo, pp. 108; ill. Bern, Benteli, 1901
- Hornaday, Wm. T.** Camp-fires in the Canadian Rockies. Roy. 8vo, pp. xix, 353; map, ill. London, Werner Laurie, 1906. 16/- net. This book is concerned chiefly with the great white Rocky Mountain goat. There are many valuable photographs of goats taken from life among their rocky haunts. The descriptions of their climbing, and of their way of using their feet and legs while climbing, are not only delightful reading but of scientific value in connexion with our knowledge of this animal. The book carries with it a sensation of the freedom and fresh air of the mountains and the excitement of the sport of shooting goats, sheep and bears, and of taking photographs of them at close quarters on most dangerously steep rocks.
- Illustrated Europe**, nos. 114-116. Lugano und die Verbindungslinie zwischen den drei oberitalienischen Seen. Von J. Hardmeyer. 4te Aufl. 8vo, pp. 124; maps, ill. Zürich, Orell Füssli [1906]. 1/6
- Keane, A. H.** Stanford's compendium of geography and travel (new issue). Asia. Vol. I. Northern and Eastern Asia. 2nd edition, revised and corrected. London, Stanford, 1906. 15/- 8vo, pp. xvi, 528; maps, ill. This contains;—Caucasia, Russian Turkestan, Siberia, Chinese Empire, and Japan.
- Kojima and Takato.** Nihon Sangakushi. Hand-book to the mountains of Japan. (In Japanese.) Tokyo, 1906 Roy. 8vo, pp. 673; plates and woodcuts. This is a specially bound presentation copy, presented by the Japanese Alpine Club.
- Longstaff, T. G.**; see Sherring, C. A.
- Luerssen, H.** Das Lahntal von der Lahnquelle bis zur Mündung . . . 8vo; pp. xiv, 228; maps, ill. Giessen, Roth, 1902. M. 2
- Meyers Reisebücher.** Deutsche Alpen. 2. Teil: Salzburg-Berchtesgaden, Salzkammergut, Giselbahn, Hohe Tauern, Unterinntal, Zillertal, Brennerbahn, Pustertal und Dolomiten, Bozen. 9. Aufl. Leipzig u. Wien, Bibliogr. Institut, 1906. M. 5 8vo, pp. xii, 342; maps, panoramas.
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- Reisch, Franz.** Kitzbühel, seine Umgebung und Ausflüge. Obl. 8vo, pp. 82; map, ill. Innsbruck, Selbstverlag, 1906. K. 1.20
- de Ricaudy, E. Vêrges**; see C. A. F. Canigou.
- Le Roux, M.**; see Viollier, E. W.
- Sempione ed Ossola.** Guide illustré Reynaudi. 8vo, pp. 282; map, ill. (Torino, Roux e Viarengo, 1906)
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 4to, pp. viii, 771; maps, ill.
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- Tanner, H. A.** Beiträge zur Erschliessung du südlichen Bergeller Berge und Führer für Forno-Albigna-Bondasca.
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 8vo, pp. viii, 158; map, ill.
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 Contents;—
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 Mougin et Bernard, Etudes exécutées au glacier de Tête-Rousse.
 H. Vallot, Notes sur quelques particularités de la détermination des stations topographiques par relèvement.
 — Etat d'avancement des opérations de la carte du massif du Mont-Blanc à l'échelle du 20.000°.
- Das Villnöstal und seine Umgebung.** Unter besonderer Berücksichtigung von St. Peter, Gufidaun, Bad Froy, Brixen und Klausen, Schlüter-, Plose- und Regensburgerhütte. Herausgegeben unter Mitwirkung der Sektionen des D. u. Oe. A.-V. Dresden, Regensburg und Brixen.
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 Lausanne, Rouge, 1888
 8vo, pp. 367.
 This is the second volume of the posthumous and altered edition of 'Les Alpes Suisses.'
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- Vallotton, Charles.** En Vacances. Huit jours dans les Hautes-Alpes françaises.
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 This is a reprint of articles which appeared in Rev. d. Foyer domestique.

*Club Publications.***Austrian Tourist Club. Maps.**

1. Wienerwald, nördl. Blatt.
2. — südl. Blatt.
3. Voralpen.
4. Aspang- u. Wechselgebiet.
5. Traisen- Unterberg- u. Reissalpegebiet.
6. Schneeberg.
7. Raxalpe.

— Vollständiges Verzeichnis der in der Bücherei des Oe. Tour.-Klub enthaltenen Bücher . . . Verfasst v. Dr. Fr. C. v. Wingard. Wien, 1902 8vo, pp. 115.

— **Section Wiener-Neustadt**; see Mühlhofer, F.

C.A.F. Guides et porteurs brevetés au 10 Juillet 1906. Folio.

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— A copy of a notice for fixing in Club huts on the use of alcohol;—
 “Le Congrès international de l’Alpinisme, traitant la question de l’alimentation pendant les courses de montagne, est unanime à condamner l’usage de l’alcool, et surtout de l’absinthe, qui ne peuvent avoir qu’une influence fâcheuse, loin de servir à réparer les forces du voyageur épuisé.”

— **Section du Canigou.** Notice historique sur la Section du Canigou depuis sa fondation jusqu’à ce jour. Par M. Em. Vêrges de Ricaudy, Membre fondateur, ancien Président de la Section.

8vo, pp. 79; ill. Perpignan, Imprim. de “L’Indépendant,” 1906

This has been kindly presented by the Author. It contains the rules and list of members of the section.

Dauphiné. Annuaire de la Soc. d. Touristes du Dauphiné. 31me année, 1905. 2me série—Tome XI. 1906

8vo, pp. 274; ill.

Among the articles are;—

A. Reynier, Ascension à la Torre Inglese.

J. Offner, Quinze jours dans les Grandes Rousses.

Q. E. Questa, Le paroi N.-E. de l’Aig. Méridionale d’Arves.

This is translated from the Riv. Mens. C.A.I., 1905, no. 7.

A. Ferrari, Traversée du Mont Viso.

J. Ronjat, Souvenirs de Norvège.

Les impressions d’un touriste en Oisans en 1833.

This is printed from MS in the National library, Paris, and is accompanied by an explanatory introduction by M. H. Métrier.

D.u.Oe.A.-V., Dresden; see Das Villnöstal, under ‘New Books.’

— **Weinheim.** Satzungen. 8vo, pp. 4. 1906

La Géographie. Bulletin de la Soc. de géographie. Tome 13, 1^{er} semestre 1906. Paris, Masson, janvier-juin, 1906

8vo, pp. 511; maps, ill.

The articles of Alpine interest are;—

no. 3, mars, pp. 215-222; P. Girardin, Le percement des Alpes bernoises.

no. 6, juin, pp. 417-424; A. de Lapparent, Les époques glaciaires dans le massif alpin et la région pyrénéenne.

— pp. 437-443; C. Jacob, Rapport préliminaire sur les travaux glaciaires en Dauphiné.

Innsbruck, Akad. Alpenklub. Jahresbericht 1905/6. 8vo, pp. 79. 1906

Among the contents are;—

W. Hammer, Wintertage im Alpein.

A. Zimmermann, Im Larstigggebiet.

I. Hechenbleikner, Im Kaunergrat.

F. Hohenleitner, Der Westgrat d. Grubenwand.

— — 8. Jahres-Bericht 1900/1 8vo, pp. 80. 1901

Among the contents is;—

Fr. Hörtnagl, Die Berge d. Larstig-Gebietes.

Mountain Club Annual, no. 10. 8vo, pp. 56; plates. Cape Town, 1906
The illustrations, which have always been numerous and good in the publication, are still better than usual this year. Among the articles are;—

G. F. Travers-Jackson, First ascent of the Buffels Dome.

— Stettin's Berg.

A. V. Cooke, From Stellenbosch to French Hoek, viâ Victoria Peak.

S. Y. Ford, Great Winterberg.

— Two ascents of Simonsberg.

H. J., First complete ascent of Fernwood Gully.

Russian Alpine Club. Year-Book IV. (In Russian.) 1906
8vo, pp. 179; ill.

The contents are;—

A. de Meck, First ascents in the Teberda Valleys.

A. Fischer, First ascents in the western Caucasus.

A. Endrzewski, Glaciers of Digoria.

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S.A.C., Sektion Uto. Festschrift zum vierzigjährigen Bestehen. (Von Dr E. Walder.) 8vo, pp. 126; ill. Zürich, Aschmann & Scheller, 1904

This opens with an article on 'Die Bergfreunde Zürichs in früherer Zeit,' which contains short biographies of Scheuchzer, H. C. Escher, Ebel, F. v. Dörler, J. Hegetschweiler, H. Keller, H. C. Hirzel-Escher, A. Escher v. d. Linth, O. Heer, M. Ulrich, J. Müller-Wegmann, H. Zeller-Horner; with portraits of most.

Soc. d. Touristes du Dauphiné. Guides et porteurs. Règlement et Tarifs; Chalets et refuges. Nouvelle édition. 8vo, pp. 92. 1906

Spelunca. Bulletin & Mémoires de la Soc. de Spéléologie. Tome VI, No. 41-46. La spéléologie au XXe siècle. Paris, juin 1905-septembre 1906
8vo, pp. 810; ill.

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Pamphlets and Magazine Articles.

Adelboden. 1906
8vo, pp. 22; map.

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Coloured panorama.

Bourdillon, F. W. "Another way of (mountain) love." In the Monthly Review, London, no. 69. June, 1906
8vo, pp. 94-109.

This is the paper read by the Author at the meeting of the Alpine Club in May.

v. Bremble, J.; see Cartellieri, A.

Cartellieri, A. Reiseeindrücke vom Grossen St. Bernhard aus dem Jahre 1188 (Frater Johann v. Bremble). In N. Heidelberg. Jahrb. xi, Heft 2. 1902
8vo, pp. 177-179.

This refers to a portion of a letter from Johann v. Bremble in the 'Epistolae Cantuarienses,' which contains the following interesting description;—'In Monte Jovis positus, hinc coelos montium suspiciens, hinc infera vallium abhorrens, coelo jam vicinior et fidentior audiri. "Domine," inquam, "restitu me fratribus meis, ut annunciem illia, ne et ipsi veniant in locum hunc tormentorum." Loca namque tormentorum non immerito nuncupaverim, ubi terram saxeam glacieum marmora consternunt, ubi pedem figere non est, immo nec sine periculo ponere, et mirum in modum cum in lubrico stare non possis, in mortem corruis si labaris. . . . Sed nec digitos movere potui ad scribendum. Barba quoque gelu rigebat, et de spiritu oris concreto glacies prominebat prolixior' (see 'A. J.' xix. p. 61).

Coolidge, Rev. W. A. B. Charles the Great's Passage of the Alps in 773. In the English Historical Rev. July, 1906
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8vo, pp. 15. Reprinted from *Bl. f. bern. Gesch.* 1906
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Alpine Clubs, have kindly been presented by the Author.
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vol. 5, no. 30. September, 1906
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- Hauthal, E.** *Nieve penitente.* In *Rev. Museo de la Plata*, tomo x.
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8vo, pp. 32. Stuttgart, Hch Moritz, 1906. Pfg. 50
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- Italia nostra.** *Periodico illustrato.* Serie alpina, 2-3, Anno 1.
Folio, pp. 37-68. Torino, R. Streglio, 1905. L. 2.50 each
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alpina' was published in May 1905 and has already been noted in
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- Johnston, Sir Harry.** "The mountains of the moon." In *Pall Mall Mag.*
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8vo, pp. 465-471; ill.
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8vo, pp. 31; ill.
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8vo, pp. 31; ill. Genf, Haissly [1906]. Fr. 1
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Chicago, vol. 10, no 5. May, 1906
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Coloured panorama, 18" x 7".
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8vo, pp. 51-52. July, 1906
Prof. Russell died on May 1st last at the age of 54. His name occurs in Alpine literature as the author of 'Existing Glaciers of the United States,' 1885; 'Second expedition to Mt St Elias,' 1893; 'Glaciers of N. America,' 1897; 'Cascade Mountains,' 1900; and various papers.
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- Willis, B.** Among the mountains of Shen-si. In Bull. Amer. Geogr. Soc.
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8 coloured plates.

ALPINE ACCIDENTS IN 1906.

WE must all deeply regret the large number of travellers who have perished in the mountains during the past summer, though happily no member of our Club has been lost. When so many tourists take part in mountain ascents it is natural that some accidents should happen, as they must happen in all sports. When so many of the climbers are inexperienced we may expect the list of disasters to increase, but the number of lives lost during the past season, when the weather was not, like that of 1905, exceptionally bad, makes it clear that rashness and want of care are deplorably common in the mountains. It is not necessary to refer to particular accidents. Were the laws of sane mountaineering observed by all climbers there would soon be a reduction in the long list of deaths which we all so greatly lament.

THE ACCIDENT ON THE AIGUILLE DU GOÛTER.

Messrs. Forster and Walker, of the Swiss Alpine Club, after a visit to the Vallot Observatory for scientific purposes in their descent on July 31, took the Aiguille du Goûter route. They were accompanied by the guide Ambroise Claret-Tournier.* On leaving the *cabane* on the Aiguille du Goûter at 10 A.M. the guide proposed that they should take off the rope, so as to enjoy greater freedom in descending the rocks, and to be better able to avoid falling stones, which are much to be feared in the couloirs of the Aiguille. His proposal was accepted, and he started downwards, followed by the two tourists. Suddenly the guide fell backwards, owing to the rock to which he was clinging coming away in his hand. After a direct fall of 9 or 10 ft. his body rebounded from

* The account in the *Rivista Mensile* for September, p. 332, mentions two porters also.

rock to rock for a distance of 1,640 ft., and was then hurled down a couloir to the Bionnassay Glacier. On August 1 a party of twelve guides and porters recovered the body, which was disfigured almost beyond recognition. Poor Claret-Tournier was aged 44; he was married and had a family. A subscription for his widow and children was at once opened at Chamonix on the initiative of 'La Revue de Mont-Blanc.' This account is abridged from 'La Montagne,' September 1906, p. 436.

THE ACCIDENT ON THE MARMOLATA.

On August 9 last several parties (amounting in all to thirty persons) started for the Marmolata by the usual route by the glacier. One party, composed of two alpinists from Berlin and the guide Nepomuceno Dal Buos, of Caprile, to whom the accident happened, were at the time traversing the glacier roped together and taking every precaution, as, notwithstanding the early hour, the air was warm and made it likely that the snow covering crevasses would give way easily. Close to the Rifugio, hollowed out in the rock by the Agordo Section, it is necessary to cross a large crevasse covered by a snow bridge. This gave way under the weight of the caravan, and all three members of the party were precipitated into the vault. One of the travellers found himself in a sitting position at a depth of about 26 ft.; after recovering from the faintness caused by the shock he saw the guide below him lying motionless against the wall of ice with a severe wound in the head, and at a still greater depth perceived his companion, who said that he could still support himself for a short time in the perilous position in which he was placed. Cries for help were heard by the other parties who had halted on hearing the crash caused by the fall of the snow bridge, and the guides hastened to the rescue of the fallen climbers. Luigi Pallua and Mattia Demez with the assistance of the others were let down into the crevasse, and with the help of the rope drew out the two Alpinists, one slightly wounded in the head, the other unhurt. They then recovered the body of the guide, whose death must have been instantaneous, as his head had been dashed heavily against a sharp projection in the ice. The body was transported to Caprile, where the funeral was largely attended. The two travellers gave a generous contribution to the subscription which was promoted for the family of the lost guide. This account is taken from the 'Rivista Mensile' for August 1906.

THE ACCIDENT ON THE SUSTENLIMMI.

On August 30 last while Herren Schreiber and Barola were on the Susten glacier, close to the Sustenlimmi, Herr Schreiber in leaping a crevasse, which Herr Barola had already cleared, fell in. His friend, being unable to pull him out, was obliged to leave him in the crevasse, suspended by the rope (which had been fastened to Herr Barola's ice axe), while he went for help to the Kehlen Alp.

He returned with Florian Gehring and two other volunteers. In his eagerness to pull out the traveller Gehring fell into the crevasse. The story has a pathetic ending, for while Herr Schreiber was got out in safety poor Gehring, a heavy man, was so severely injured, owing, it would appear, mainly to his having tied the rope, which was let down to him, round himself in a slip knot, that when at last he was drawn up life was extinct. The above account is much abridged from that given in 'Alpina,' No. 16, p. 157.

THE ACCIDENT ON THE CENTRAL AIGUILLE D'ARVES.

On September 8 last four young friends, Emilio Questa and B. Figari, both of Genoa, H. Maige, of Chambéry, and R. du Verger, of St. Thomas, without guides, having ascended this peak by the usual route up the S.E. face, descended also by the usual route down the S.E. face towards the small glacier between the Central and the N. Aiguilles. There remained only a snow gully to overcome, and the party would then be on that glacier and free from the anxiety of a night spent in the open. About 6.30 P.M. three members of the party had successfully crossed this gully, Questa being still about 6 ft. from its edge, and the rope which bound him to his comrades being fastened by them round a boss of rock, when an avalanche of stones roared down from above. Questa was carried away by it and in his descent dragged his three companions with him, as the rocks were smooth and afforded no hold. They were all carried down for about 130 ft., the three in advance being whirled on to the *lower* ledge of the bergschrund, while Questa, the last on the rope, was supported by it as he hung in the chasm itself. Maige was the first to regain consciousness, but darkness had then come on. Figari and Du Verger could render no help, as they were severely injured. But Maige, looking into the crevasse (which was only 13 ft. or 15 ft. in depth), managed to let down Questa a little way, so as to rest on the snow at the bottom. Having rendered what help he could to his unfortunate comrades, Maige (though himself injured) at 8 P.M. set out with a lantern, but took 5 hrs. to get down to the first chalets—those of Commandrout. Thence he sent four men back to the scene of the accident, while another party was despatched from Valloire, where Maige arrived at dawn. But Questa had expired (of internal hæmorrhage) about a quarter of an hour after Maige's departure. The two injured men were brought down to Valloire, as was also the body of Questa, which was buried in the churchyard there. The three survivors are all doing well. Questa, who was but 27 years of age, was making his fourth visit to the Aiguilles d'Arves region, which had strongly attracted him. The above details are mainly taken from a narrative by M. Maige in the 'Revue Alpine' for October, pp. 291-5 (with a sketch of the spot where the accident occurred), and an article by Signor Bozano (the President of the Genoese section of the Italian Alpine Club) in the 'Rivista Mensile' for September, pp. 329-31.

W. A. B. C.

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THE ACCIDENT ON THE DÔME DU GOÛTER.

On September 11 last Herr Albin Roessel and Lieutenant Max Preissecker, both Austrians, started to make the ascent of Mont Blanc without guides. They slept at the Pavillon de Bellevue. On the 12th after climbing the Aiguille du Goûter they passed the night at the Refuge Vallot. On the morning of the 13th it was very cold. Lieutenant Preissecker gave up Mont Blanc, while his comrade decided to continue the ascent. Lieutenant Preissecker began the descent by the route of the previous day. Eventually he lost his way and got into great difficulties on the steep slopes of the Dôme du Goûter, from which he apparently tried to descend to the Glacier de Tacconnaz. By means of glasses he was watched from Chamonix painfully cutting steps and gradually growing weaker from 8.30 A.M. to 2.40 P.M., when the end came. He lost his balance and fell to the Glacier de Tacconnaz, from which his body was recovered in a terribly mangled state.

Herr Roessel failed to reach the summit of Mont Blanc and was found half-frozen 'sur l'arête des Bosses' by Herr Otto Bleir, of Vienna, and his guides, one of whom was Edouard Payot. By them he was assisted to Chamonix. This account is abridged from 'La Montagne' for October 1906, pp. 479-80.

THE ACCIDENT ON THE GRAND MUVERAN.

On September 30 last the bodies of four young travellers, named Haller, Kleinert, Schröder, and Gachet, were found on the Plan Névé Glacier. It seems probable that they meant to ascend direct thence to the Tête aux Veillon (9,661 ft.), S.E. of that glacier, and that the accident took place on the N.W. face of this peak.

The bodies were found, as mentioned above, on the Plan Névé Glacier some 50 yards to the S. of the couloir leading to the Col du Pascheu (c. 9,088 ft.), to the N.E. of the peak named.

OTHER ACCIDENTS.

On May 20 last three young students from Zürich—Herren Gerhardt, Steigelmann, and Kirsch—who had spent the night at the Glärnischhütte, two hours after leaving it (the ascent of Glärnisch having been abandoned), in falling snow, were carried down by an avalanche. The two first named escaped, but Kirsch was killed.

On July 8, on Piz Julier, one of a party of young botanists was killed.

On July 16, on the Winklerthurm, when the guide, Peter Fuchsbrugger, fell, owing to the giving way of a hold, the rope, a new one, broke, and he was killed.

On July 29 one of a party of six soldiers (non-commissioned officers) who had ascended the Galenstock shortly after beginning

the descent to the Tiefensattel fell on to the Tiefen glacier and was killed instantly.

On July 31 Dr. K. Gödel was killed on Mangart.

On August 3, on the Gross Venediger, Dr. Nürnberger lost his life. This accident occurred owing to the party not being roped. It appears from a communication from Meran in the 'Daily Mail' of November 7 that the guide, who neglected to rope the party on the Gross Venediger (referred to above), has been punished by three weeks' imprisonment for disregard of the German-Austrian Alpine Club's rules as to roping. The guide's name in the 'Mitteilungen' is given as Ennsmann, in the 'Daily Mail' as Gunnisman.

On August 15, on the Weisseespitze, Dr. Averbek, when travelling with Herr Willibald Kuppers, fell into a crevasse. The axe round which the rope had been fastened was jerked out of the snow, and Herr Kuppers fell forward on his chest; there he lay for about half an hour, while Dr. Averbek was hanging in the crevasse. Then, at the request of his unfortunate companion, he cut the rope. All that he could hear were some faint moans. After waiting about 45 minutes he went to fetch help. The weather hindered the rescue party, and when they arrived Dr. Averbek was found dead, after having made a most plucky effort to save himself. The editor of the 'Mitteilungen' (No. 16, p. 200) well says in his comments upon this accident that all travellers who do not take guides should make themselves masters of mountain craft before they begin guideless climbing, so as to be ready for all emergencies. He also insists that on crevassed snowfields the number of travellers should not be less than three.

On August 20 the young guide Umberto Milesi was killed on the Cacciabella Pass.

On September 3, on the Kleine Zinne, Dr. Hober was killed, owing to the guide having taken a 'rotten' rope which he had been warned was unfit for further use.

On September 30, on Piz Morteratsch, one of a party of three was hurt; one of his companions stayed with him while the other went for help, but when the rescue party, who were hampered by bad weather, arrived, the injured man had already succumbed.

This brief chronicle by no means contains *all* the accidents which have taken place during the season. One life was lost on the Tödi.* On this occasion the guides Wichser and Schieber won much praise for themselves. We hear also of an accident on the Roththal side of the Jungfrau, by which two lives were lost. The bodies have not been found, but during the search for them the corpse of Michael Gander, of Beckenried, was discovered. He appears to have been trying the ascent of the Jungfrau alone.
Quid plura?

* *Mitteilungen*, no. 16, p. 201.

NEW EXPEDITIONS IN 1906—*continued.**Dauphiné District.*

THE RÂTEAU (8,754 m.=12,817 ft.) BY THE W. ARÊTE. FIRST TRAVERSE.—On July 17, 1906, Mr. H. Scott Tucker, with Christophe Turc père et fils of La Bélarde, the former as guide and the latter as porter, left the Refuge Chancel at 2 A.M. They reached the Col de la Girose, at the foot of the S.W. arête, at 6.15. Keeping on the north-western side of the arête for about an hour, they passed on the left of the first gendarmes, which are quite small, and soon climbed to the crest of the arête itself to attack the first peak, on whose summit they arrived at 7.45. After building a pyramid they descended into the *brèche*, where there are two small gendarmes. These they passed to the right, *i.e.* on the S.E. slope. Next came a difficult descent by broken rocks into a couloir, followed at 9.15 by a further descent, to allow a large pointed gendarme to be turned in the same way. Afterwards reascending somewhat and passing several gendarmes, in the same way they found themselves in full view of the great *brèche* which marks roughly one-third of the journey across the mountain. In it are two small gendarmes. Descending by broken rocks, crossing two or three couloirs, and then gradually ascending, they stood in the narrow base of the *brèche* itself. On its northern side are enormous precipices. The views of La Grave and the surrounding country are terrifying. Passing a little to their right along the base of the peak which forms the eastern side of the *brèche* they climbed to its summit by a difficult fissure. Here they placed a second pyramid. Descending by a more easterly route they reached some slabs of rock—wet in places—forming a sloping platform. On the left the rocks rise precipitously to a considerable height. Below the beginning of this platform is a hole in the mountain, through which La Grave can be seen, a proof that the whole of the upper part overhangs at this spot. Passing a small *brèche* on the left, they climbed along the arête to the summit, which was gained in a thick fog at 3.45 P.M. This part of the arête is extremely narrow and steep. At times it was necessary to sit astride and at others to advance on all fours. Led astray by the fog, which had become very dense, they missed the road to the Promontoire Club hut and were forced to follow the arête to the Brèche du Râteau. The welcome shelter of the Châtelleret Club hut was reached at 9.30 P.M. Early in the day the peak on which the second pyramid was placed seemed higher than the reputed* summit; it was unfortunately hidden from the latter by the fog. The weather was, until the later part of the day, extremely good. The halts were very few and short, and it was felt that although familiarity with the route might lessen the time taken it must remain a very long and

* Mr. Coolidge's party had no doubt in 1873 in perfect weather (*Alpine Journal*, vol. vii. pp. 137-8).

trying climb. Of course under ordinary circumstances one would descend direct from the summit to the Promontoire Club hut, thus saving at least two hours. Want of time made it impossible to follow the arête the whole way, but most of its points seemed climbable. For comparison it may be said that two days later the same party crossed the Meije from the Promontoire hut to the rocks N. of the Bec de l'Homme in less than 13 hours.

Mont Blanc District.

AIGUILLES ROUGES DE DOLENT. 'LA MOUCHE' (3,582 m. = 11,750 ft. by aneroid).—On July 12 Messrs. W. N. Ling and Harold Raeburn, without guides, left a *gîte* on the left bank of the Neuvaz glacier, above the moraine, at 9 A.M. Mist and rain had prevented an earlier start. Descending to the moraine they crossed it, and numerous torrents, in the direction of the great S. buttress of the Tour Noir. Climbing some steep slabs and a short ice cliff above they got on to the Neuvaz glacier at 10, just to their left, W. of the end of the S. buttress of the Tour Noir. Traversing below the cliffs of the Tour Noir they reached the bergschrund, a large double one, at 11.17. This was crossed in 10 min., and after ascending a snow-slope a few hundred feet a rocky ridge was reached. This route had been prospected the previous day from the Ferret chalet, and led up to the foot of the aiguille, on easy but somewhat loose rocks and short arêtes, sometimes of deep, soft snow, sometimes of ice. The aiguille is the second peak to the E. from the point marked 3,691 (Kurz map, 1905), and is marked 'Vierge' in a sketch given to Mr. Raeburn by Monsieur Marcel Kurz.

The foot of the final tower was reached at 2.15. This final peak is about 850 ft. in height, and is exceedingly steep, a miniature Petit Dru. It is divided into three prongs, of which the S. is the highest. A chimney about 200 ft. high runs up to the col separating the S. from the central prong. This was mainly kept to on the ascent. At one place a traverse out on the face of the central prong proved necessary. A return to the chimney was effected higher by a species of hand traverse over a projecting nose. Near the col the chimney was again left, and the ascent made up the slabby wall of the S. prong. This passage was considered better done without boots. The col is very like that below the *mauvais pas* on the S. Aiguille d'Arves, but the drop here on either side is steeper. From the col an upward traverse to left, with good handholds, but very little foothold, led to the foot of an overhanging crack about 30 ft. high. At the top of this was a good platform, and a ledge then led to right on to the final arête. The top spike was slightly overhanging and only 2 or 3 ft. in thickness. No trace of a previous ascent was seen.

The top was reached at 3.45 (11,750 ft. aneroid). Leaving at 4.40, the same route was followed on the descent, the last man using a rope ring and a light 80-ft. safety cord over the worst part.

The glacier was reached at 7.20 and the *gîte* at 9, darkness and rain coming on on the moraine about 2 hrs. earlier.

AIGUILLE D'ARGENTIÈRE. TRAVERSE OVER S. PEAK, 'FLÈCHE ROUSSE.'—The same party, without guides, left the Saleinaz *cabane* on July 15, 1906, at 8 A.M. Descending to the glacier they walked up its centre towards the foot of the great E. buttress of the Aig. d'Argentière. Turning to the left before reaching this, they skirted along below the S. peak and S.E. ridge. This ridge stretches, with many gendarmes, from La Flèche Rousse, or S. Peak, to the Col du Tour Noir. About midway between these two points two ribs of rock, separated by an ice couloir, run from above the bergschrund towards the top of the ridge.

The largest or more northerly of these runs right to the ridge, where it finishes in a steep gendarme; the S. rib dies out under the ice slope rather more than halfway up. The bergschrund, reached at 5 A.M., below the larger rib, was impassable. It was passed below the smaller, and after some step-cutting in hard ice the rocks were reached. They proved icy and difficult, and a lot of cutting was required. Cutting across the couloir after breakfast, 8.30 to 9, to the larger rib, better going was found on somewhat loose but ice-free rocks here, and the gendarme on ridge gained at 10.55.

Thence the ridge was followed, the last tower before the S. peak of the Argentière being traversed on the Glac. des Améthystes side. The steep rocks of the final peak, a double one, were then attacked, and difficult and varied climbing led first over the lower or southern point, through 'letter boxes' and along an ice arête to the foot of a steep chimney somewhat iced, at the top of which easy scrambling led to the final peak.

The party were under the belief that the peak had never been before ascended, as Messrs. Morse, Wicks, and Wilson's party in 1898,* and Mr. G. L. Stewart, in 1899,† had both skirted the peak, the former on the Saleinaz side, the latter on the Argentière side. A small cairn was, however, found close to the top. It was placed there by Monsieur Kuhlmann's party,‡ who ascended the peak from the central col on August 18, 1901. The actual summit is formed by a huge spike of red rock, 'La Flèche Rousse,' projecting many feet over the ice wall above the Saleinaz glacier.

Its top was gained at 3.7 P.M., 3,885 m. = 12,746 ft. (Kurz map, 1905). The aneroid made the height 12,700, allowing for error. Leaving the top at 3.25, a very steep wall led down to the ridge. Then the easy arête was followed to the central peak, 3,907 m. = 12,818 ft., at 4.10. Leaving at 4.25, the ordinary route was followed to the N. peak and down to the Glacier de Chardonnet. Ascending this glacier to the col, 6.25, the party then descended the Saleinaz glacier to the *cabane*, which was gained at 8 o'clock.

* *Alpine Journal*, vol. xviii. p. 207.

† *Ibid.* vol. xx. p. 45.

‡ *L'Echo des Alpes*, 1903, p. 95.

Zermatt District.

ASCENT OF THE PIC TYNDALL (ON THE S.W. RIDGE OF THE MATTERHORN) BY A NEW ROUTE.—On August 10 and 11 SS. Ugo De Amicis Ferraris and Augusto Ferraris, both of Turin, made, without guides, the first ascent of the S.S.W. buttress and arête of the Pic Tyndall.

Extract from the Italian Matterhorn Hut Book (kindly sent by Mr. C. W. Nettleton).

They left the hotel at Giomein about midday on August 10, and when I reached the hotel about 5 P.M. they were plainly to be seen by telescope well up on the S.S.W. buttress. They stopped about 8 P.M. for the night, on a small and rather exposed rock platform, situate almost on a level with the highest snows of the Glacier du Lion as seen from Breuil. The light from their lantern was visible until I retired, about 11 P.M. and I subsequently heard that the party were not able to get much, if any, sleep, owing to their exposed position and the cold.

Next morning I left Giomein with my wife for the Italian hut *en route* for the ordinary traverse of the Matterhorn, and during the rest of the day we were much interested in watching the ascent. Soon after the *gîte* had been left we could see that the difficulties began and that the huge smooth slabs of the arête tried the party to the uttermost. Generally speaking the arête was kept to all the way, it being impossible to traverse to the right, and the few short traverses that were made to the left (*i.e.* in the direction of the ordinary S.W. ridge, which we were on) were dangerous, as this S.S.W. face is raked by stonefalls. Owing to a snow storm we did not see the party actually arrive on the Pic Tyndall, but next morning we saw their tracks on the final snow-ridge leading up to this point. I mention this as I subsequently heard it had been stated that the party did not climb the very severe part of the arête, but that, on reaching about the level of the hut on the S.W. ridge, they went across the face direct to the hut. This was not so.

If time and weather had permitted the Messrs. Ferraris could, of course, have proceeded *via* the Tyndall Grat to the summit, but they were content to descend to the Italian hut. They spent the night there, and I was glad of the opportunity to congratulate them on their first climb and to hear some details. They assured me that the climb was an exceedingly difficult one, and, as it was not free from danger, they could not recommend it.

THE TÄSCHHORN (4,489 m.=14,758 ft.) BY THE SOUTH FACE.—On August 11 Mr. G. V. Ryan and Mr. G. Winthrop Young, climbing with Joseph and Franz Lochmatter and Joseph Knubel respectively, made the direct ascent of this face. The times were not taken in detail and would be of little value. The Täschalp was left about 1.45 A.M. Ascending the north bay of the Weingarten glacier, the central buttress of the face, of guileless appearance and insidious commencement, was selected, in preference to the great couloir to its

east, then full of ice. The rock throughout was bad, deciduous and downward-sloping. The first half, however, went satisfactorily, and at about 7.30 breakfast was taken on a wide snowy ledge overhanging the big couloir. This was the last voluntary halt, no subsequent resting-place offering standing room for more than one. Above this the angle and the conditions grew steadily more severe, the insufficient ledges being coated with snow or ice. A short distance below where the great couloir turns right across the face to join the S.W. arête, the perpendicular rocks necessitated a difficult traverse upward and eastward to join it. The couloir offered, however, no relief even when entered, and the upward traverse was continued across iced slabs of exceptional difficulty to a second small couloir, cutting precipitously up the centre of the face. Some 600 ft. below the summit—the height was difficult to estimate in the driving mist and snow—this chimney splayed out in a wide-angled corner, some 100 ft. high and almost sheer, ending in an overhang. Climbing with remarkable brilliance and nerve, Franz Lochmatter ultimately succeeded in forcing his way over this, and from very small holds reunited the party with the simple but painful rope. For a time the difficulties and uncertainty continued with small abatement, but at last—and with surprising suddenness—a shout announced that a way had been forced on to the S.E. ridge, some 60 ft. only from the highest point. The top was reached at 5.30 p.m. Descending rapidly by the ordinary (Kien glacier) route, the moraine was reached before dark, but the subtle evasions of the old Randa path prolonged the pleasures of a candle-light descent to Randa until 11.30 p.m., and Zermatt was finally regained, by a section of the party, at 3.15 a.m. (21½ hrs. to Randa, or 25½ hrs. to Zermatt, with halts). Time and fair weather are apt to prove fatal to most alpine first estimates, but in the opinion of all the party the climb was the most continuously exacting of their experience. Some nine hours were spent on the last 900 ft. At a cautious estimate the ascent could not be considered likely to become a popular competitor to the comparative luxury of the *Teufelsgrat*.

THE DOM (4,554 m.=14,941 ft.) BY THE SOUTH FACE.—On August 28 Mr. G. Winthrop Young and Mr. R. G. Mayor, with Gabriel Lochmatter and Joseph Knubel, left the new Kien glacier hut at 3.50 a.m. Ascending the northern bay of the Kien glacier, the bergschrund was negotiated at the eastern edge of the huge central couloir. Striking up the broken slabs directly below, and in the shelter of, the great yellow buttress that projects almost into the centre of the couloir from the S. arête, and thence by steep chimneys up the face of the buttress itself, the open couloir was rejoined. Its eastern side was again quickly mounted, until it opened out on the big amphitheatre of worn slabs, where the four or five branch chimneys which descend from the upper portions of the S. and W. arêtes join. The few stones that had fallen had confined themselves to the extreme western side of the couloir, and had been discharged exclusively by the largest and western-

most of the branch chimneys above (that by which Messrs. Seiler and Eckenstein reached the W. arête in 1887*). But as a precautionary measure these exposed *Platten* were taken at a racing pace until the shelter of the ridge, descending from the summit slightly westward into the amphitheatre, was gained. A short distance up this ridge occasion was made for breakfast and for the first halt permitted by policy, at 10.20 A.M. Starting again at 11.20 the ridge gave excellent climbing—smooth curves with infinitesimal but firm holds alternating with broken crags—to the foot of the final wall. This, taken direct, proved partially overhanging, and made a very sporting finish exactly on to the highest point, at 1.10 (9½ hrs.). Resisting the temptation, a strong one in the then remarkably favourable condition of the mountain, to descend upon Saas Fee, the descent by the Festi glacier was begun at 1.45. The almost unendurable heat counselled an early escape from the snow-glare, so no halt was encouraged, and Randa was reached at 4.33 P.M. (2 hrs. 50 minutes), the whole climb occupying 12¾ hrs. In its comfortable angle, firm rock, variety of possible routes, and in its general conditions the climb was in marked contrast to the corresponding ascent on the Täschhorn. The circumstances, however, can rarely be so favourable. A slight covering of ice or snow, which might conceal the pleasant rugosities of the slabs, would at once double the difficulty of the climbing, and the consequent check on pace would introduce a risk from falling stones on the one or two places where it is found necessary to leave the shelter of the ridges.

THE WEISSHORN (4,512 m.=14,803 ft.) BY THE SOUTH FACE.—On August 21 Mr. G. Winthrop Young and Mr. R. G. Mayor, with Joseph Knubel, left the Weisshorn hut at 8.15 A.M., and, following the usual route across the eastern bay of the Schalliberg glacier, ascended, with some little difficulty in the ice chimney, to the top of the great dividing buttress, the starting-point of all ascents on this face. After examination it was decided to attempt the eastern-most of the principal ribs. This forms the western wall of the wide snow couloir by which Mr. Mathews all but reached the E. arête in 1860. It is also the next rib on the east to that by which the ascent, made direct to the summit on August 28, 1905,† was begun. Steps in hard snow, with occasional ice, led on to the ridge, whose firm slabs gave delightful and straightforward climbing. At two-thirds of its height the rib turns north-west and joins the second rib in some big ochre-coloured gendarmes. Above the junction it continues to slope slightly westward and upward until it merges in the E. arête. As the ridges converged a certain melancholy pleasure was added to the sunny comforts of the climb upon this southern rock-face by the contemplation of the sufferings of several parties on the ordinary route, who were battling with the arctic conditions of a northern gale. The E. arête was finally joined a normal 20 minutes from the summit, which was surmounted, in bitter weather, at 10.15 A.M. (7 hrs.). The descent

* *Alpine Journal*, vol. xiii. p. 413.

† *Ibid.* vol. xxii. p. 616.

was made to the hut in two hours, and Randa reached in another 65 minutes. The climb affords a pleasant variant. With the exception of the little chimney on to the buttress, which is apt to be iced in the early morning, there are no difficulties and no risk of stones. When a north wind is blowing it might well be followed, to avoid the step-cutting and tribulation frequently induced upon the greater part of the east-ridge route.

Bernese Oberland.

MORGENHORN (8,629 m.=11,907 ft.). E. ARÊTE BY A VARIATION. *July 18.*—The 1903 party* reached this ridge by a couloir a little S.W. of the Tschingel Pass, and on the E. side of a rock spur well marked on the Siegfried map, in which there was considerable danger from falling stones.

Leaving the Mutthorn Club hut at 2.25 A.M. on July 18, Miss Marie Hampson Simpson, with the guides G. Hasler and Fritz Kaufmann, of Grindelwald, proceeded in a westerly direction, leaving the pass and the 1903 couloir on their right, till they reached another conspicuous couloir descending on the W. side of the above-mentioned rock spur. After cutting up the steep snow of this they climbed up the very steep rocks of a gully, reaching the ridge close to the spot which the 1903 party reached from the E. The rocks of the western gully are sound and no stones fell during the ascent of the couloir. The E. ridge, the traverse of which has not been repeated since 1903, is a magnificent climb containing great variety and three pitches of considerable difficulty. Summit reached 12.15 P.M.

N. SUMMIT OF THE TRUGBERG (8,933 m.=12,904 ft.) BY THE N. ARÊTE. *August 7.*—The same party, with Heinrich Fuhrer instead of F. Kaufmann, left the Bergli hut at 12.50 A.M.

From the Ober Mönchjoch they followed the N. ridge, which was at first ice, much step-cutting being necessary. The first pitch of rock-work was rather difficult, but short; then, after turning a gendarme on the W., the rock ridge was followed throughout its length and over the three summits (the central peak of which is the highest, not, as the 'Climbers' Guide,' vol. i. p. 149, says, the N. summit).† The first two summits were reached from the western side of the ridge; the third by a slight descent on the E. side. The ridge is a long climb, and its rocks, which are much steeper than they appear to be from below, are interesting. Third summit gained 6.55-7.40. Descended short time down S. ridge, then by E. face to the Ewig Schneefeld. Bergli hut 11.15 A.M.

GROSS GELMERHORN (2,631 m.=8,632 ft.). DESCENT BY THE S. FACE. *August 16.*—The above party left the Grimsel Hospice at 3.5 A.M., walked past the Gelmeralp towards the head of the

* *Alpine Journal*, vol. xxi. p. 560.

† Miss Simpson clearly refers to the three *points* of the N. summit. The Siegfried map says the N. peak is the highest (3,933 m.); the others are 3,660 and 3,513 m. .

Diechterthal. Crossing the Diechterthal torrent just below the first waterfall, they climbed a long, easy gully to the saddle N. of the Gross Gelmerhorn. From this point the climb was completed over the rocks of the N. face by a series of cracks, slabs, and ledges. (This climb, though unrecorded, had been done once before by G. Hasler, July 27, 1904.) Reached summit at 10.15. Left at 11, went down the S. face, which contains three 'Abseilstellen,' to the saddle (Gelmersattel) between the Gross and Klein Gelmerhorn, and then to the W. through a steep, smooth couloir, which contained four pitches, necessitating the use of a spare rope. Its foot was reached soon after 3 P.M., and the Gelmeralp track rejoined close to the Gelmersee by traversing above the Gelmer Garwidi pastures. The couloir on the E. side of the Gelmersattel can also be descended direct to the Gelmeralp, and is of much the same character as the western couloir. Reached Grimsel Hospice 7.30 P.M.

Tödi District.

BRIGELSERHÖRNER. August 30.—Messrs. A. E. Measures and A. L. Mumm, with Heinrich Schiesser, of Linthal, and Johann Stoller, of Kandersteg, reached the ridge of the Brigelserhörner from the Puntaiglas glacier by a route which does not seem to have been previously taken. They climbed a couloir at the head of a great slope of scree, a little to the N. of the arête which descends from Crap Grond. At the top of the couloir the way was barred by a broad chasm, and the slope leading to the summit ridge was reached by ascending small chimneys and rock-ribs to the right. The ridge was attained in $4\frac{1}{2}$ hrs. (exclusive of halts) from the sleeping-place at the foot of the Puntaiglas glacier, at a point a little to the north of Crap Grond, from which it took $1\frac{1}{2}$ hr. more to get to the top of Kavestrau Grond.

Dolomite District.

TSCHNEINER SPITZE, ROSENGARTEN GROUP (9,155 ft.), BY THE W. FACE. August 9.—Mr. E. A. Broome, with Agostino Verzi, made the first ascent from the W. or Bozen side of the peak. It was made chiefly by the big, conspicuous chimney which cuts the face of the peak into fairly equal halves. At the foot of this couloir (about $2\frac{1}{2}$ hrs.' walk up grass and steep scree from the Karersee) the nail-boots were left. From here the main chimney was followed for 300 ft., then a very smooth traverse to the right (or S.) into a subsidiary *Kamin*, which was climbed for perhaps another 200 ft. to a *Fenêtre* 200 ft. below (and to the right of) the summit. The difficulties in both chimneys were considerable, the principal ones being near the bottom, then at the traverse, and again in the upper one, particularly at one point where some huge stones had to be removed piecemeal. At the *Fenêtre* a thunder storm came on, and the rain and lightning being blinding, and the position doubtful (as it had not been visible from below) shelter in a cave was sought for $1\frac{1}{2}$ hr. When the storm ceased the further

route was seen and followed without difficulty to the top. Time, 3 hrs. to the *Fenêtre* and 20 min. to the summit. The descent was by a slight variation of the usual way on the E. or Vajolet Thal side, and back over the Vajolon Pass. The climb can be recommended.

TEUFELSWAND-SPITZE (about 9,000 ft.) BY THE W. FACE. *August 21.*—Messrs. E. A. Broome and H. K. Corning, with Agostino Verzi and Antonio Dimai, made this new route. A walk of 2 hrs. from the Karersee took them to the steep *Gerölle*-strewn ledge running up diagonally across the perpendicular wall of the peak. The real climb began from the top end of this ledge, up a series of chimneys running right up to the lower point of the double-headed summit. Several of these afforded scope for the leader's climbing powers; but the real crux was just half-way up, and consisted of a black, damp, smooth, and narrow *Kamin* 40 or 50 ft. high, with very little hold and an exceptionally difficult overhang near the top. Dimai led up this, and pronounced it 'molto pericoloso'; Verzi led up the others. The black *Kamin* took a good hour, and the whole climb (from the ledge) 2½ hrs., providing excitement enough for 2½ days. It was said to have baffled previous attempts. The descent was down the E. side (rope not necessary) to the new Ostertag Hütte.

NORWAY.

Justedalsbrø.

BLAANIPA. *August 12.*—This mountain, which is so conspicuous a feature of the scenery on the W. side of Böiumsdal, was ascended by a new route by H. A. Holl and C. W. Patchell, with Mikkel Mundal. The beautiful lateral valley of Tverdal was followed as far as the Sæter. Looking N. from this point one faces a deep gorge, cutting far into the mountain mass, and running roughly parallel to the main valley of Böiumsdal. The route chosen kept pretty close to the E. side of this gorge. The slabs were so steep and the holds so obscured by vegetation that the rope was used for some distance before the wood was cleared, and the safest anchorage was often provided by a friendly tree. The climb was full of interest all the way. At the lower shoulder the difficulties were practically over, and it was easy to follow the skyline to the cairn. The magnificent sweep of overlapping slabs which forms the upper half of the mountain on the side of Böiumsdal is a sight not to be forgotten. The top was reached in about 7 hrs. from Fjærland, exclusive of halts, and the descent by the ordinary route over the glacier to Kvitevarde, and so to Böiumssæter and Fjærland, took about 4 hrs. more.

C. W. PATCHELL.

KASHMIR.

Mrs. Fanny Bullock Workman and Dr. William Hunter Workman have successfully completed their exploration of the Nun Kun mountain group in Suru, Kashmir, the expedition having occupied

10 weeks. They were accompanied by the Italian guide Cyprien Savoye, who was with them in Baltistan in 1903, and six porters.

The entire circuit of the Nun Kun group was made for the first time, this involving a rough journey of between 90 and 100 miles, from Suru just north of the mountains out and return. The distance was considerably increased owing to the necessity of making three extra marches up the Rangdun valley to find a fording place over the glacier-fed Suru River, greatly swollen from the unusual melting of the ice, due to the prolonged fine weather and great heat.

In making this circuit three glaciers were ascended and two descended, three snow cols of over 17,000 ft. and one of 16,500 ft. crossed, and one steep pathless rock mountain traversed, undoubtedly never before trodden by human foot.

The central portion of the Nun Kun massif rises sharply above the precipitous jagged peaks that guard the approaches to it on all sides. At an altitude of over 20,000 ft. it culminates in an oblong glacial basin, three miles long by two wide, enclosed by five rock and snow summits, three of which tower to heights of over 23,000 ft., the highest having been measured by the Indian Survey at 23,447 ft.

To explore this portion a base camp was established above the north lateral moraine of the Shaffat glacier, at an altitude of 15,100 ft., from which two snow camps were pushed up on the wild, broken glacial slopes above at altitudes of 17,657 and 19,893 ft., and two others pitched in the high glacial basin at altitudes of 20,682 and 21,800 ft., the last being the highest altitude at which mountaineers have camped.* On the two nights passed at this camp the temperature fell to -4° and -6° Fahr.

The highest peak having been found to be inaccessible from this basin, an ascent was made of the next highest—23,264 ft., its steep, broken, ice-covered slants demanding hours of step-cutting and the exercise of the greatest caution. At a height of 22,656 ft., as clouds were beginning to obscure some important landscape features, Dr. Workman and one porter stopped to make observations and photograph desired points before they should be hidden from view, while Mrs. Bullock Workman, with the guide and one porter, went on to complete the ascent, which gives her a place in the small list of those who have passed 23,000 ft.

The continued daily exertion in rarefied air, the loss of sleep owing to disturbance of respiration by the altitude, and the effect of the great cold upon the vital powers thus weakened, proved trying to all, and after five sleepless nights at 19,900 ft. and above, all felt the need of returning to lower altitudes.

Later from the Barmal La, 17,228 ft., ascents were made of two sharp snow peaks, one on each side of the head of the Barmal glacier, whose final slopes rose at from 70° to 73° . The first has

* Our informant is here in error, as in 1864 Mr. W. H. Johnson, when surveying in Ladak, passed a night at 22,600 ft. See *ante*, p. 256.

an altitude of 18,750 ft. and the second—D 41 of the Survey—that of 20,168 ft. On the summit of the latter the party was enveloped in a dense fog accompanied by an icy wind, which lasted for several hours. In this the descent was accomplished by following the trace which had been made in ascending. The topographical features of the region were found to differ materially from those shown on any existing map.

ALPINE NOTES.

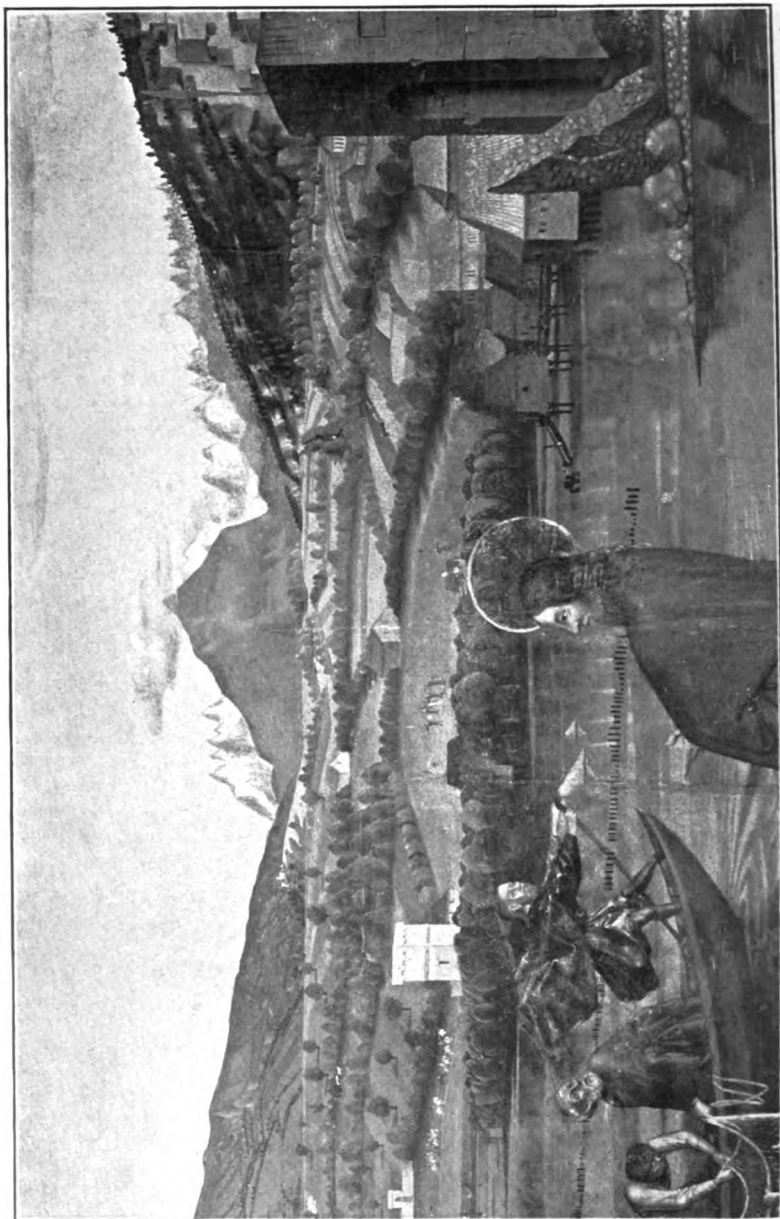
'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 3s., can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C.

THE LIBRARY CATALOGUE may be obtained, bound in cloth, on application to the Assistant Secretary, 28 Savile Row. Price 3s.; postage, 4d.

SKI-RUNNING.—During the coming season Mr. W. R. Rickmers will be found at Kitzbühel (Tyrol), where everybody eager to learn is cordially welcome. No fees.

THE FIRST APPEARANCE IN ART OF MONT BLANC.—The visitor to the Public Gallery at Geneva known as the Musée Rath will find in the rooms on the basement floor two fragments of the old altarpiece, painted on panel, which stood, up to the time of the Calvinistic Reform, in the Chapelle des Macchabées, adjacent to the Cathedral. They form the upper and lower right shutters of a large triptych, representing events in the life of St. Peter, which was erected in A.D. 1444 by François de Mies, Bishop of Geneva and nephew of his predecessor in the See, Jean de Brogny (†1426), the builder of the chapel. The panel bears the inscription, 'Hoc opus pinxit magister Conradus Sapientis de Basilea, MCCCCXLIII.'

The following account of this artist is borrowed from Bryan's 'Dictionary of Painters and Engravers,' new edition, 1905:—'Conrad Witz, of Rothweil, in Württemberg, was probably one of the painters who were invited to come to Basel to adorn the churches and other buildings in honour of the Council to which prelates from all parts of Europe flocked in 1493. Witz (to use the unlatinised form of his name) was one of the most important of that group of painters of Swabia and Upper Germany, who were the pioneers of realistic tendencies in the art of South Germany and exercised an important influence on the development of painting in the first half of the fifteenth century. He is an artist of grace, originality, and powerful endowments.' Mr. Coolidge informs me that Professor Daniel Burckhardt in an essay on Conrad Witz, published in 1891, has reproduced (Plate XXI., opposite p. 288) the mountain background of the Geneva picture, and identified it (p. 289) as the chain of Mont Blanc, but this essay



Swiss Electric Engineering Co.,

THE CHAIN OF MONT BLANC FROM NEAR GENEVA,

CONRAD WITZ, PLUXII, A. D. 1444

forming part of the 'Festschrift zum 400ten Jahrestage des ewigen Bundes zwischen Basel und die Eidgenossen' seems to have escaped attention in Alpine circles. Professor Burckhardt (p. 285) eulogises this panel 'as a unique work in the history of Old German landscape-painting,' and adds (p. 289), 'This work of a medieval master may bear comparison with Dürer's best landscapes.'

One of the preserved shutters of the Geneva altarpiece represents the Miraculous Draught of Fishes and Christ walking on the Sea of Galilee. The artist has shown his 'realistic tendencies' by reproducing with great fidelity the landscape of the Lake of Geneva. The view is taken from the northern shore from a spot between Geneva and the village of Pregny. On the right of the picture is seen the water-gate of the city, a lofty structure resembling the Porta Romana at Florence. A conical rock, apparently encrusted with fossil shells, stands in front of it; further distant are houses partly built on piles. Above it rises the long slope of the Salève, and more in the centre the conical form of the Môle is conspicuous. Behind and on either side of the latter the artist has been at pains to introduce the snows of the Mont Blanc range. The shapes of the mountain itself and its aiguilles have evidently been observed with, for the time, unusual care and appreciation, as will be seen from the accompanying photograph, which I owe to the courtesy of the Director of the Musée Archéologique—to which the altarpiece belongs—and of Monsieur Baud-Bovy, the Curator of the Musée Rath, himself the son of a distinguished painter of the Alps. This picture gives us what is, I believe, by many years, if not by three centuries, the first representation in art of the glaciers of Savoy. Leonardo da Vinci went to Geneva, and one of his notes runs as follows: 'Riviera d' Arva presso a Ginevra $\frac{1}{4}$ di Miglia in Savoia dove si fa la fiera in San Giovanni nel villaggio di San Gervagio.'* This seems to refer to two distinct places or sketches. Some critics have imagined Leonardo's San Gervagio to be St. Gervais in Savoy, but it is clearly, I think, the suburb of St. Gervais N. of the Rhône, and on the other side of the town to the Arve. If any of Leonardo's mountain sketches that I have examined represents the distant view seen from Geneva the summits are conventionalised beyond recognition.

I may take this occasion to suggest to members of the Club that a collection of photographs illustrating the representation of high mountains in pictures by old masters might well be combined with an exhibition of early prints and lithographs of Alpine scenery. Our late member Mr. Josiah Gilbert, in his charming book 'Landscape in Art before Claude and Salvator' (Murray, 1885), has indicated where to look for material. Should the Committee see their way to holding such a show I believe it might be made both interesting and entertaining. If members or others who possess and would be ready to exhibit such prints would communicate with the Assistant Secretary it might help the Committee to form an estimate of the material readily available. D. W. F.

* See Richter's *L. da Vinci*, vol. ii. p. 245.

DR. PACCARD AND MT. BLANC.—The following passage, forwarded by Dr. Dübi, is an interesting bit of contemporary evidence to the view of Dr. Paccard's character taken by Mr. C. E. Mathews and Mr. D. Freshfield, and may serve as an additional ground for discrediting the stories told by Balmat at a later date to his companion's discredit.

In Friedrich Matthisson's 'Briefe' (Zürich, 1795, 2 vols. ; French translation, Zürich, 1802, in 1 vol.) the following passage occurs in Letter 8, vol. i. (between pp. 92 and 105, which describes a visit to Chamonix early in July 1788). The letter is dated Bex, July 7, 1788, and mentions the fact that the writer paid a visit to Dr. Paccard :—

'Der uns seine Reise nach dem Montblanc sehr bescheiden und einfach erzählte. Er scheint weiter gar keinen Werth auf dies kühne Unternehmen zu legen und behauptet dass jeder andre, mit gleichen Kräften, eben so gut als er den Gipfel dieses Berges hätte ersteigen können.'

W. A. B. C.

MEASUREMENT OF HIMALAYAN GLACIERS.—The following letter has been received from Mr. T. H. D. La Touche :—

'Geological Survey Office, Calcutta :
September 20, 1906.

'DEAR MR. FRESHFIELD,—Your letter of August 23 reached me last week, and I am glad to hear that you approve of the steps we are taking to observe the Himalayan glaciers. We are making a good beginning this year, as I have been able to send up parties to three different districts—two men to Kumaon, two to Lahoul, who are to examine some of the Spiti glaciers as well if they have time, and one to Kashmir. Mr. Huyden, who has undertaken the last, is now up in Hunza, fixing marks near some of the big glaciers there, and the Resident, Col. Younghusband, has promised to instruct the political officers at Gilgit to inspect them from time to time. Mr. Cotter, who is in Kumaon, has already sent in a very nice plan of this end of the Pinduri glacier, and seems to have carried out his instructions in the matter of fixing points for future observation very judiciously. Next year I hope the Sikhim glaciers will be taken in hand.'

The following is the notice issued by the Director of the Geological Survey of India :—

NOTICE TO TRAVELLERS.




SECULAR MOVEMENT OF GLACIERS.

For several years past the International Commission for Glaciers has been collecting information from all parts of the world where glaciers exist with regard to the secular increase or decrease of the ice, which in Europe has been found to possess a fairly definite period of variation. The observations hitherto received from India have been very meagre, and the assistance of travellers and sportsmen visiting any of the Himalayan glaciers is cordially

invited, in order that fuller information on the subject may be obtained.

Visitors to the glaciers who are provided with a camera are requested to take photographs of the ends of the glaciers from, if possible, three points of view, (a) directly in front, (b) and (c) from either side of the valley as nearly as possible in a line with the end of the glacier, so as to include in the view a portion of the opposite side of the valley.

If possible the points from which the views are taken should be situated near or upon some conspicuous rock or large boulder, on which a distinctive mark should be scratched with a knife or the point of an alpenstock. This mark should be indicated on the back of the photograph, with the date and the name of the glacier, thus :—

	or		or		
Glacier.					
Date _____					
Front _____					
or _____					
Right or left, looking down the valley.					

A sketch plan of the glacier-end and sides of the valley, indicating the approximate position of the marks and their distance from the glacier, would also be very useful, and might be attached to the photograph.

It is requested that the photographs should be sent to the Director, Geological Survey of India, Calcutta, who will acknowledge their receipt.

T. H. D. LA TOUCHE,

Offg. Director, Geological Survey of India.

TRAVERSE OF THE FINSTERAARHORN (14,026 ft.).—On September 11, 1905, Mr. Claude A. Macdonald, with Rudolf and Hans Almer, ascended the Finsteraarhorn by the S.E. arête by practically the 1888 route, and descended by the N.W. arête to the Agassizjoch to Grindelwald. They found the snow good but the rocks bad and a good deal glazed. The fixed rope near the summit was buried in ice probably a foot deep; only the ends of it were visible. They found no very great difficulty in getting up to the left of the couloir. The expedition is a very fine one, though if the snow were not in a favourable state it would be a very long one. Times :—

Ascent.	Hrs. Min.	Descent.	Hrs. Min.
Hut to 'Schrund'	1 30	To Hugiattel	1 0
To arête	2 15	To Agassizjoch	0 50
To minor summit	2 0	To Finsteraarjoch	1 15
To foot of final couloir	1 20	To Schwartzegg	3 10
To summit	0 35		
	7 40		6 15

MARMOLATA (11,020 ft.) BY THE S. FACE. *August 24.*—Mr. E. A. Broome, with Antonio Dimai and Agostino Verzi, followed this route, and although not new (it was done first in 1901, and four times since) it has never been recorded or even named in the 'Alpine Journal,' and no details of the first climb have ever been available. From the Contrinhaus over the Ombretta Pass and then down to the foot of the wall took $1\frac{1}{2}$ hr. The nail boots were taken off (and sent round to summit) about 400 ft. to the right (E.) of the enormous couloir which bisects the Süd-Wand precipices. From here to the Gipfel is about 2,100 ft., and the face is naturally divided horizontally by two long narrow terraces into three walls, the lowest estimated at 600 ft. high and the middle and highest at 750 ft. each. The first is very difficult throughout, and the climb is up three or four steep narrow chimneys, with traverses and walls between, and generally working a little to the left towards the big couloir. This took 2 hrs. 25 min. The first terrace is then followed for some distance to the left (almost to the couloir) and the next wall, 750 ft. in height, is similar to the lower one, but somewhat less difficult. This time you work up rather to the right, and at one traversing point, about half-way up, must descend considerably to make further ascent possible. Time to second terrace, 2 hrs.

This terrace was followed about 250 ft. to the right, crossing several snow patches and a rivulet, to the foot of a bent couloir almost directly under the summit. This couloir or couloirs and the rocks, first on their left and then right, were climbed to the col between the E. and real summits, whence the ridge was followed to the top. The last 750 ft. was comparatively and increasingly easy, and took 1 hr. 25 min., making the whole climb 5 hrs. 50 min. actual going.

The descent was along the W. arête down to the Marmolata Scharte, and the party considered the expedition to be the finest in the Dolomites.

DAUPHINÉ ALPS. CHAMOISSIÈRE, CENTRAL SUMMIT (c. 9,050 m.).—On July 6, 1906, Mr. H. Symons and I, with our guides, Alois Pollinger, sen., and Edouard Charlet, ascended this peak, which is stated in 'The Central Alps of the Dauphiny' * to have been 'not yet ascended.' Leaving La Grave at 9.51 A.M. we reached the snow-slopes to the N. of the peak, which were traversed until they led us to the foot of the couloir which leads up its N. face. Ascending the rocks on the W. side of this couloir we went fairly straight up the easy face to the summit (4.7 P.M.), where we found a stone-man. Starting again at 4.50 P.M. we descended by the same route and reached La Grave at 9.30 P.M. Halts on ascent about 1 hr., on descent about $\frac{1}{2}$ hr. The views, particularly that of the grand ridge between the Meije and Roche Faurio, are most striking, and for this reason the expedition is well worthy of the attention of mountaineers staying at La Grave or the Chalets

* Second English edition, p. 85.

de l'Alpe. It should be stated that the height, 9,907 ft., given in the 'Climbers' Guide' is a misprint for 10,007 ft.

OLIVER K. WILLIAMSON.

MATTERHORN TRAVERSE TO ITALY BY THE ZMUTT ARÊTE.—Under the impression that this combination of routes had not been followed before, Messrs. W. N. Ling and Harold Raeburn made this traverse. There is a record, however, in the Italian hut book by Mr. W. E. Davidson, who did it with two guides in 1895. This is the first time, however, that the route has been followed without guides, and apparently also the first British guideless ascent of the Zmutt arête. On July 30, 1906, Messrs. Ling and Raeburn took two porters up to the Tiefenmatten face of the Zmutt arête. They there built a *gîte*, and sent the porters back to Zermatt. Starting at 4 next morning they took 11 hrs. to gain the summit. The slow going was caused by the bad condition of the ridge, plastered with snow and ice after much broken weather. Much cutting of steps and hacking out of holds was therefore necessary, and in many places only one climber could move at a time. The weather was fine to the summit, but on the way down the Italian side a somewhat heavy snow shower, with thunder, made the rocks rather slippery and the going accordingly slow. The Italian hut was reached at 8.10. On the following morning, August 1, return was made to Zermatt over the Furggjoch.

THE TRAVERSE OF THE FINSTERAARHORN.—This traverse, ascending by the S.E. ridge and descending by N.W., is now facilitated by the building of the new hut at the foot of the Finsteraarhorn. The hut, a neat and clean one, but very small, is built on some rocks close to the figures 3,237 on the Siegfried map. It is well fitted, has wood in a lean-to outside, and a small quantity of provisions for a case of need. The only record of this traverse hitherto appeared to be that of Mr. G. H. Morse with Ulrich and Hans Almer in 1887.*

On July 19, 1906, Messrs. Eric Greenwood, W. N. Ling, and Harold Raeburn, without guides, leaving the hut at 8 A.M., ascended the glacier in an E. direction, crossed the bergschrund 4.15-30, then up an ice couloir and a somewhat rotten chimney out to a broad ridge, 5; thence slopes of snow, ice, and easy rocks led up to the ridge at 6. This was at a corniced snow arête between two rock towers just before the ridge begins to rise more steeply. The arête was then followed, with its many rock towers, easy but interesting climbing with magnificent views, the snow shower, accompanied by thunder, encountered lower down now ceasing. Breakfast 6.45-7.15. The top was reached at 11.15. There is a somewhat weather-beaten rope in a gully on the right of the arête, but it is not required.

Leaving the top at 12.10, the ordinary route was followed to the Hugiattel—12.45 P.M.—and an ice slope cut down, then by the

* *Alpine Journal*, vol. xiii. p. 422. See also p. 339 of this number for a traverse by Mr. Claude A. Macdonald in 1905.

rock arête, somewhat loose, to the Agassizjoch, 2.25 P.M. The rocks of the Agassizhorn were then descended (tea taken on these rocks) to near the foot, and an ice couloir cut down to schrund above Finsteraar glacier, 6.35 P.M. Passing through the Finsteraarjoch, 6.45 P.M., a direct route was taken through the séracs and across an ice slope to a rock island on the right of the Oberseermeer, then across this and by snow slopes, couloirs, and rock ridges, then moraine-strewn glacier to the Schwarzegg hut, reached at 10, just as another thunder storm came on.

SCHRECKHORN TRAVERSED, ASCENDING BY N.W., DESCENDING BY S.W. ARÊTE.—This traverse, which has apparently not been made before, was the outcome of a suggestion in Mr. Bradby's paper, 'A Month's Climbing in the Bernese Oberland' ('A. J.' vol. xxi. p. 499). It can be cordially recommended as affording a grand climb, which, though full of interest throughout, cannot be described as difficult.

The S.W. ridge, as pointed out in the above-quoted paper, is steep and sooner free from ice than any other route, and when climbed in July this year, not long after bad weather, was wonderfully free from ice, except near the top. The following is the itinerary. The slow going may be accounted for by photography, tea-making on the summit, prospecting route, and clearing loose stones on the descent:—

Messrs. Eric Greenwood, W. N. Ling, and Harold Raeburn, without guides, left the Schwarzegg hut on July 28 at 8.15 A.M. Crowded hut; no sleep. Ascended by ordinary route to top of couloir, 4.30. Across to left below S.W. ridge. Halt, 6.8-6.23, above Ober Kastensteinfirn. Then across to N.W. ridge; ice and rubbly rocks; a good deal of cutting necessary, as the party were without crampons. Keeping immediately under the steep rocks of the peak, the couloir running into the N.W. shoulder was crossed high up, and a steep rock wall climbed to the arête just before it suddenly steepens, 8.25-8.5. Thence 2½ hrs.' climbing placed them on the top, 10.58. Loose rocks on this arête all iced up. Leaving the top at 12.15, the S.W. ridge was descended to the top of the ridge running off to W. Halt here, 4.55-5.15. Near the summit some heavy snow cornices and ice were found, but lower the rocks are too steep to hold much snow to produce ice. Descending the W. buttress for a time, an ice couloir to the left was crossed to easy rocks, thence snow easily gained, and a jump across the bergschrund landed the party on the Schreckfirn. From there the ordinary morning route was followed on the descent to hut. Owing to the late hour this was perfectly safe, as the avalanches had ceased running. The hut was gained at 8.15.

NANTILLONS GLACIER.—The perfect conditions prevailing this summer made it possible to traverse the four principal aiguilles, forming the amphitheatre at the head of this glacier, in one day. It has been suggested that a note might be of interest. Leaving the Montanvert at 1.45 A.M., Mr. G. Winthrop Young, with Joseph Knubel, reached the summit of the Charmoz (11,293 ft.), by the

'ice chimney,' at 6.50. (Twenty minutes were devoted to the first gendarme on the arête.) Leaving again at 7.20, the highest summit of the Grépon (11,447 ft.) was reached at 11.30 (of which time $1\frac{1}{2}$ hr. were comfortably spent at the foot of 'the Crack,' waiting for another large party to ascend). Restarting at 12.10 the Col de Nantillons was gained at 1.20. Here axes and coats were deposited, and, leaving the snow at 1.30, the central, highest peak of the Blaitière (11,549 ft.) was surmounted at 2.15. From this, after $\frac{1}{2}$ hr.'s halt, the northern summit (11,497 ft.) was gained at 3.10, left again at 3.20; the Col regained about 3.45, and the Montanvert gently at 6.10—in all $16\frac{1}{2}$ hrs. The conditions were, of course, ideal.

REVIEWS AND NOTICES.

Rock-climbing in North Wales. By G. and A. Abraham. Keswick, 1906.

EXPLORATION of the rocky recesses of North Wales has been carried on with vastly increased energy since the publication of the Welsh volume of 'Climbing in the British Isles.' During the last ten years the work of Haskett-Smith and O. G. Jones has been tested; old climbs have been improved or varied, and new ones have been discovered.

Among all these explorers none have shown greater vigour and skill than our fellow member J. M. A. Thomson, and those who were in a position to know what vast stores of knowledge he was heaping together have for several years been eagerly expecting the day when he should give to the world the result of his labours and studies. Those hopes may yet come to be gratified, but meanwhile we welcome a very substantial addition to our knowledge of the subject coming to us from a different source. It is well known that at the date of his untimely death O. G. Jones was preparing or at least making plans for a Welsh companion volume to that which he had already published on the climbs of the English Lake District, and now the Messrs. Abraham, who worked so efficiently in illustrating and re-editing the first book, have carried out their friend's plan by producing a similar work on the climbs of Wales.

We may say at once that the book is a great success. The writers have for several years given close attention to the district, and they enjoy the very great advantage of combining in an unusual degree physical prowess as climbers with practical mastery of all the resources of the camera. The result is a beautiful and very instructive volume.

The joint authors have divided their subject between them, the deep depression of the Llanberis Pass forming a very natural boundary. The southern portion is the larger and on the whole the finer and better known subject, and is very well handled by Mr. A. Abraham, while his brother with less material to draw upon

deals with much fresher ground, such as the N. face of the Glyders and the recent discoveries on the E. side of the Carnedd range.

The book does not profess to be severely systematic, and is probably not the less interesting on that account, but the reader must be on his guard against assuming that because, for instance, accidents are rather pointedly mentioned in the case of Twll Du they have not occurred elsewhere when nothing is said of them, or that because he finds the originators of one climb rather carefully detailed he will find similar information in all the other cases. It is the opinion of not a few that nowadays we hear quite enough about 'first ascents,' and that the pursuit of climbing would not greatly suffer if the maker of a first ascent got somewhat less of the 'bold advertisement' which modern newspapers are so ready to bestow upon him. For this reason we by no means complain of a certain irregularity in the book with regard to this point, especially as the authors, in dealing with more than one of the best known climbs, would have been under the painful necessity of giving great prominence to their own names. Nearly all the climbs are handled in the light of the direct personal experience of the authors, and it is wonderful how well they have succeeded in describing nearly a hundred ascents without monotony. Readers who do not make full allowance for the difficulty of imparting variety to such narratives may possibly object that now and again the 'chaff' of the climbers is represented as having been somewhat rough and their high spirits as having expressed themselves in something very like horse play. One must not be over-critical in these matters, as we all know the exhilarating influence of the rocks, but at the same time it is always well to bear in mind that jokes, practical and other, which are delightful among friends on the hillside are apt to look less attractive when set down in cold print for the perusal of a less intimate public.

It is to be feared that there are one or two passages in the book which will not exactly be relished by the persons therein described.

Towards earlier authorities the attitude of the writers is in excellent taste and leaves nothing to be desired. Where fuller knowledge has enabled them to detect errors of statement in the work of Haskett-Smith or Jones the correction is made in the most unassuming manner and with such adroit delicacy that to the earlier writer it is more of a compliment than of a rebuke.

There is a vast deal in this book which to many will be quite new and to all much more accessible than it has been before. Many, perhaps most, of the new climbs have been described in the pages of the 'Climbers' Club Journal,' but here we find them well digested, treated from one uniform point of view, and well illustrated, often by diagrams in addition to excellent photographs. Among these the views of Llyn Idwal and of Cynr Las are especially fine, and that of the central buttress of Tryfaen is a splendid study of rock-graining. The average climber—a prosaic being—caring more for honesty than art, has been apt in the past to regard the photo-

graphs of Messrs. Abraham with some suspicion, but in this book will find little to object to. If he does not like a climbing scene on Cyfrwy or another on Lliwedd, what can be simpler than to hold the book some 20° to 30° out of the perpendicular?

CORRESPONDENCE.

THE WATKIN ANEROID IN MOUNTAIN MEASUREMENTS: A REPLY AND A REJOINER.

To the Editor of the ALPINE JOURNAL.

DEAR SIR,—In a letter appended to the paper of Dr. Longstaff in the 'Alpine Journal' for August (p. 227) Mr. Douglas Freshfield takes occasion to criticise certain passages by myself which appeared in the February number of the 'Journal.'

Will you allow me to say in reply that I made no 'comments, as Mr. Freshfield asserts, on Mr. Graham's statements. I have nowhere in print expressed any opinion as to Mr. Graham's statements, nor discussed them other than to mention, what all the world knows, that they have been disputed. One of the comments criticised by Mr. Freshfield refers to the statement of Professor Collie that Mr. Graham had climbed 20,000 ft. on A. 22 and reached 22,700 ft. on Dunagiri, objection being made to the use of these altitudes, which I understand to have been not measured but estimated, as the basis of his argument that Mr. Graham might have reached 24,000 ft. Estimates of altitudes reached, especially by those who have not had long experience in the Himalaya, are exceedingly unreliable.

It might have been further added that, even admitting the correctness of these estimates, the contention of Professor Collie that because a climber reaches 20,000 ft. or 22,700 ft. he can reach 24,000 ft. is not borne out by facts. There is always the chance of the climber succumbing, and that sometimes suddenly, to exhaustion or mountain sickness, and, if he does, this occurs at a certain altitude which varies with the individual. This altitude cannot be determined beforehand and may not be greatly above a point where he feels well. Time and again I have seen coolies perfectly fit at a given altitude entirely incapacitated by mountain sickness 300 ft. to 500 ft. higher. Last summer a European porter with us, who was apparently in excellent condition at 20,500 ft., gave out completely at 21,000 ft. In view of such facts this contention is not tenable.

Mr. Freshfield is also treading on dangerous ground when he reasons that because a man is 'exceptionally active' he can necessarily reach a greater altitude than persons of average strength. In asserting this he overlooks the two questions of endurance and mountain sickness. It is not always the most active men who have the most endurance, which counts for much in climbing at great altitudes; neither does the possession of 'exceptional strength and

activity' exempt a man from a liability to mountain sickness. When this attacks such a man he becomes as prostrate and useless as the weakest. Among others which occur to me the porter above mentioned furnishes a case in point. He was one of our strongest porters and at lower altitudes carried the heaviest load. Exceptionally active men sometimes possess more speed than bottom, and their staying power may prove to be inferior to that of others of more moderate strength.

Mr. Freshfield's implication that Colonel Waddell, not being an authority on mountaineering, is not a competent critic is misleading. Colonel Waddell's objection to Mr. Graham's claim is made, if I remember rightly, on geographical grounds, which, if substantiated, effectively dispose of one of Mr. Freshfield's chief arguments in its favour.

The attentive reader will see that I did not compare 'Kabru to three sharp rock needles on the Biafo glacier,' as Mr. Freshfield says. These, which really are three separate peaks, distinct from one another but appearing from the glacier to be points of a single peak, were mentioned as an example of the difficulty of judging of the conformation of high Himalayan mountains, the reader being left to apply the example to the context. Mr. Freshfield has had, I believe, no experience in climbing high Himalayan peaks. If he had he would doubtless have found, as others who have tried them have found, that appearances are often deceptive, and one cannot be sure that any high peak is accessible, however easy its slopes may appear, until it has been ascended. In saying this I do not wish to be understood as saying that Kabru is inaccessible. I have not seen it from a point near enough to enable me to form any opinion regarding its accessibility; but, judging from a considerable acquaintance with other Himalayan peaks of over 20,000 ft., I consider I did not exceed the bounds of reason in asserting that it might present obstacles to an ascent that could not be discovered from below.

Lastly, Mr. Freshfield states his 'impression' that my remarks on Watkin aneroids are 'unduly depreciatory.' My paper in the February 1906 'Alpine Journal' is based on a large number of comparative observations at various altitudes, made in the course of actual exploration and mountaineering. The conclusions are such as logically follow from the facts observed. If these conclusions are considered depreciatory to the aneroid or the Watkin aneroid the behaviour of the observed aneroids must be held responsible.

My aim in writing the paper was to help, so far as my observations warranted, to assign its true value to the aneroid. If Mr. Freshfield's impression, or the confirming one of the person or persons whom he consulted at the Royal Geographical Society, is based on any similar comparative experiments with hypsometer and aneroid, it is to be hoped he or they will publish these for the benefit of other observers. Scientific inquiry is not promoted by impressions unless supported by adequate evidence, and evidence

more or less in the nature of proof is usually demanded to command assent.

The accurate definition of the value and scope of the aneroid is important in view of loose statements as to altitude based on readings of aneroids in different ways, with which mountain literature is being flooded, which are likely in the future to give rise to endless confusion and dispute. All possible light which can be thrown on this subject should be welcomed. I do not claim to have said the final word, and hope further observations will be forthcoming, whether they tend to confirm my present conclusions or the contrary.

In view of the evidence now available it may be asserted with considerable certainty that the mountaineer who depends solely on the readings of unchecked aneroids for his calculations of altitude, whether these be compared with lower station readings or not, is not in a position to determine what altitude he has attained.

Since writing the paper referred to I have met a military engineer in India whose conclusions as to the value of the Watkin aneroid are more depreciatory than mine. He, after a careful trial with it in range-finding experiments, discarded it as absolutely valueless even in measuring differences of level at low altitudes.

During the past summer I have had the opportunity of making another extended series of observations with two hypsometers and three aneroids at various altitudes from sea level to 21,800 ft., and the results, though not yet collated, give me no reason to alter the conclusions stated in my paper.

WILLIAM HUNTER WORKMAN.

1 Savile Row, Burlington Gardens, London, W.
October 29, 1906.

SIR,—It will be, I think, to the advantage of your readers if I profit by your courtesy in communicating to me the above letter to reply at once to the several objections raised by Dr. H. Workman to my recent note. I will do so as briefly as possible, omitting minor points.

Dr. Workman objects to his letter of January last (p. 82) being described as 'a comment' on Mr. Graham's Himalayan ascents. He must, it seems to me, attach to the word a different sense to that in which it is generally used in this country by English writers.

Dr. Workman persists in the attempt to represent Mr. Graham's heights as doubtful altitudes. In the large majority of that climber's ascents they are heights calculated trigonometrically 'by a succession of most competent surveyors' (see p. 204).

Dr. Workman says I overlook 'endurance' and 'mountain sickness.' I have not done so. He assumes that Mr. Graham and his guides were not enduring: my information, and it was contemporary information, is to the contrary effect. My argument as to 'mountain sickness' was that after Dr. and Mrs. Workman's series of experiences in their repeated climbs over 23,000 feet it is

impossible to regard that affection as an insuperable obstacle to the attainment of 24,000 ft., or even greater heights, by other climbers.

With regard to Colonel Waddell's criticisms, I have shown ('Round Kangchengjunga,' p. 209, footnote) that on the chief geographical point taken by that traveller ('Among the Himalaya,' p. 121), his argument rests on an obvious misunderstanding of Mr. Graham's narrative.

In conclusion I regret not to have made my passing reference to Dr. Workman's remarks on Watkin's aneroids more explicit. I gave as 'my impression' the result of my own experience and that of several friends. The 'confirmation' I received at 1 Savile Row was a statement that the paper published in this volume (p. 80) by Dr. Workman had been first offered to the Editor of the 'Journal of the Royal Geographical Society,' who had not accepted it in its then form, and the assurance of the Scientific Instructor that in the case of several travellers of repute the instrument has recently given very satisfactory results.

D. W. FRESHFIELD.

THE
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SOME EARLY VISITS TO ZERMATT AND SAAS—*continued.*

By W. A. B. COOLIDGE.

III.

Gruben, Zermatt, the Riffel, Saas, and the Simplon in 1808.

AS we have fully explained above the importance of this letter of Murith's, we need here only comment on a few of the most interesting points that it contains. One is amused to read of Murith's enthusiasm for 'new routes' (pp. 28 and 31), though 'new' meant to him 'not yet taken by any botanist'—even so, those which he opened over the Augstbord Pass and another pass S. of the Bistenen Pass show much enterprise for the date. As he compares the path from Turtmann to Gruben with that from Stalden to Saas (p. 29) it is clear that he had visited Saas on a previous occasion (though apparently not Zermatt), for in 1808 he took a short cut across the mountains from St. Niklaus to the path between Stalden and Saas (p. 31). One cannot help smiling at his lamentations at the hardships he suffered at the Gruben Alp (p. 29), though they only consisted in dozing by a fire in a cow hut and finding the ground covered with hoar frost next morning—but it is only fair to recollect that Murith was then sixty-one years of age. The three days he spent at Zermatt and the two at Saas were mainly taken up with verifying Abraham Thomas's reports, especially as to that wonderful new *Phyteuma*. But Murith gives more topographical details than Thomas, whose narrative is thus made clearer than it actually is. As yet I have not been able to discover what map our two wanderers employed, for, so far as I am aware, none the date of which fits our requirements gives all these minute details and names at the heads of the Saas and Zermatt valleys. Perhaps, indeed,

they ascertained them from the inhabitants, for a map is never named by either explorer. I have not been able to trace precisely Murith's route from Saas to the Simplon Pass. It was certainly, as he states, S. of the mule path over the Bistenen Pass. He seems to have crossed three ridges, the first leading to the Gamsen valley, while the second *may* have been that of the Sirwolten Pass, and the third that leading from the Sirwolten lake to the Nieder Alp. But the descriptions of the glaciers traversed (perhaps mere snow slopes) do not agree with the published accounts of the Sirwolten Pass. After leaving the Simplon Hospice (where he was greeted by his brother Canons) Murith went over to Binn by the Saffisch Pass.

LETTRE XV.

Prior Murith to Abraham Thomas.

[P. 28.]

Martigni, 20 Août, 1803.

A Monsieur Abraham Thomas au Fenalet.

MONSIEUR,—Quoique Mr. votre fils Louis vous ait déjà entretenu du voyage que nous avons fait ensemble dans le haut Valais, j'aime à croire que vous ne serez pas fâché d'en recevoir quelques détails par moi-même. C'est vous, Monsieur, qui avez ouvert la carrière de la botanique dans ce pays, et vos découvertes ne laissent que peu d'espérances aux amateurs. Il falloit donc, pour s'assurer de quelque succès, non-seulement marcher sur vos traces, mais encore se frayer de nouvelles routes, escalader de nouvelles montagnes, parcourir des vallées qui n'eussent pas encore été visitées par les amateurs de la botanique, et c'est ce que je me suis proposé dans l'excursion où j'ai eu pour compagnon Mr. votre fils Louis.

Nous sommes partis de Martigni le 25 Juillet avec tout l'attirail nécessaire pour nous occuper, tant de botanique que de minéralogie. Nous sommes allés coucher à *Sierre*, à l'auberge du Soleil, nous promettant une riche récolte pour le lendemain.

Le 26 nous nous acheminons de bon matin vers *Tourtemagne*. A Tourtemagne on loge chez Michel Locker. C'est de là que nous avons tenté de nous rendre à *St. Nicolas* par un chemin nouveau pour les [p. 29] botanistes. Quittant la grande route de *Viège*, nous avons pris des provisions et nous nous sommes acheminés vers la montagne de *Grueben* qui est à quatre lieues de Tourtemagne ; le tems étoit beau, la chaleur très-grande, la route difficile est beaucoup plus roide que celle de *Stalden* à *Saas* ; elle suit le cours d'un torrent impétueux. Après avoir traversé les forêts, à une demi lieue de la montagne de *Grueben*, nous trouvâmes sur la gauche, quand nous eûmes passé le torrent sur un pont, le *Sedum villosum* dans un terrain marécageux, et l'*Erigeron uniflorum*.

Nous pensions être à la fin de notre journée, mais on nous dit que, les vaches étant dans les chalets du haut de la montagne, nous

ne pourrions avoir de gîte qu'en nous y rendant. Ainsi malgré toute l'envie que nous eussions eu de rester ici, nous fûmes obligés de nous remettre en route pour trouver un abri. Encore aurions-nous perdu notre peine, si mon costume ne m'avait servi de recommandation. Néanmoins, nous fûmes obligés de passer la nuit en sommeillant auprès d'un feu dont la chaleur nous étoit d'autant plus nécessaire que le terrain se trouva couvert de glaçons le lendemain matin. Jugez, Monsieur, de notre douleur; mais nous étions préparés d'avance à tous les contretemps et à toutes les privations. En venant à la montagne haute nous avons gagné sur la traite du lendemain qui devait être longue et fatigante et qui le fut en effet.

Le 27 sachant que nous aurions une journée pénible, d'après tout ce qu'on nous en avait dit, nous quittâmes au point du jour la montagne de *Grueben*; nous fîmes un bonne lieue sur un gazon émaillé de fleurs, mais recouvert d'un verglas qui nous déroboit une partie de leur beauté. Parvenus au bas de la gorge par où nous devons passer pour redescendre à la montagne de *Porta* ou d'*Empt* [Emd], nous visitâmes un gazon semé de rocailles qui s'étendoit sur notre gauche [different flowers found]. Encouragés par ces découvertes, nous résolûmes de parcourir le côté au jusqu'au sommet; c'est là que nous vîmes avec grand plaisir la *Potentilla subcaulis*, la véritable *Saxifraga exarata* All. [Allioni], découverte pour la première fois en Valais, et la *Myosotis nana*. Il y a deux lieues de la montagne de *Grueben* jusqu'au haut du col [apparently the Angstbord Pass] où il faut passer pour se rendre à St. Nicolas qui est encore à quatre lieues plus loin.

Au-dessous de cette gorge nous observâmes la *Cacalia tomentosa* et l'*Arnica Clusii* All. à feuilles entières, près d'une mine de fer qui paroît de bonne qualité. A une bonne demi lieue d'Empt, nous passâmes à la droite du torrent par un sentier qui longe la forêt en descendant. On entre ensuite dans les basses montagnes. Cette descente conduit à St. Nicolas. M. le curé de St. Nicolas nous reçut très cordialement. Nous comptions cueillir au-delà de St. [p. 30] Nicolas l'*Astragalus Leontinus* que vous y avez trouvé, Monsieur, mais nos recherches furent inutiles. La journée étant avancée, nous réservâmes nos recherches pour notre retour et nous nous rendîmes par *Randa* et *Tech* [Täsch] droit à *Tzermatten* où nous n'arrivâmes qu'à la nuit. Nous logeâmes chez *Joseph Breni* [Brenni], seul aubergiste de l'endroit. Nous eûmes l'avantage d'y trouver Mr. Necker de Saussure, qui y étoit avec son fils et un élève et qui, prévenu de notre arrivée, nous reçut à bras ouvert.

Le 28 Juillet, dans la compagnie de M. Necker de Saussure, nous prîmes le chemin de la montagne de *Tzemout* [Z'Mutt]. A peine étions-nous à *Hermiet* [Hermattje], à un quart de lieue au-dessus de *Tzermatten*, que nous eûmes le plaisir de voir l'*Astragalus exscapus*, qui commençoit à passer. L'*Aretia tomentosa* Schl. [Schleicher] croît un peu au-dessus de cet endroit dans les fentes de rocher. De là, après avoir traversé le village de *Tzemout*, on

gravit une montée qui est un peu roide, et qui dure près de demi heure. Satisfaits de ces découvertes [various flowers found] que vous nous aviez annoncées dans vos voyages précédens, nous poursuivîmes notre excursion jusqu'au glacier que nous traversâmes. On voit, en passant, quelques objets intéressans pour la Lithologie. C'est sur la côte, au-delà du glacier, qu'il y a en quantité l'*Astralus Halleri*, l'*Ophrys alpina*, plusieurs *Arenaria* et *Saxifraga*; en suivant la côte jusqu'à la montagne de *Staffel* [Staffel Alp] on trouve en abondance le *Ranunculus rutafolius*.

Le 29 Juillet nous partîmes à quatre heures et demie du matin pour aller visiter la vallée qui avoisine le mont *Rosa*. Le torrent passé, nous sommes allés au village de *Zwickelmatten* [Winkelmatten], d'où l'on monte par des pâturages semés de petites forêts. Avant d'entrer dans le bois par où l'on passe pour se rendre à *Aukomen* [Augstkummen], se trouve un pré marécageux. Parvenus après deux heures de marche à *Aukomen*, nous y admirâmes la quantité d'*Anemone Halleri* qui montoit en graine.

Puis suivant partout vos traces, Monsieur, nous nous élevâmes insensiblement jusqu'à la montagne de *Riffel* où nous avons pris, sur un petit monticule de rocher stéastieuse, à l'endroit où vous l'avez indiqué, le *Phyteuma* nouveau, ainsi que le *Phyteuma pauciflora*. On trouve un peu au-dessus de l'*Actinote* très-bien cristallisé. Après quelques minutes d'une montée roide, on traverse des pâturages arides pour se rendre près du glacier de *Triftié* [Triftje, that is the Findelen glacier]. En arrivant à *Triftié* on voit l'*Anemone fragifera*, &c. N'ayant plus que le temps de retourner à *Tzermatten*, nous redescendîmes la montagne, et nous n'arrivâmes à notre gîte qu'à nuit tombante.

Le 30, nous montâmes au *Finelet* [Findelen], troisième vallée de *Tzermatten*, pour avoir la satisfaction [p. 81] de vous suivre, Monsieur, partout et dans tous les endroits marqués par vos découvertes. Le *Finelet* est un petit village sous le glacier de *Flue*, à une lieue et demie de *Tzermatten*; on peut y loger chez *Maurice Ruden*. C'est sur le même glacier que j'ai trouvé des *Vesuviennes*, qu'on n'avoit découvertes, jusqu'ici, que dans les volcans. Ayant reconnu tout ce que vous aviez annoncé dans votre voyage à la vallée de *Tzermatten*, et satisfaits de notre course, nous regagnâmes notre gîte ordinaire pour faire nos préparatifs du lendemain.

Le 31 Juillet nous repartîmes de *Tzermatten*. Surpris encore par la nuit, nous fûmes obligés de coucher à *St. Nicolas*.

Le 1er Août nous tentâmes de pénétrer dans la vallée de *Saas* sans redescendre à *Stalden*. On nous avoit dit que la chose étoit possible; c'est tout ce qu'il en falloit à notre ardeur qui nous portoit toujours à suivre des routes nouvelles, dans l'espérance d'y faire quelques découvertes. Dans ce but nous primes le chemin de *Grächen* [Grächen]; nous y arrivâmes après une heure et demie de montée assez roide. Nous fûmes obligés d'y prendre un guide, et l'expérience nous a appris que nous serions égarés sans son secours. Après une marche d'une lieue à travers une grande forêt, nous vîmes avec plaisir, dans le fond d'un bois assez clair, la

Linnaea borealis. De là, nous fîmes une grande descente, puis nous traversâmes avec beaucoup de peine différens ravins; enfin nous reconnûmes que la route de Stalden à Saas commençoit à se rapprocher de nous; les gazons étoient moins sauvages, et c'est avant de rejoindre le chemin des mulets que nous avons remarqué l'*Astragalus exscapus*, au-dessus du chemin. Ayant repris la route ordinaire, nous trouvâmes, comme vous l'aviez fait avant nous, Monsieur, la *Linnaea borealis* près de la croix. En entrant à Saas, nous cueillîmes avec un vrai plaisir le *Colchicum montanum* dans une prairie près du premier village; en avançant vers le second nous primes, près du bois sur la gauche, l'*Hypochæris maculata*, mais non l'*Hypochæris helvetica* que vous y aviez remarquée; vous verrez, en échange, Monsieur, que nous l'avons rencontrée fréquemment dans la suite de notre voyage.

Quoique nous eussions fait près de huit lieues ce jour-là, voyant que nous avions encore deux heures de jour, nous en profitâmes pour visiter le glacier [a mistake for 'prairie'] qui est au-delà du pont, et nous ne tardâmes pas à y observer le *Trifolium saxatile* en très-belles touffes. Aux environs des oratoires ou stations de la passion qui sont à un quart de lieue plus loin sur la côte, nous fîmes (p. 32) une récolte abondante.

Le 2 Août, voulant suivre en tout vos indications et vos observations, nous tentâmes de visiter le fond de la vallée de Saas. Pour cela, nous primes le chemin de Mameguel [Almagell], village à trois quarts de lieues de Saas. Nous poursuivîmes ensuite notre route à travers des éboulemens de glacier, laissant sur la droite le village de Maïcre [Zermeiggern]. Après avoir traversé le glacier [Allalin glacier], non sans beaucoup de danger, nous primes la droite du lac, impatiens de mettre la main sur la *Primula longiflora*, que vous y aviez découverte. A l'autre extrémité du lac, assez près de la montagne de Mackmar [Mattmark], nous eûmes enfin la satisfaction de cueillir cette *Primula longiflora* tant désirée, mais elle étoit en partie déflourée.

Il nous restoit à visiter la montagne de Distel qui occupe presque le fond de la vallée; nous nous serions fait des reproches d'y avoir manqué. Après quelques momens de repos qu'une excursion de plus de trois lieues, dans des chemins très-pénibles, rendoit nécessaire, nous nous remîmes en route. Un mauvais pont de bois qu'on ne pouvoit presque atteindre qu'à la nage, tant les eaux étoient débordées, nous aida à traverser la rivière. Après une heure de marche nous nous trouvâmes à la montagne de Distel. Là, sans perdre de temps, nous passâmes de nouveau la rivière sur un pont, ou, pour mieux dire, sur des poutres sans planches posées sur l'eau, et vingt minutes plus loin nous rencontrâmes la *Valeriana celtica*, qui nous auroit peut-être échappé si elle n'avoit été en pleine fleur; elle croît sur de petits monticules avec le *Senecio uniflorus*. Après nous être rafraîchis à Distel (et nous en avions grand besoin); nous revînmes au chemin de Saas par la droite du torrent. La *Rhodiola rosea* fixa d'abord notre attention; elle étoit fort abondante. Un peu plus loin, avant de monter un escalier

taillé dans le roc, nous découvrîmes la *Saxifraga multiflora* le long d'une cascade. Ainsi se termina notre course à Saas.

Le 3 Août, comme nous nous propositions de passer de Saas au Simplon, nous choisîmes pour guide un nommé *Fenetz* [Venetz], qui se chargea de nos provisions et de notre presse; c'est Mr. le capitaine *Zurbricken* [Zurbrücken], chez qui nous avons logé et qui reçoit fort bien les voyageurs, qui nous l'avait conseillé.

En sortant de Saas, nous prîmes le chemin de la montagne, à droite: nous la longeâmes par un sentier très-rapide au commencement, ensuite agréable, qui nous ramena bien avant contre *Wispterminen* [Visperterbinen] sans aller rejoindre cependant le chemin des mulets qui conduit au Simplon [by the Bistenen Pass]. Après avoir monté les montagnes de *Bodmou* [Bodmen, 1798m.], de *Trevail* [Däwaldji] et de *Brennen* [Brände], nous nous trouvâmes insensiblement à une grande élévation. Il falloit franchir un éboulement très-considérable et d'énormes amas de pierres jusqu'à un aqueduc qui coupe cet éboulement. Dès lors notre [p. 88] marche devint moins pénible. En sortant de l'aqueduc on foule un gazon agréable. Les glaciers recouroient toutes les sommités; on nous indiqua entre les glaciers une gorge nommée *Bisti*; mais pour y parvenir il falloit escalader lentement un revêtement de rocailles. C'est dans cette montée difficile que nous trouvâmes en quantité le *Senecio uniflorus*, &c. A la descente de la première montagne nous rencontrâmes la *Cacalia tomentosa*.

Nous avions déjà fait plus de cinq lieues, mais il falloit en faire encore trois pour traverser la vallée du *Ganter* [Gamsen] et remonter à la seconde montagne. Nous reprîmes courage, et après avoir descendu un glacier dont la surface ramollie étoit couverte d'une neige tendre, et traversé ensuite, avec beaucoup de peine et de fatigues la vallée où les rochers entremêlés de gazon étoient en divers endroits baignés de l'eau des torrens, nous arrivâmes au pied de la dernière montagne qui nous restoit à gravir. Nous commençons à être extrêmement las, et nous avons en perspective un glacier d'une demi heure de traversée avant d'atteindre le sommet du col; nous fîmes un dernier effort, et nous eûmes enfin la satisfaction de découvrir au-dessous de nous la montagne du Simplon, et l'hospice qui devoit nous servir de gîte ce soir là. Au midi du col, dans des gazons mêlés de rocailles, on retrouve les mêmes plantes qu'au sommet du *Bisti*. La perspective étoit terrible; il falloit encore descendre un glacier de demi heure de largeur, coupé, tantôt par des précipices affreux, tantôt par des ouvertures épouvantables dont nous aurions eu bien de la peine à nous tirer sans notre guide qui alloit en avant pour chercher les passages les moins périlleux. Au bout d'une heure de descente, un monticule graveleux et sec nous offrit le *Phyteuma pauciflora* et le *Hieracium albidum*. Enfin, sur la montagne de *Nideralp*, qui s'étend jusqu'au fond du vallon, nous découvrîmes la *Campanula* nouvelle que Mr. Schleicher a nommée *excisa*. Cette montagne est à vingt minutes de l'Hospice, où nous avons un grand besoin de nous reposer, étant harassés par une course de douze lieues au

moins. Nous fûmes reçus à bras ouverts. L'aimable famille de Mr. le Baron Stokalper se réunit à nos Messieurs [i.e. the Austin Canons, who served the Hospice, and of whose mother house at Martigny Murith was the prior] pour entendre le récit de nos aventures.

IV.

Zermatt in 1843.

I had long been puzzled by an entry on p. 217 of Herr Wäber's excellent Bibliography of Works and Travel relating to Switzerland, for it was there stated that in the 'Revue Suisse' for 1844 there had appeared an article entitled 'Zermatt, le Chamounix du Monte-Rosa.' It was said to have for author a mysterious 'O,' whom Herr Wäber could not identify. The key to this mystery came into my hands one day quite by accident. I was writing an article on a certain Juste Olivier (1807-1876), a poet of the Canton of Vaud, who enjoys a very high local reputation. In his biography by M. E. Rambert* I found (p. 316) that in the early forties of the nineteenth century Olivier had made an excursion to Zermatt, a great feat in those days. This aroused my suspicions, which were confirmed by the facts that this article had not merely appeared in the 'Revue Suisse' for 1844, but that from 1843 to 1846 Olivier was both editor and owner of this periodical (Rambert, p. 310). I do not, therefore, think it rash to assume that Olivier was really the author of this article, which is entitled 'Zermatt, le Chamounix du Mont-Rose,' and occupies pp. 167-180 (March No.), 289-303 (May No.). The 'Madame' who is so often addressed in the course of the paper is no doubt his wife. I give below some extracts only from this article, for it is largely made up of reflections on various subjects which have nothing to do with the state of things at Zermatt in 1843, soon after Engelhardt, Desor, and Forbes had visited the village, but before their works had appeared (Engelhardt's general book appeared in 1840, but his special work in 1852 only, while Forbes's appeared in the very year of Olivier's visit, and Desor's the year following).

The exact date of the visit (save the month, August, p. 179) is not given in the article, but was probably 1843, when Olivier became owner and editor of the 'Revue Suisse,' though he had been one of its contributors from its foundation in 1838. There is a curiously modern flavour in his remark that

* See the latter's *Ecrivains de la Suisse Romande*, 1889.

already in 1843 (or earlier) the Matterhorn was the *richesse de l'auberge* as well as the *'gloire de Zermatt'* (p. 180). Supposing that Olivier read the sign of Lauber's inn correctly (p. 290), its name is, if I am not mistaken, a fact new to Alpine historians. It has always been taken for granted that Lauber's inn was called *'Monte Rosa,'* and that the name of *'Mont Cervin'* only appeared when Clemens opened his new inn in 1852. As far as I can recollect no other writer attributes any special name to Lauber's inn, and that house only can be meant, while the date 1839 agrees with what we know from other sources. Lauber, of course, though locally styled *'Doctor,'* was only a bone-setter, as his predecessor (mentioned by Murith in 1803), Kronig, had also been. Born of a Zermatt family in 1787, Joseph Lauber married in 1826 Maria Zurtannen, of Pommat—that is, the Val Formazza, at the head of the Tosa valley.* She was thus a member of the Valaisan German-speaking colony which has existed in that spot since the thirteenth century. Possibly her Italian origin accounts for her devotion to housewifely duties (p. 290). The present family which keeps the inn at Tosa Falls is also called Zurtannen (in Italian Zertanna). The list of excursions which Olivier declares they must forego making owing to the bad weather (p. 291) is interesting as showing us what the travellers of that day really did in this matter of expeditions. The *'sommet du Riffel'* is simply the ridge at the foot of the Riffelhorn,† for it was Sir John Forbes who first (1848) pushed on to the Gornergrat. One is surprised to learn that Olivier considered (p. 301) that the Théodule was then all but completely abandoned, for the first edition (1841) of Joanne's *'Itinéraire de la Suisse'* gives a full account of the route over it (pp. 616–7). Perhaps Olivier meant that it was deserted as a trade route, though it may be doubted whether its importance as such was ever very considerable. Of course the ruined redoubt on the summit was that thrown up in 1688 by the Aostans at the orders of the Duke of Savoy, so as to block the way to the Waldensians seeking their old homes.‡ Olivier's mention of the *'Grand Glacier'* (p. 301) carries us back to the days when an unbroken *'sea of ice'* was supposed to cover the chain of the Alps, the name at Zermatt being specially limited to the St. Théodule Pass, the point at which this frozen ocean could be most easily crossed. His German does not seem to be faultless, for he

* Ruden, p. 54. † See my *Swiss Travel*, p. 294. ‡ *Ibid.* p. 179.

wrongly interprets the name of the Strahlhorn (p. 302), which is really the 'peak where crystals are found,' while his explanation of the words addressed to him by the landlady on his return to the inn simply mean, 'Well, what did you think of the view up there?'

'*Revue Suisse*' (Lausanne), vol. vii. Mars et Mai 1844,
'Zermatt, le Chamounix du Mont-Rose.'

On a lovely summer's day, spent amid the vineyards of the Rhône valley, the author tells us (p. 168): 'Je me sentis repris du démon des courses alpestres.' He then continues (same page)—

Peu à peu, même à la chaleur de mon enthousiasme dont vous vous étiez d'abord moquée, Madame, l'agaçante envie vous prit à tous de gravir quelque mont. Mais il fallait qu'il fût bien fier, bien inconnu, bien terrible, très-beau s'il se pouvait, inaccessible même. Le Mont-Blanc? non. Mlle. Dangeville et trop d'autres l'ont humilié, ont foulé l'orgueil courroucé de ses neiges éternelles. Le Mont-Rose . . . pourquoi pas? presque aussi haut, plus caché, altier et sans tache de pas humains, il nous attire d'avantage, il nous attire [p. 169], d'autant mieux que nous n'avons pas l'idée, par trop ambitieuse, de l'escalader, nous voulons le voir seulement.

The happy couple therefore start on their journey. As they drive up the Rhône valley Olivier explains to his wife 'comment, à peine en chemin nous y prendrions pour revenir de ce Mont-Rose au pied duquel peut-être nous n'arriverions jamais.' Here is his grand scheme:—

De notre vallée de Zermatt il n'y a qu'un saut par les hauteurs, un saut de quatre à cinq mille pieds pour retomber dans celle d'Anniviers, peuplée jadis par une bande de Huns ou Hongrois; puis de celle-ci à Evolena dans la vallée d'Hereins; les glaciers, dit-on, sont fermés: nous les ouvrons; de là, nous descendons en vainqueurs sur la plaine, mais pour la croiser seulement au passage in order to gain the Diablerets group. At Visp they take a hunter as guide, who leads them (the lady on horseback) through the dark night to a 'masse brune et écrasée, espèce de chalet dont les maîtres devenaient ceux de notre sort' (p. 176). They are finally conducted to a room with three beds, one of which was occupied by a 'Génois, chassé de Zermatt, comme il nous le dit lui-même, par trop de *belles horreurs*' (p. 176). He disappeared the next morning before our travellers were awake (p. 177), and they then discover that they had slept at Stalden. Madame rides on her mule up the valley, but the clouds come down lower and lower, so that the view is very limited. 'Les chalets de Saint-Nicolas n'ont

ni la richesse et les atours des bernois, ni la gaité de ceux des alpes romanes' (p. 177), but Randa is thus described (p. 173): 'Le village est charmant, posé sur le revers de la pente qui m'a tant lassé. Pourquoi, en pays allemand, s'appelle-t-il de ce joli nom de *Randa*? est-ce pour garder l'a final des anciens dialectes teutoniques?' (p. 178.)

[P. 178.] Saluons Zermatt, Madame, car nous y sommes : mais si vous voulez être joyeuse de l'arrivée, ne vous retournez pas. Tout naturellement, Madame, votre premier mouvement a été de regarder en arrière et, ne voyant rien dans le beau fond de prairie que nous [p. 179] venions de traverser, vos yeux se sont levés vers le ciel. Oh, désastre! Eh bien, oui, vous le savez à présent, nos nuages de Martigny nous ont suivis pas à pas, et les voilà qui entrent aussi à nos trousses dans le bassin du *Matterthal* (Note de l'auteur. La vallée particulière de Zermatt, laquelle est dominée par le *Matterhorn*: en français le *Cervin*). Ils se divisent en deux corps pour occuper les deux chaînes, et nous laisseront tout au plus l'auberge.

Deux heures après nous, en effet, le gros de leur armée était à Zermatt. C'est une nuit complète sur toutes les pentes, un brouillard lourd, acharné et opaque autour de nous. L'hôtesse, auprès de qui nous cherchons quelques encouragemens, nous répond que ces nuées ont mauvaise mine, poussées ainsi par le vent contre la haute paroi du fond et s'y agglomérant, au lieu d'être soulevées et jetées par-dessus les cimes par le balai de la bise. Peu contents de cette réponse, nous nous adressons ailleurs; autres renseignements déplorables: 'Quand le temps est tel qu'aujourd'hui, nous dit-on, il pleut ou il neige quelquefois une dizaine de jours de suite, même au mois d'août où nous sommes.' La parole humaine est trompeuse et triste, répétâmes-nous on chœur. Voyons un baromètre, dit le chasseur. L'hôte répondit qu'il n'y en avait point . . . Grande nouvelle! Il existe un baromètre, un seul, dans une des maisons du village, On y court. Il était cassé. Dernière catastrophe! murmurèrent mes compagnons. Petite branche qui n'était là que pour mieux montrer notre complet naufrage au port.

[P. 180.] Le lendemain, le temps était affreux, trop mauvais même pour que pussions songer à redescendre. Nous sommes donc enfermés—avec la perspective de rester ainsi pendant huit ou dix jours, vingt-quatre heures durant, dans une petite auberge, assez propre et assez douce mais où les pauvres ressources qu'une table variée et un grand confortable peuvent fournir en pareille extrémité, manquent complètement. Pas plus de montagnes autour de nous qu'en Hollande, seulement d'infranchissables murailles de cachot, bien tendues d'un crêpe couleur du temps. Et pour toute perspective, celle de repartir bien vite, sur les ailes du premier rayon, après cet agréable séjour, sans connaître de Zermatt autre chose que le vernis de nos chambres, car nous ne voyons pas même le clocher du village que l'on dit être à quelques pas devant nous.

Telle fut l'agréable récapitulation que nous fîmes en déjeunant. L'hôtesse y ajouta encore un trait en nous apprenant le départ

courageux, au travers des flots et des nuages, de huit ecclésiastiques valaisans, tant prêtres que séminaristes, qui nous avaient précédés ici hier. N'aviez-vous pas, Madame, un peu compté sur leur société ? N'avions-nous pas tous espéré en eux (le malheur complet est égoïste) des compagnons d'infortunes ? Ils ont perdu patience, ils sont partis et, comme le dit l'hôtesse, avec un accent de reconnaissance et de fierté en parlant de ce fameux pic du Cervin, gloire de Zermatt et richesse de son auberge : *Ils n'ont pas eu l'honneur de voir cette corne*. Terrible présage du sort qui nous attend !

[P. 289.] De mon côté, j'essayais aussi de tuer le temps. J'observais plus de choses qu'il n'en existait à ma portée, et je rendais compte de tout minutieusement : par exemple, de l'enseigne de notre hôtel, dont j'ai copié l'inscription avec une exactitude qui a grandement excité les soupçons de l'hôte. Il m'aperçut commentant ce larcin et me lança un regard qui disait clairement : 'Voulez-vous me prendre ma maison ?' Je lui répondis par un autre regard où j'ai mis autant d'innocence que possible, afin qu'il prit mon attention comme une étude admirative du seul objet d'art qui [p. 290] se trouvât à Zermatt. Avec un peu de bonne volonté on aurait pu y voir un hiéroglyphe ; le voici

HOTEL. CERVIE.
BON LOGE A PIES ET
CHWALL. 1899.

Cervie fait-il ici allusion au Mont-Cervin, comme le penserait volontiers un poète ou, selon une autre opinion qui sera sans doute celle des hommes graves et froids, faut-il y voir tout bonnement une orthographe un peu insolite du mot français *servi*, hôtel servi ? . . . Quelle que soit en ce cas embarrassant, la décision des doctes, je les prie de ne point juger du reste par l'enseigne : c'est, honneur en soit à la petite auberge ! l'inverse de beaucoup de livres dont le titre seul est correct, élégant, irréprochable. Je n'assurerai pas que la cuisine n'ait aucun accent étranger, mais nous n'y avons point remarqué de grosses fautes d'orthographe, de barbarismes révoltans. De l'agneau rôti, du poulet, des pommes de terre, des œufs, du riz frit : au dessert, du fromage et l'amande huileuse et parfumée du pin-arole ; enfin du vin muscat blanc, cacheté comme au temps d'Horace avec de la cire : en voilà bien assez pour ne pas périr de faim et ne périr que d'attente et d'ennui.

La maison est bonne et l'une des plus apparentes du village. Elle a un perron de pierre, devant lequel se trouve le chemin public, espèce de petit torrent boueux et noir, où passent à la file, comme des canes, choisissant leurs pas, et d'un air tout à fait à la pluie, une troupe de femmes et de filles les mains sous le tablier. Nos chambres sont propres et fort jolies, avec un vernis bleu, même au plafond, qui augmente nos idées noires. J'ai vainement exploré le logis : pas la moindre distraction à en espérer. L'hôte est solennel et inattaquable. Il domine aussi dans toute la vallée sous la qualification de *Herr Doktor* (M. le Docteur). On peut dire de lui

qu'il règne et ne gouverne pas. Sa femme est seule chargée de l'administration. Le docteur n'apparaît jamais qu'aux instans critiques, dans les grandes négociations, les opérations de finances, &c. Quand arrivent quelques étrangers, on tue en leur honneur un agneau, un mouton, et je ne répondrais pas que le Docteur ne profitât de cette circonstance pour achever de se perfectionner dans l'art chirurgical.

The next day it snowed hard.

[P. 291.] C'en est donc fait, nous ne verrons rien : ni le Riffel, qu'on nous avait tant vanté, et qui est le Montanvert de ce second Chamounix : ni le Schwartzsée, autre balcon vis-à-vis des glaciers et du Mont-Rose : ni ce Matterjoch ou col du Cervin qui est le plus haut passage des Alpes et dans les neiges duquel se cache la redoute ruinée de Saint-Théodule : ni Finelen et Zmouth, les villages d'été de Zermatt. Zermatt lui-même, ou Préborgne, comme il s'appelle aussi d'un second nom romain dans le pays, Zermatt s'arrange pour justifier tout à fait à nos yeux ce dernier nom qui nous paraît à peine assez expressif.

The third day the weather cleared, so that the author could see Zermatt and its surroundings.

[P. 297.] Chamounix, adossé à un versant au lieu d'être acculé au fond comme Zermatt, est moins original, moins sauvage ; mais, en revanche, il est varié et complet, il a tout l'ensemble de ses richesses pittoresques dans son rayon direct ; il a le plein aspect du Mont-Blanc, et Zermatt n'a pas proprement le Mont-Rose. Le Cervin y tient lieu de tout dans sa beauté suprême et singulière, fantastique et immuable.

About 11 A.M. the party starts off, Madame on a horse, and makes an expedition to the Augstkummen chalets, where the cowherds were amazed at the arrival of a caravan in such deep snow, for the cattle had been driven down in consequence (p. 299). The adventurers determine to push on to the 'sommet du Riffel,' which Madame reaches on foot :—

La caravane se met en route ; avec deux hommes en tête, tenant horizontalement du côté de la pente, et chacun par un bout, un long bâton auquel notre aimable fée s'appuie pour marcher, le plus gentiment du monde. Tout est blanc hormis les mélèzes et les aroles qui secouent ici et là leur neige (p. 300).

Here is a portrait of one of the guides (p. 300) :—

Le plus âgé de nos guides était un de ces beaux Valaisans d'un type pur et rare ; grand, élancé, bien taillé, d'une figure prononcée, droite et fine, avec des dents superbes et un teint cuivre : tout cela allait fort bien ensemble, et le costume n'y gâtait rien, quoique d'étoffe grossière, taillée en petite veste et en culottes. Il nous montra, en souriant, sur le passage deux traces de récente avalanche ;

mais sans chercher à nous en faire une peur que nous n'éprouvions pas.

An enthusiastic description is given of the wonderful view that our travellers enjoyed as the result of their efforts. We hear of 'l'énorme Breithorn ou Pic Large' (p. 300)—

A droite du Breithorn et sous sa protection, mais avec une fierté de grande race, se montre le Petit-Cervin, qui s'unit au Grand par un col. Sur ce vaste plateau de neige se cachait autrefois un aventureux passage vers les plaines d'Italie ; à peu près abandonné maintenant, il voit tomber, sous les brouillards neigeux qui égarent le voyageur, les dernières pierres de la redoute démantelée de Saint-Théodule [p. 301]. Voilà une feuille de la rose de granit ; s'écrie le chasseur, en nous montrant deux grands mamelons, couronnés de lumière au-dessus de cassures de glaces qui ressemblaient à un escalier de géans pour ce temple de neige. Alors, recueillis, silencieux, haletans, nous pressons le pas et, au bout de quelques minutes, nous sommes en face du Mont-Rose lui-même, dans la splendeur de son massif sans pareil [p. 301]. Ce spectacle nous arrête, nous anéantit. Nous tombons assis sur un bout de rocher déjà sec, remplissant nos yeux et notre âme de cette majesté souveraine, de cette pure splendeur. Le Grand-Glacier, ou la mer de glace du Mont-Rose, plus vaste que celui du Mont-Blanc, était tout entière devant nous [p. 301]. Voilà le Pic-du-Rayon (*Strahlhorn*), qui sort aussi, en ligne vive et brisée, de sa large base de glaciers. C'est l'extrême joyau de la couronne scintillante : il nous indique plus loin la longue vallée de Saint-Nicolas, que paraissent fermer à l'horizon les glaciers d'Aletsch, seuls rivaux en Europe de ceux que nous avons en face [p. 302]. Le retour fut embelli par le fantôme de toutes ces merveilles qui ne cessa de flotter devant nos yeux pendant qu'autour de nous [p. 303] s'allongeaient les ombres du soir. Le neige avait considérablement diminué, et, dès le lendemain, suivant l'expression des bergers, tout *serait terrain* dans la vallée. Nous devisâmes, entr' autres discours, sur l'excellence de la patience et aussi sur l'admiration que notre héroïsme d'entêtement avait inspirée aux habitants du chalet. Nous nous flattions qu'il en serait pour le moins de même au village, car la vanité se fourre là où on jugerait bien qu'elle n'a que faire ; mais nous avons compté sans notre hôte, ou plutôt sans l'hôtesse dont la voix quelque peu indignée de notre manque de sagesse accueillit notre entrée en criant : 'Ah, Messieurs, *was denken sie, à quoi pensez-vous ?*'

Nous baissâmes la tête, sans répondre. Qu'eussiez-vous répondu, fanatiques amateurs de la belle nature ? Qu'eussiez-vous dit ? Nous prîmes le parti de souper.

Postscript.

I take this opportunity of indicating the *principal* additions to our knowledge of the history of Zermatt which have been made since the publication of my account of it in my work 'Swiss Travel and Swiss Guide-Books' (1889), pp. 251-322.

On p. 257 of that work insert the following mentions of Zermatt, to be found in the volumes of the late Abbé J. Gremaud's (1823-97) invaluable 'Documents relatifs à l'Histoire du Vallais' (Lausanne), issued after 1889 — in vol. vi. p. 459 (publ. 1893) we hear of a gift of dues 'apud Pratum Borno,' made by a Raron man to his son in 1398; in vol. vii. p. 130 (publ. 1894), a deed relating to the defence of the Alpine passes against the Bernese was executed in 1414 'in Pratoborno,' while in the same vol., p. 534, we learn that in 1428 the 'curatus de Pratoborno' had to pay 5*l.* in the shape of annates and tithes; finally, in vol. viii. p. 402 (publ. 1898), we hear of 'Hans Schmid, sutoris de Prato borno' in 1449, this cobbler being only mentioned because his wife sold a bit of land at Evolens to the reigning Bishop of Sion. On p. 265 it should be noted that Ægidius Tschudi, on p. 95 of his work 'De priscâ ac verâ Alpinâ Rhætiâ' (Basel, 1538), makes the earliest known mention of the St. Théodule Pass, describing it as a route 'ex superiori Vallesâ per montem Gletscher in vallem Ougstal,' and indicating it also on his map—the first edition (1538) is lost, but the second (1560) is preserved—under the name of 'Der Gletscher.' Indeed, Tschudi himself seems to have crossed the pass before 1538; see my 'Josias Simler,' 95** in the 'Addenda.' I may here state that in my work 'Josias Simler et les Origines de l'Alpinisme jusq'uen 1600' (Grenoble, 1904) I have traced the history, up to 1600, of the three great Zermatt glacier passes—the St. Théodule (pp. lxi-lxix), the Weissthor (pp. xcvi-xcviii), and the Col d'Hérens (pp. xciv-xcvi). On p. 272 a notice should be inserted of Maynard's ascent of the Breithorn in 1813,* on p. 276 of Lord Minto's ascent of the same peak in 1830,† and on p. 291 of recent discoveries as to the exact points of Monte Rosa really attained by the early parties between 1848 and 1854.‡ On p. 302 it should be noted that in 1855 Mr. S. W. King found the old man living on the St. Théodule, and discovered that he was the father of the Englishman's Valtournanche guide, Auguste Meynet.§ On p. 271 Simler (p. 193 of the 1633 edition, or p. 66 of mine) also calls the St. Théodule by the name of Rosa, and is no doubt Scheuchzer's authority. In my 'Josias Simler' (pp. cxxx, 22*) I have explained at length the origin of this name from the old term 'roësa,' a word in the Aostan patois meaning a glacier. As to the name 'marrones' (p. 157 of 'Swiss Travel') for a guide see 'Josias Simler,' pp. 51-6**.

* A. J. vol. xv. pp. 437-40.

† *Ibid.* vol. xvi. pp. 146-59, 224-36, and 322-5.

‡ *Ibid.* vol. xv. pp. 493-6, vol. xvi. pp. 45-7, vol. xvii. p. 365.

§ *The Italian Valleys of the Pennine Alps*, pp. 208, 214.

Corrigenda and Addendum.

P. 292, note, last line but one, dele the words 'French translation,' as the 1802 book is simply a new German edition of the German 1795 book.

P. 295, line 1, after 'of' insert 'Pierre and.'

Here is the actual text (not accessible to me when I wrote part i. of my article) of Von Haller's Preface (p. xviii), in which he thanks the various *gardes-forestiers* who had collected information for him:—

Sed neque illaudatos relinquo sylvarum custodes, qui suo labore magnam partem Alpium occidentalium, altissimarum, et asperri-marum superarunt.

Ita *Petrus Thomas* vicinos montes la Grandvire, Fouly, Jeman, Outre-Rhône, Martinets, la Varaz, Darbon, Sion, Serin, Varesay, Larzes, Sion: sed etiam Valesiam planiorem in alpes usque griseas [Gries Pass]: iterum St. Bernhardi alpes et Col de Ferry [Ferret], vallem D. Nicolai adiit: iterum amplissimo itinere per montem Sylvium [St. Théodule], in vallis Augustae partem Ternanche, inde per montem D. Bernhardi: alio itinere denuo in vallem D. Nicolai ejusque montes Findela, Stafel, Montemor, Trift, Auffées excurrit *Clemens Cheri* montes Ovanna, Surchamp, Richard, la Varaz, les Martinets, la Grandvire, Jeman, Fouly, Darbon, *Hurnerus M.*, Col de Ferry, *Jordan* montes vallis Ormond dessus, Audon, Prapioz, Culand, la Paraz, Dungal [at the N. foot of the Wildhorn], *Morerod* montes Fouly, Alesse, Arbignon, Jeman, Val de Bagnes, Dent de Midi, et vallem Eiriniam [Hérens], *Mottier* montes altissimos et glaciales Chermontana, et glacialia inter Viège et Val de Bagnes, peragrarunt. *C. Jaussi* in Col de Ferry, St. Bernardo, valle Augusta et circa Courmajor; deinde in montem Pierre Platte et vicinis albis ultimis stirpes eruit. Denique *Abraham Thomas* per Val de Trient ad Chamouny iter fecit; alio patrem in vallem Nicolai comitatus est; alio *Clar. Dickium*, jugumque Burmiense [Umbrail Pass], et montes Septimum et Berninam conscendit; alio per vallem Matten et Saas, in montes Angrogne [mistake for Antrona], vallem Antigoriam, montes Griseos [Gries Pass], Grimsulam, ad Arolae fontes. Alio in vallem Eirin, montem Ferpelo [Ferpècle], l'Arola, Pragard [Praz Gras], Rouxel [Roussette], la Cretaz [W. of Haudères], &c.; inde in vallem Ternanche emersit, et per alpes interpositas in Val de Bagnes. Denuo per Sylvium montem, in vallem Ternanche, et montem St. Bernard rediit; et iterato demum idem iter relegit.

As these lines were published in 1768 it is clear that Pierre Thomas had visited Zermatt and Saas, and crossed the St. Théodule, before that date. His son, Abraham, too, seems to have been twice to Zermatt and Saas before 1768, and also to have crossed (probably with his father) once, if not twice, the St. Théodule. Thus his visit of 1795, which I

have recorded, was not the first to those parts, as I had already gathered (p. 296) from a hint of his, while he had already crossed the St. Théodule at some date between 1758 (Haller's arrival at Bex) and 1767 (the preface is dated March 7, 1768, so that 1767 is the latest date possible).

DOLOMITES UP TO DATE.

By EDWARD A. BROOME, F.R.G.S.

WILL the above title be considered a terminological inexactitude, or a piece of presumption on my part? I trust neither, and certainly the Alpine Club has not latterly been kept quite up to date in the Dolomite district. Very few English climbers seem to go there now, while no paper and scarcely a note has appeared in the 'Alpine Journal' for six or seven years—not, in fact, since Norman Neruda's sad death and the sudden pause in Phillimore's brilliant records. This is the more to be regretted as some new and noteworthy big climbs have since then been made, all, with the exception of that up the Südwand of the Tofana di Razes, of which more anon, remaining unhonoured and unsung. This comparative neglect of our climbers is incomprehensible; big snow mountains and glaciers, rock peaks and passes, come first of course; albeit Dolomite peaks are dainty dishes for gourmets, who like quality better than quantity, and must always remain a Paradise to those of us who love difficult climbing for climbing's sake. Circumstances and the attractions of other ranges had kept me away for five years, but I was delighted to return this year (1906), and had in my mind's eye some first-class expeditions omitted on former visits, several good routes invented since, and one or two possible sporting new 'wrong sides.' In fact, I wanted to bring my Dolomites up to Date.

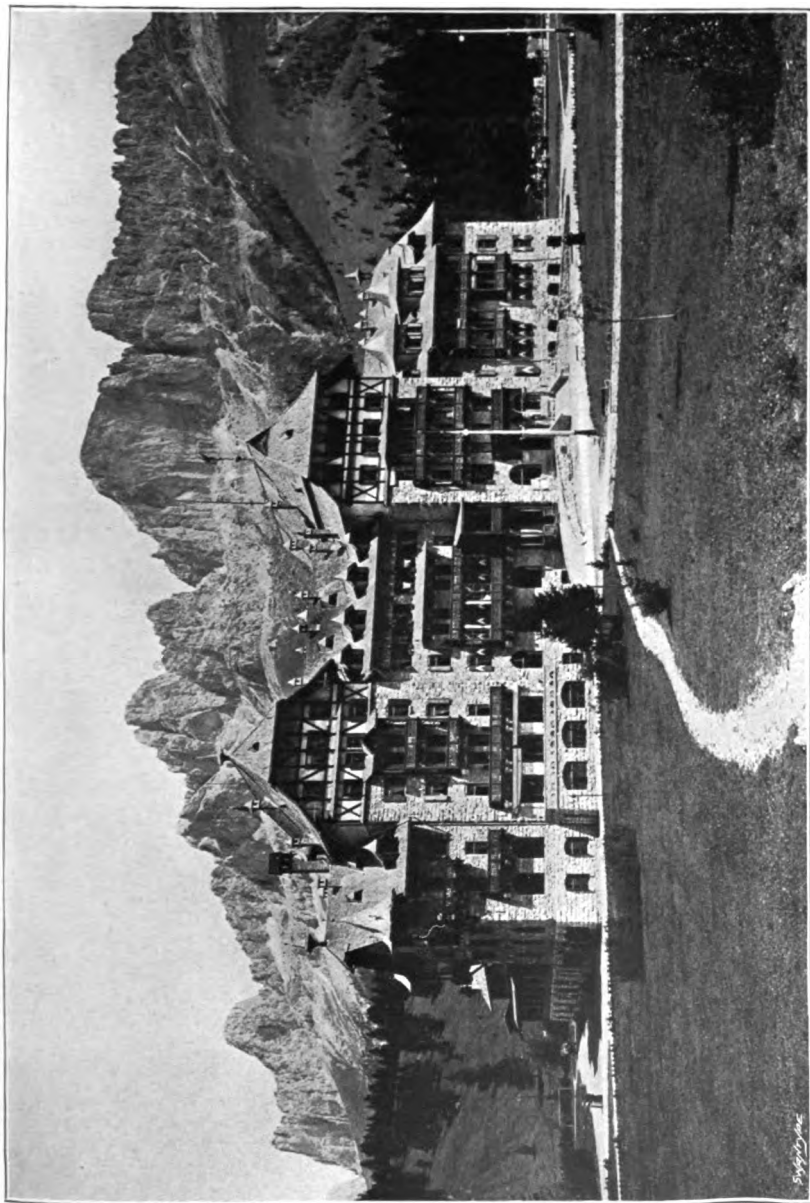
The first objective point was Karersee, whence the Rosengarten, Latemar, Langkofel, Sella, and Marmolata groups could all be more or less conveniently commanded. Cortina was to be revisited later for two or three special climbs, but San Martino di Castrozza omitted; indeed, its fine peaks had previously undergone their full share of ill-usage, stones knocked down, and partial demolition at our hands (and feet); besides which I could not hear of any specially interesting variations having been lately invented. The journey out included the usual *contretemps*—a connection missed at Bale; luggage missing at Innsbruck; a wash-out and several hours'

Rosengarten Spitze.

Fischer's Spitze.

Rothwand.

Leutelswand.



Swan Electric Engineering Co.,

ROSENGARTEN AND ROTHWAND RANGES

(KAPERSEE HOTEL IN FOREGROUND).

delay on the Arlberg, and another on the Brenner railway, that we wished we had missed. Notwithstanding these we contrived, either by good luck or good management, to reach Botzen and drive on up to Karersee on the evening originally intended, though several hours late.

I hold no brief for the Karersee, but I must say I never put up in a better managed or more comfortable hotel: truly one finds there the luxuries of a city in a most lovely mountain country. One lives on a high, sheltered plateau (5,270 ft.) surrounded on all sides by beautiful pine forests, shady nooks, and pleasant sward; there are lakes near by, and the whole dominated by towering Dolomite walls and spires, the sunsets on which are not easily forgotten. All kinds of games and sports are provided for non-climbers—lawn tennis, croquet, and ping-pong tournaments, besides boating and swimming on the See. The company very international: not many English, but several Eastern and all European nationalities represented; indeed, such a rendezvous of Greeks was it that one almost expected a 'tug of war' to be included in the competitions! Everybody dances; everybody plays games; everybody eats, drinks, and is merry—but nobody climbs. This is doubtless the reason why the local guides are few and poor, some three or four all told. Fortunately I had engaged Agostino Verzi, of Cortina, with whom I climbed my whole time, and who is as enterprising and brilliant as he is safe and steady.

The weather being glorious, we judged it wiser to get to work at once, and the first item on our programme being the Vajolet Thürme, we (my friend H. K. Corning, Verzi, and myself) trudged off next afternoon to the new 'Hütte,' a 3½ hours' walk over the Tschagerjoch Pass. This Vajolet 'Hütte' had been built since our last visit, and apparently does a huge business; the majority of its clients being, however, not climbers, but circular-tourists who tramp on from hut to hut, and being members of the D.Oe.A.V. live more cheaply than at the inns below or than non-members can live here. When we arrived, at 6.30, we found the place packed, and every bed and bench bespoken ('Alles bestellt'). However Verzi came to the rescue, and after some delay Corning and I were allotted a little room with two beds, which we learnt next day belonged to the 'personnel of the establishment.'

Delago, Stabeler, and Winkler Thürme.—In the morning (August 7) we were off betimes to traverse these fine rock obelisks. I had been disappointed of the first and last named on two former occasions, owing to bad weather, and now hoped

to be revenged by killing all three birds with one stone. They have never been described in the 'Alpine Journal,' the only allusion I can find occurring in a review; * but as climbs they are well known and need not detain you long.

The best and safest way to traverse the trio is from N. to S.; the Delago first boasts some very steep, smooth, and exposed chimneys both ascending and descending, the last part of the descent (down the face) into the gap being easier, though quite perpendicular. The 'Scharte' between the Delago (No. 1) and the Stabeler (No. 2) is very deep-cut and narrow, but amusing, inasmuch as the leader takes over 120 ft. of rope, uses it all, and when he has descended into and jumped across the gap, and climbed up the opposite wall to the level of the man still on No. 1, there isn't 20 ft. between them. The Stabeler is less sensational than the other two, but always good, and on it we were pleased to meet two 'rare ayes in Dolomitibus' in the persons of two of our best and steadiest English guideless climbers. Lastly comes the Winkler (No. 3), over which we made a direct traverse, also steep and exposed, and, as Baedeker says, 'requiring a perfectly steady head.' A guide was killed on this descent three days before ours, and a solitary climber two days after, though it was thought the latter was struck by lightning. The whole expedition (the klettershoe part of it) took us 7 hours; Verzi had talked of 4½ hours, but only a quick party of two could, I think, achieve this. On the Gartl and at the hut we met the rest of our Karersee family party, and all returned together, the walk back (mostly down) taking 3 hours and altogether making a sufficiently long first day.

Tscheiner-Spitze (Rosengarten Range) by its W. Face.—This was our next ascent, the first by this face, or indeed from the W. side, the route hitherto taken being on the E. or Vajolet Thal side, and was Verzi's conception as well as execution. We took a porter to the foot of the wall (2½ hours from the hotel), and left him there with instructions to hover about near the Vajolon Pass, see if we got up, and deliver the nail-boots and sacks on the 'take-off' or 'landing' side accordingly. The idea was to work as far as possible up the big, conspicuous chimney that cuts the peak on its W. or Botzen face into two fairly equal halves, and up this we started at 8.30. I should say we were in this main 'Kamin' for about 300 feet, and divided it into about five or six pitches. The first was difficult, as the first usually is; the second moderate with a jammed

* *Alpine Journal*, vol. xix. p. 555.

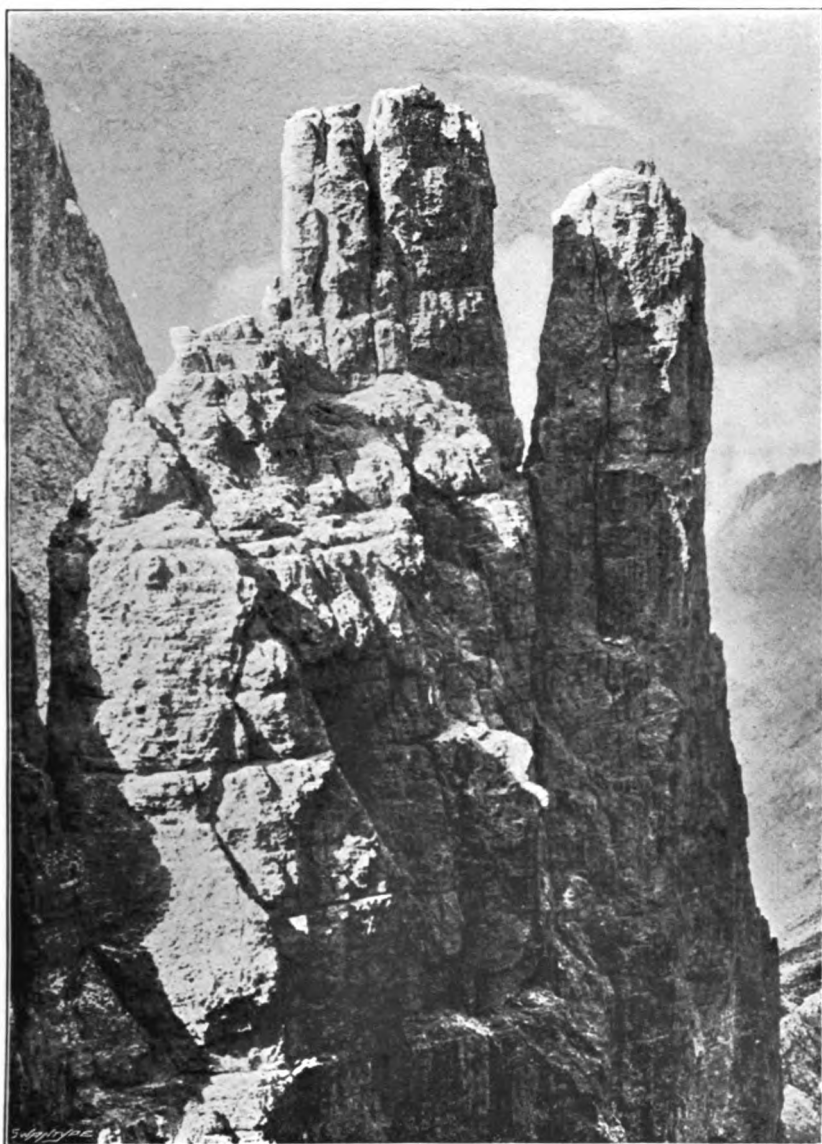


Photo by C. F. Shea

Swan Electric Engraving Co.,

STABELER & DELAGA THÜRME.

stone at the top end, but a small hole to squeeze through, leading to the third, which was very smooth and difficult. These three took 40 minutes. Then scrambling over another jammed stone we got into an easier part for another 15 minutes. At this point it seemed necessary to get out of the main chimney, so Verzi made a horrid smooth and difficult traverse off up to the right (or S.), the temptation of which I withstood, preferring to climb down 25 ft. or so and then work straight up to his point by the face. The advantages of a horizontal rope are sentimental and possess no charms for me.

The subsidiary crack into which we had now got (at 10.15) practically formed the rest of the climb and took us perhaps 200 ft. further to a regular gap or fenêtre between the highest and a lower western summit. It was fairly easy for about a quarter of an hour, but then seemed to come to an end, there being only two bare vertical walls above us. The right-hand one was attempted first, but proved impracticable, so I, sitting

In Stygian cave forlorn,

watched Verzi while he tried the other. On the top of the left-hand wall was a conglomerate mass of big stones, which blocked further progress, but which he managed to remove piecemeal, and then got on to a tiny ledge of rock above which the obstacle had been wedged. I followed without so much effort, as he was securely placed and the chief difficulty removed. After this the couloir was followed for perhaps 150 ft. more to the aforesaid fenêtre (reached at 11.30).

It was, of course, at once decided to call our way the Verzi Kamin, and christening arrangements were simplified by the weather, which had looked threatening for some time, and now, after a wind storm which sent the stones flying in all directions, fairly broke and promptly became a deluge. We were not quite sure of our exact position, for it was impossible to see many yards, while this fenêtre had not been visible from below; so I was lucky to descry a small cave just over our heads, big enough to shelter us both, though doubled up and with all four feet sticking out. Here we remained for $1\frac{1}{2}$ hr., finished what little food and drink were left, and were treated to a tremendous display of fireworks, doubtless the same in which the young Austrian lost his life on the Winkler Thurm. At 1.15 it cleared; we saw where we were and our further route, and, though the rocks were wet, 15 or 20 min. landed us on the top.

We came down to the Vajolet Thal by a variation from the usual way. Verzi had not been up the peak before. I led

down, as usual missing the easy way, which, however, was hit off again a little lower, ultimately finding our porter and boots on the grass close to the Vajolon Pass, which was then crossed back to Karersee. The climb is a sporting one, not unreasonably difficult, and can be recommended for repetition.

Rosengarten-Spitze by its S.E. Face.—This, an expedition on which Corning and I had both set our affections for some time, was carried out two days later (August 11). It was in the beginning,* is now, and ever must be a really difficult climb; but we made it still more difficult by taking with us a second guide, who was a shoemaker, and equally incompetent in both capacities, *first* and *last*. The peculiarities of this S.E. wall are its exceeding steepness—as the first party said, you can climb it for several hours and then throw a stone down to the scree at the bottom without touching the face—also the sad fact that the hardest work for the muscles comes towards the end, when they begin to tire.

We slept at the Köllner Hütte, crossed the Tschagerjoch to our climb, roped at 6.50, climbed steadily up the face, and were glad to rest and breakfast on a tiny platform about half-way up at 8.40. A couple more chimneys and crack traverses, then another climb of 120 ft. straight up the wall brought us to the chimney. This is 400 ft. in height, perpendicular, deep-cut, smooth, and very narrow, not much over 2 ft. wide in places. Verzi had been on the first ascent, and of course led up now; the other man chiefly occupied himself with entangling up our ropes into a hopeless muddle, and once or twice I had to wait in uncomfortable positions, with little or no hold, till my relative below, also insecurely placed, undid the knots and released me. Any choice language not used during the passage of this memorable 'Kamin' (which took just 2½ hrs.) must have been something not remembered; but I really think 'we said 'em all'!

Once at the top of the chimney there was a monotonous grind of 40 min. to the summit, the whole ascent thus occupying 5 hrs. 50 min. actual going. We of course came down by the *route ordinaire* via the Gartl to the Vajolet, and then past our starting point, and over the easy pass again to Karersee. Ascending there had been, not for the first time, arguments as to the relative merits of backing or climbing up certain difficult bits. Descending the discussion seemed to run more on the relative merits of our nether garments.

* *Alpine Journal*, vol. xviii. p. 194.

Mine were not much the worse, which gave the advocate for arms and legs *versus* back and legs somewhat the best of the argument.

Latemar, E. Summit.—Our expeditions had so far been confined to the one range, but the Latemar group, which overlooked us on the other side, had a very impressive appearance, and I felt I must go up one of its peaks, the E. one for choice. Verzi was not very keen about it, as he thought, after what we had been doing, it would prove tame. I, however, rather welcomed an easy day, so after some study of the N. face (you see the whole of this from the hotel front) we started for it on August 14, having previously arranged a picnic at or near the top with the other members of our party. Leaving the ordinary way up, which is really little more than a steep path, and after the Col Cannon passes round to the S. slopes, we crossed a little snowfield and then struck straight up to the E. summit. The rope was only on for 1–1½ hr. for three good chimneys and an interesting face traverse or two. The upper part was easy and not exciting, though steep, but, as I expected, it made a pleasant change and took 3½ hrs.' actual climbing.

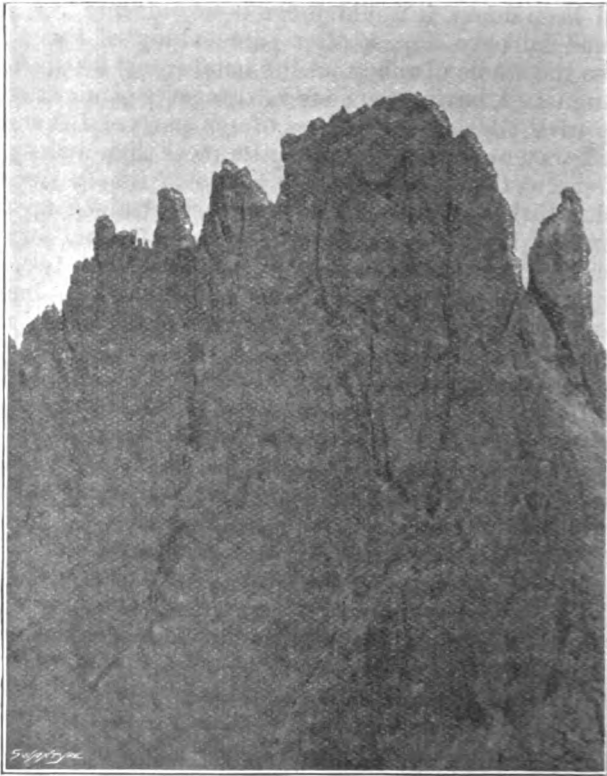
We now thought we would vary the scene and put in a day or two on the Langkofel group; my friend R. A. Robertson joined me and next day we drove down the new road over the beautiful Karer (or Caressa) Pass to Campitello. Had we known that the one bit of bad weather of the season was coming we might have hesitated to leave our comfortable quarters.

We found Campitello greatly improved; at Bernadi's inn the offensive odour that always greeted you was agreeably missed, the food was good, attendant maidens obliging, and there were 'Bäder im Haus' in place of the first rude tub that Pryor and I had fashioned some years ago out of an old wine cask; and which, though useful to us, created awe and astonishment in the native mind. After lunch we renewed acquaintance with the steep, stony path to the Sella Pass, rain coming on just as we arrived there and lasting all night.

Next day being wet and cold climbing was impossible; so all we could do was to vary the monotony by donning mackintoshes and comparing the *consommations* at Valentine's (our quarters) and the D.Oe.A.V. inn just over the col. Late in the afternoon, however, between storms, we walked up the Rodella, the top of which is now defended by barbed-wire entanglements, so as to force besiegers through the 'Gasthaus.' This we resented and turned the obstructions

by a flank movement and scramble up the face to the view-point, though the view was confined to clouds.

Fünffinger-Spitze by the Schmidt-Kamin.—Next morning (August 17) was doubtful, but both parties started out, Verzi and I for the above, all getting back in the early afternoon, without a dry thread among us. The celebrated 'Kamin' (which I had been prevented doing on my last visit) took us 2¼ hrs.,



THE FÜNFINGER-SPITZE.

and is, as everyone knows, a splendid climb, though it recalled sad memories of an old friend. I did not find the sensational bit quite as hard as anticipated, but above it we were handicapped by snow and hail all the way to the top and by heavy rain all down the steep faces of the first Finger, and below it to the bottom.

Fünffinger-Spitze by the Daumen-Scharte.—The following

day (18th) was fine again, and though Verzi and I had some nebulous ideas about *scaling* the Zahnkofel, when Luigi Rizzi, whom Robertson had engaged, failed to put in an appearance, we were only too glad to tackle the Daumen-Scharte once more with him. A cold wet night had made yet another contrast from yesterday, and the rocks required extra care, there being a glaze of ice on all the faces and cold wet snow in all the holds. However we got up and down again in fairly good time, lunched, and strolled down the pleasant meadow paths to Canazei, and drove off back in the afternoon to Karersee, arriving just as the rain began to come down again in earnest, unfortunately spoiling the illuminations and fireworks loyally arranged for the grand old Kaiser's birthday.

It is always said to be a good sign when the snow comes down low after bad weather. Well, we had this consolation, such as it was: the snow lay white in the valleys, but the hills, though highly ornamental, were of no use for climbing the next day or two. This was vexing, inasmuch as I had wired for Antonio Dimai to join Verzi for one very special expedition (the Marmolata), and it was sad to see such a well-matched pair, so to speak, eating their heads off! However, in the end it turned out all right, for we decided to defer the big peak, and try first something new, nearer at hand and less lofty, meanwhile giving the Queen of the Dolomites time to discard her white robes.

The Teufelswand-Spitze by the W. Face was the stopgap; and a sanguine party, Corning and I, with the two best guides in Tyrol, started up it on August 21. We knew our way would be difficult, as it had baffled previous attempts; but the men were keen, and, if they couldn't climb it, we were prepared to swear it was unclimbable!

The Teufelswand is just to the right or S. of the Rothwand, and a steep walk of 2 hrs. from the hotel, straight up the meadows and a rocky stream-bed, brought us to the foot of the W. wall, whence a broad 'Gerölle'-strewn band ran up to the left diagonally across the face at an angle of perhaps 40°. This band or ledge was followed for some distance to a point almost directly under the double-headed summit. Here the boots were left, and a series of broken irregular chimneys and faces going almost straight up were tackled. They proved easy enough at first, and soon a large jammed stone which from below had looked like giving trouble was passed with ease. As we got higher the work got harder, and the 'Kamin' deeper and narrower, till just half-way between

the band and the top, the real crux of the climb was encountered.

This was a black, damp, narrow, and very smooth slippery chimney-flue, not over 50 or 60 ft. high, but of almost desperate difficulty, and with no alternative. How Toni Dimai got up first puzzled us then, as it puzzles me now, and though long familiar with his strength, skill, and determination, it for once frightened me to watch him. From the bottom the black hole was difficult and smooth; but higher up, where there is practically no sort of hold, the rock juts out and completely overhangs, so he had to swing out and then get an arm over the slippery overhanging bit. It was a brilliant performance, and we all below breathed more freely when he was over and out of sight, though to breathe freely was more than he could do just at first, for it was some minutes before we could get a word out of him in reply to our shouts. Even when our turns came (plus the rope) we pronounced it the hardest thing we had ever done, and Dimai afterwards said it was *molto pericoloso* and no one should ever persuade him to do it again. This bit took the four of us just an hour, and we wanted some extra breathing time besides.

The rest of the climb was practically a continuation of the same chimney, varied by a traverse or two where it became impracticable; it was good average hard work, and ultimately landed us on the left-hand summit, whence there was an easy stroll over to the real one. The whole climb, from kletter-shoes to top, took $2\frac{1}{2}$ hrs., and furnished excitement enough for $2\frac{1}{2}$ days. Dimai led, as I said, up the sensational bit, which we called the Dimai-Kamin, and Verzi everywhere else.

From the summit down the old way to the newly opened (1906) Ostertag Hütte, where our boots awaited us, was neither long nor steep, and no rope was needed. Thence it was a delightful walk round the S. spur of the range to the Karer Pass. The Teufelswand Spitze is not much of a 'Spitze' in height (about 9,000 ft.), but it is rightly named and is a 'Teufel' of a 'Spitze' to climb.

This had been Wednesday, and the weather being again settled, and Dimai obliged to be back in Cortina on Saturday, there was no time to lose. Accordingly next morning we drove over to Campitello and lunched, afterwards taking our 'Einspanner' as far as Penia, whence the three of us walked up through woods and pastures to the 'Contrinhaus' of the D.Oe.A.V. This was comfortable, convenient, and not crowded, and for once I met two compatriots.

Marmolata Südwand.—I shall not apologise for describing this at some length, for not one single word has ever appeared about it in the 'Alpine Journal,' though the mountain is the highest, the S. precipices the most stupendous, and the climb undoubtedly the best in the Dolomites. Some years ago I had discussed it with local guides, but apparently it was not then ripe, and it was only in 1901 that Bettega and Zagonel, of San Martino, with an English lady, made the first ascent. Details have never transpired, nor is it even known if and how the summit was gained; but later, in 1902, the Südwand from bottom to top was climbed in 28 hrs., and again in 1904 three times on three consecutive days by Austrian parties, taking $7\frac{1}{2}$ hrs. and upwards.

Our ascent (August 24) was therefore the sixth, but it was at least new and interesting to us, being the biggest item on my 1906 programme, and the guides were just as eager to do it as I was.

Well, we left our quarters at 4 A.M. and had a steep walk of about $1\frac{1}{2}$ hr. to the grand and wild Ombretta Pass. On the col we discussed the route, and Verzi went off to prospect, wasting perhaps $\frac{3}{4}$ hr.; for there really was no choice as to the starting point, which was 10 min. below the pass, but with some very deep loose scree and stones to plough through first. We changed our boots on a little platform about 150 yds. to the right (and below) the foot of the enormous couloir which runs down from the summit ridge and bisects the S. face; and our porter took them thence round to the 'Gipfel,' up the way we hoped to descend.

The mountain on this side is of course all steep rock; no snow can be seen in good weather; and the huge precipices are divided naturally by two long horizontal terraces into three divisions. The height from bottom to top is about 2,100 ft., and I estimated the lower portion at 600 ft., and the two higher ones at 750 ft. each. We started on the first at 6.40, along a ledge to the lower end of a narrow chimney, which looked difficult and did not belie its appearance. This bends somewhat to the left, and the first bit (to an overhang) was very hard: here and higher the rucksack and axes having almost always to travel each pitch alone. About $1\frac{1}{4}$ hr. from the foot we traversed a little to the left to another 'Kamin,' which was also difficult, and this, with some wall faces near the top, ultimately landed us on terrace No. 1 (much nearer the big couloir than at the foot) at 9.5, after 2 hrs. 25 min. of real, arduous, continuous work.

This first terrace is long and broad, and we made use of it

to rest and refresh a little; had we known we had now done perhaps the hardest third of the climb we should have enjoyed ourselves still more. We next proceeded to follow the terrace to the left, almost too close to the big couloir, looking at the possibility of falling stones ricocheting, and then we started up the wall again at 9.30.

The second portion was like unto the first, though rather less so; and the proof of its being easier was that it took only 2 hrs. as against 2 hrs. 25 min. We started up the face, and indeed for nearly an hour the chimneys were rudimentary and the climbing was on the open face. After this said hour we were still very near the big couloir, but now made a considerable traverse away from it along a narrow ledge (to the right), followed by a descent of 40 or 50 ft., requiring care. This landed us at the foot of another well-marked crack, which was very hard in places, and trended still further to the right, and almost up to the second terrace, though here again the last few yards were surmounted by the wall. Terrace No. 2 was reached at 11.30.

We were now some distance from the main couloir, but still following the broad band to the right we put yet another 80 or 100 yds. between it and us, passing several little snow patches and a delightful stream of water, which invited a further short halt. Just E. of this we started up once more (11.50) for the last part of the climb, which certainly was again easier, and indeed after the other seemed quite reasonable. We zigzagged up chimney flues, traverses, and faces with an increasing amount of 'Gerölle' as the angle lessened, but in the main followed a bent couloir which comes down more or less directly from the summit, and down which a special breed of avalanche, chiefly composed of sardine tins and jam boxes, descends. (I myself, out of compliment to the mountain, contributed a marmalade tin.) We finally left the couloir about 100 ft. below a little col on the arête between the E. peak (Punta di Rocca) and the summit, scrambled up an easy face, and followed the snow ridge to the highest point (Punta di Penia), reached at 1.10, having taken 1 hr. 20 min. for the last portion and from the foot 5 hrs. 45 min. actual going.

We had been warned of dangerous stone-falls, but away from the main couloir, which should be given a wide berth, we saw none but those we ourselves sent down. I might also mention that from time to time we saw small *pitons*, which were of course useless for ascending, so could only be supposed

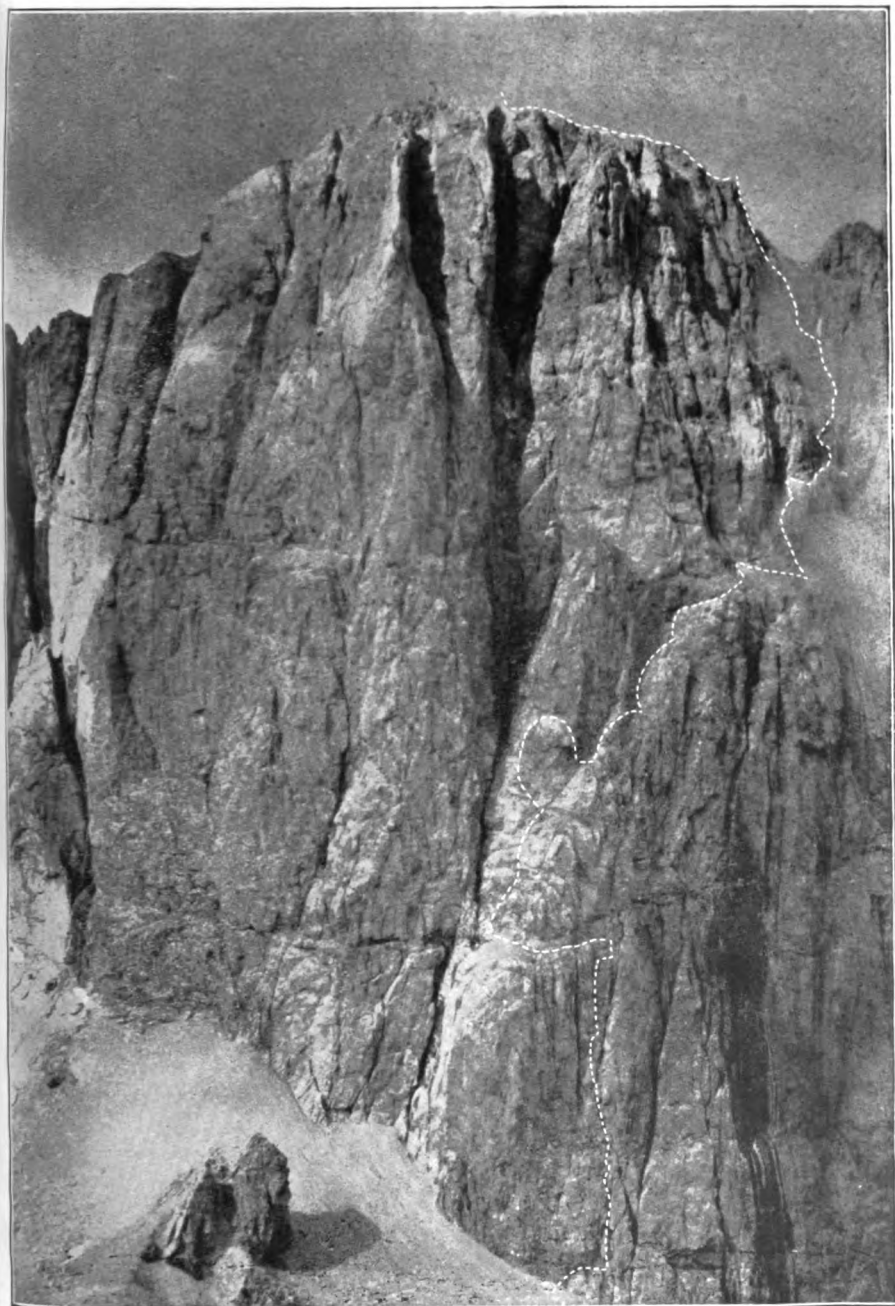


Photo by A. G. Radio-Radus

Swan Electric Engraving Co.,

MARMOLATA SÜDWAND
(1906 route marked)

to have been fixed by a former party with a view to possible descent.

The boots stood on the snowy peak, whence all but they had fled (including our porter); and, as it was now thundering on the Langkofel, we quickly changed, and, like *another* pious climber of old, 'made haste and came down.' There was no view to-day, unlike my last time, when every mountain on the horizon was visible, and the Venice lagoons (75 miles off) glimmered in the distance.

Of the route down I prefer to say little; the whole thing was a day-nightmare. The smooth, glacier-worn rocks of former days (Tuckett's 1872 route) are still there, but are now festooned with metal right away down to the 'Scharte;' not simply stanchions, but regular staircases of huge iron staples, forming perhaps 1,000 steps, besides half a mile of wire-rope balustrade. I wanted to return by another way and cross the glacier to Fedaja, to avoid such an unsporting anticlimax, but unfortunately our sacks were at the 'Contrinhaus,' so thither we had to return (3 o'clock), taking 1½ hr. over the descent and 11 hrs. from the start. Later we walked down to Campitello and took the post to Karersee next morning.

Diamantidi-Thurm.—It was now nearly time for our party to disperse, but Corning and I wanted one more climb together, and we chose this chiefly, I fancy, from the appearance of its 'beetling crags,' which beetle, so to speak, more than other Dolomite crags. We none of us knew much about it, and found it neither safe nor pleasant; in fact, except as a warning I should prefer to say nothing, but it is surely better to call attention to expeditions which, whatever precautions are taken, involve certain risk.

Our routes, both in ascending and descending, were on the N. side, the tourist way being entirely on the S. or Val Sorda side. The ascent (August 27) was by a very steep couloir and extra loose rocks, mounting to a gap just below the summit. It might be fairly safe early in the season, when one could travel rapidly up hard snow; but now all was ice, stones came whizzing down, and we were forced on to the shelly rocks, even on them only just escaping one or two cannonades. The descent was by a long slanting traverse facing the S., but soon over a little col and down a different ice couloir considerably to the W. of the ascent and somewhat wider and safer. Both were connected with the valley by a very steep expanse of horrible, loose moraine and scree a mile long, which possessed a lively sense of gravitation, and indeed the whole mountain mass seemed in motion.

We had a glorious view, and opportunities for studying the extraordinary internal Dolomite formations of pinnacles and spires; neither of us had seen anything like it before, except perhaps in the recesses of the Cadore side of Antelao; these were, however, hardly compensations for the risks, and we were not sorry to get back with whole skins.

I should scarcely be acting up to my rôle as self-dubbed Dolomiter up to Date if I said nothing about the new Austrian Government road now open from Karersee to Cortina, the length last finished being from Campitello to Falzarego. Ascending gradually in zigzags from Canazei to the Pordoi Joch, near the Marmolata glaciers, it goes down again to Arabba and Buchenstein (near Caprile), then up once more by Andraz, over the Falzarego Pass and close under the Tofana precipices, affording fine views all the way and greatly increased facilities for getting about the country. The road itself is well designed, has easy gradients, and is magnificently made and macadamised: it is hard to believe that it is practically the same route over which an impressionist friend (since dead) drove not so long ago, and wrote of it that as his strong little cart survived unbroken he knew nothing on earth could break it!

It is still impossible to do the whole drive from Karersee to Cortina in one day, so I had sent for a comfortable little carriage and pair of active, well-bred horses I knew of, and starting early with my daughter, we lunched at Campitello, had tea at Pordoi (picnic to the view point not to be omitted), and even then arrived at Pieve (Buchenstein) in time to see a glorious sunset on the Civetta, while next day we got to the Faloria by midday. In travelling in the reverse direction it is better to drive on to Pordoi the first day, as that hotel is better than the inns at Pieve or Arabba.

Tofana di Razes.—Being now at Cortina, with just five days left for three climbs, Verzi, who had preceded us, ran me right up next morning (August 31) at 4 A.M. to this favourite south wall (of which he made the first ascent in 1901). I should have preferred one day later, so as to sleep out, but time pressed; and surely there is no peace unto the wicked! This expedition was well described in the 'Alpine Journal,'* except that it was probably the fourth, not the second ascent; but the correct chronological order of such climbs is not of vital consequence; anyhow the route cannot be much altered or improved, so I shall not detain you long.

* Vol. xxi. p. 428, and vol. xxii. p. 238.

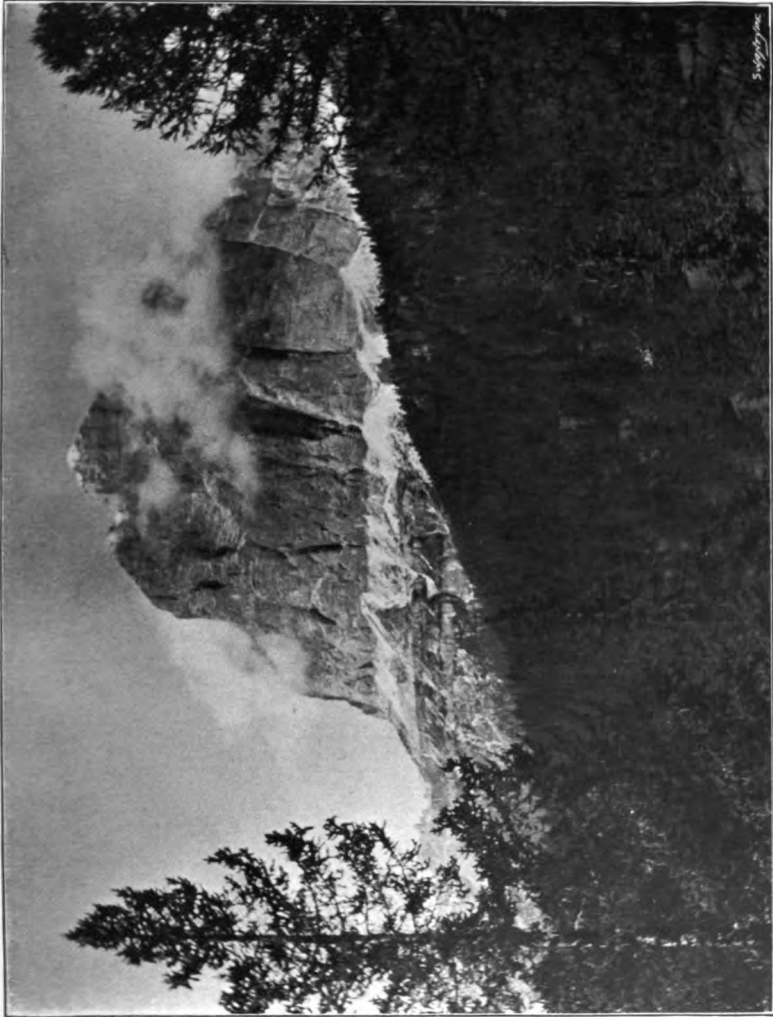


Photo by J. W. Wyatt

Staan Electric Engraving Co.

TOFANA DI RAZES

I found it a grind from the Faloria to the foot (9½ hrs.), and the whole mountain on this side is one sheer wall: it took us 5½ hrs. (8.15–1.45) from foot to summit, including half an hour's meal. The first 1½ hr. on the right (or E.) of the main couloir is nowhere difficult; then the huge hollow basin, where snow always lies, is crossed, and above this again, but on the W. of the couloir, there is a further ½ hr. of easy rocks; after which two or three chimneys and faces that take some doing must be surmounted to one end of the very long, unique wall-traverse, *the* feature of the climb. The holds on this are good and firm, if small and wide apart, and therefore it cannot be called specially difficult; but 'exponiert' and sensational it certainly is, with a sheer drop over the smooth perpendicular cliffs below. After the traverse some more good steep rocks are negotiated up to the easy summit slopes, over which loose shale is struggled through to the top.

I neither call the actual climbing so high-class nor the interest so well sustained as on, say, the Marmolata, the Cadore face of Antelao, the Rosengarten, or several other peaks in the San Martino and Langkofel groups. Perhaps, however, I may be prejudiced, for I never could get up much enthusiasm over the Tofana climbs, old or new. I tried them as they were invented, but never thought even the exciting Via Inglese or Via Heywood on Tofana di Mezzo worth their uninteresting grinds and inevitable amount of scree. Descending now we had a tremendous dose of both, but pounded down as quickly as possible, taking 50 min. to the hut and 1 hr. 15 min. thence to Pocol.

Punta Cesdalis.—Our penultimate effort (September 2) was the S. face of this little peak, the most easterly of the trio of minor summits surmounting the well known Pomogognon wall. It is the latest of the short climbs invented by the Cortina guides, their idea being to combine a minimum expenditure of time with a maximum of talent and tariff! I found it harder than the central peak, and about equal to the W. summit (Punta Fiammes) and the Col Rosa; all four are short and sensational.

Verzi and I left Faloria at 6 A.M., and going quietly arrived at the foot at 8.45. Starting again in klettershoes at 9.15, we reached the top at 11 o'clock, the climb thus taking 1¾ hr. The first 55 min. was nothing out of the common; easy rocks and traverses, on which there was a good deal of vegetation. One episode, however, must be related. We had to climb a small pine tree in order to get on to a rock face. Most of us have at some time or other been 'up a tree' on a mountain,

but to deliberately clamber up the tree, so as to get on the mountain, is unusual! The last 50 min. was certainly as difficult, steep, and exposed as the N. face of the Kleine Zinne, though of course shorter.

The descent was the worst part. After a short steep drop on the N. side down into the Val Grande an interminable rough traverse had to be made amongst dwarf trees and rhododendron scrub, finishing with a slight ascent to a col on the ridge between Pomogognon and the Zumeles. This was followed by another steep descent over scree and slippery grass direct to the Tre Croci road. It took 2½ hrs. from the top to Faloria.

Monte Cristallo. Süid-Grat.—Much talk in atrocious German and incomprehensible Italian finally resulted in my choosing Mr. Phillimore's 1899 route, as above, for our last day, September 4. Dimai and Verzi had accompanied Phillimore, and their climb had seldom, if ever, been repeated. I judged from the note* that it was long, interesting, and not very difficult, and so it proved. We changed our boots, and started on the easy rocks at the extreme S. end of this long arête at 8.30, and took 1½ hr. to that first deep gap in the ridge from both sides of which steep ice couloirs descend. After cutting steps across the col a smooth vertical wall had to be surmounted, followed by narrow ledges, and more faces and steep chimneys, the best of these coming last. Soon after this our route joined the ordinary one at the so called 'Böse Platte,' and the summit was reached at 12.45.

The way down, formerly described by me as a bicycle track, has since developed with constant traffic into something more like a country lane; but for all that at one place the cautious Verzi called a halt to connect his careless companion to the cord. We took 1¾ hr. from the top to Tre Croci, and were about 11 hrs. out from the Hôtel Faloria.

Two Final Remarks.—A paper on Dolomite-climbing would hardly be complete without some mention of the San Martino peaks. This district is second to none, and a month could always be profitably spent there. The finest are, or were, the Cimone della Pala, Pala di San Martino, Cima di Canali (all traversed), Campanile di Val di Roda (by face), Sass Maor and Cima della Madonna (also traversed). The inns are much as when I wrote 10 years ago. Panser's 'Dolomiten' is too crowded, 'Toffol's' none too clean, but I hear a new one ('Alpenrose') well spoken of.

* *Alpine Journal*, vol. xix. p. 601.

The painful subject of accidents has again cropped up, and this year it appears to have been in Tyrol and the Dolomites especially that most lives have been so sadly sacrificed. The Marmolata, Winkler Thurm, Santner Spitze, Croda Rossa, Kleine Zinne, and one each of the Sella and Adamello peaks claimed victims, besides others of which I have not been able to get particulars. On the Winkler Thurm two lives were lost, as already named, and there have also been unverified 'Daily Mail' reports of tourists murdered at a 'Gasthaus' near Botzen. Fortunately no British climber met with any disaster. Various explanations might be given, such as longer training, more experience, good ropes, greater care, and less rashness; also perhaps judicious choice of suitable guides for difficult peaks, or equally judicious choice of suitable peaks for guideless expeditions; above all absence of solitary climbing. I think, however, to these reasons one more should be added, namely, the relative scarcity of our compatriots in these parts. If they do not go they cannot come to grief, for here as elsewhere—

On Dolomite faces, in perilous places,
 More safety we all of us find—
 True sportsmen and shoddy—in absence of body
 Than even in presence of mind.

ON SNOW AVALANCHES.

By Dr. H. HOEK.

THE most terrible foe the winter tourist, and especially the ski-runner, has to shun in the Alps or other steep mountains is the avalanche. But when you know your enemy he loses half his terror. I have seen something of this White Hydra of the Mountains, an account of which may interest the reader.

Avalanches are the rule, not the exception, throughout the Alps in winter. They are, indeed, the rule on *all* steep slopes, whether these are above or below the snow-line. The elevation and the neighbourhood of glaciers do not influence these phenomena. The widespread belief that avalanches are influenced by elevation or glaciers could only arise in the mind of such as visit the Alps in summer exclusively, and because few have seen the very highest Alps in winter, for but rarely do avalanches reach down to the bottoms of the principal valleys.

A big, typical avalanche is not such a simple affair as one

might suppose; it is, in fact, a complicated phenomenon. Nearly every avalanche has its starting-point (starting-line, as the case may be), its gathering funnel, its track and place of arrest, where it is heaped up for the most part in the form of a cone.

Such, at least, is the regular course not only of those avalanches in the highest regions, that bring down the white powdery snow from the edges and the ridges to the cirques and glaciers, as well as of those that tear their course through the sides of the woods, bringing death and destruction to everything in their way. They are of such common occurrence that there are known stretches in the higher Alps where the starting districts of several avalanches almost or literally touch each other.

The motion of the avalanche is a flowing one. Avalanches take place more or less periodically, but for all that they are real snow streams. The solid masses and conglobated snow lumps naturally hinder each other in this movement. The lower ones get into rotation; the upper are hurled upwards, and often, if only the snow be dry enough, travel forwards in the air.

The course, direction and speed of the flowing avalanche are determined by the shape of its bed; in certain conditions it rushes over the cliffs like a waterfall. The larger the moving mass grows and the smaller its single components are, the more does the analogy of a river force itself upon us. Many avalanches never develop this character; they abort before attaining full dimensions.

For instance, when on the slopes of a steep valley the equilibrium of the snow is disturbed, and the whole of it slides down and covers up the road for hundreds of yards; then, destructive as that is, it is not the full-fledged avalanche, it is only one arrested in formation. The difference between an avalanche and a snow-slip ('snow shield' or 'snow board,' which would be the literal translation of the expressive German words) is only a gradual one. Small, harmless snow-slips are, with few exceptions, only avalanches that were stopped at an early stage of their course.

Have you ever noticed how the snow slides off the sloping roof of a house? Flake upon flake had settled; thicker and thicker the layer had grown. Suddenly there comes a gust of wind; it blows off a patch of the light, loose material. The snow purls from above into the gap; more follows; finally the mass gets into movement, powdery snow whirls up, and the whole falls like a heavy veil over the eaves.

On the other hand, the snowfall may gradually turn into rain. Then the whole white layer becomes saturated. It gets heavier and heavier with water; at last the fluid reaches down to the mossy tiles. The weight increases further, and begins to carry the mass on its slippery floor, and, to the street arabs' joy, it crashes down upon the silk hats of incautious pedestrians.

Now imagine the analogous process on a vaster scale and on a mountain slope, and you have types of the two principal forms of avalanches—'the powdery avalanche' and the 'solid avalanche' (*Staub-Lawine* and *Grund-Lawine*). Of course there are transitional phases. The sharp division is merely a convenient one, like every other division of natural phenomena.

On a steep slope lies snow several yards deep. This is subject to the laws of masses resting on inclined planes. The chief determining factors are weight, height, internal friction, and inclination of slope. It may happen that the equilibrium is just maintained; then it needs but the slightest disturbance, sometimes the mere acoustic vibration, to start the movement. How much more must, then, the continual cutting of a ski track disturb the equilibrium?

Slowly some particles begin to move; they start others; the movement grows swifter. The consequence is a current of air directed towards the valley, a current that itself again moves snow and whirls it up. Finally the whole slope is alive; a destructive whirlwind, laden with enormous quantities of the finest snow, 'the powdery avalanche' roars down, destroying everything in its way. At the foot of the slope most of the snow settles down in a loose, smooth, symmetrical cone, in which the foot sinks deeply. The snow-laden wind rushes onward against the opposite side of the valley. The strongest blast is often some distance above the avalanche; it spares the woods on its own side and uproots those on the opposite slopes. Dry snow is the first condition of this kind of avalanche: the steeper the mountain, the smoother the substratum, the easier it is started.

The most liable sites are smooth grassy slopes with the blades bent down, or glassy snow on which fresh powdery snow has fallen without being congealed. There must of course be innumerable transitions between the gigantic destructive avalanche and the small harmless snow-slips that only hide the cliffs for a moment like a thin fluttering veil.

Powdery avalanches are most typical in winter. After a heavy snowfall in cold weather they are a great and always threatening danger for the ski runner, all the more so as they

are quite incalculable, and not bound to certain tracks like the 'solid avalanche' of the spring.

Quite different in its nature is the last-named, 'the solid avalanche.' The season is advanced, and 'Föhn' has settled in, with warm, thawing days. Rain or snow water from the surface has saturated the whole layer, it has reached the soil and loosed the icy band between the snow and its substratum; but the ground has not yet deeply thawed, and under the snow you encounter only a slippery, muddy, soapy slush. As though on a prepared slide, the snow is awaiting the moment when the slightest imaginable cause starts the first movement. A small quantity begins to glide—a piece of a cornice has broken down, and is first rolled up to a ball; it is shoved like a wedge into the lower situated mass, the snowball being the apex. The apex advances; the sides of the wedge grow and attain gigantic dimensions.

Soon the wedge is lost in the general rush, the whole slope is alive. From above the gliding masses push and press; they set the lower-lying snow going also; it starts with an undulating movement, and the wave advances downhill with ever-increasing speed.

It rushes down, a roaring river, a thundering waterfall of solid snow, an all-destroying stream. The characters of solid avalanche* are a pronounced flowing movement; the absence of whirling, and in its place conglomerating snow, which often in the moment of arrest immediately turns into a mass like a well-pressed snowball, hard as plaster of Paris. Especially when the avalanche cannot spread out, when it is banked up and the succeeding masses press against those at rest, the result is a hard compact mass, which imprisons its victim in an iron grasp. A creaking noise, like that of a heavy waggon on hard snow, is often heard—'Die Lawine schreit,' as the Swiss say.

The surface of such an avalanche is lumpy and uneven, often with gaps between the pieces, and is difficult to cross.

If the avalanche, still moving, reaches gentler slopes, one may occasionally observe that the front is turned over whilst the rear is still gliding. The edges and the bottom move much more slowly, because of the greater friction, and sometimes become stationary. The result is that the avalanche

* I cannot sufficiently emphasise the fact that a 'balling' avalanche never occurs—no such thing as a house-high giant's football, such as one may read of in the May number of *Pearson's Magazine* 1906, and elsewhere.

slides in a trough formed by itself. And a further result of this is that the avalanche at final rest has a streaky appearance.

This kind of avalanche is most typical in spring. The weight of the wet snow, and the river-like movement are responsible for its course, which generally follows the tracks of the torrents.

Between the two kinds of avalanche stands, in respect of structure and nature of movement, 'the powdery-solid avalanche.' The name speaks for itself (*Staub-Grund-Lawine* of German authors).

By far the most avalanches travel during the day. Especially on bright days in March, April and May, when the heat of the sun makes the snow melt, the 'day avalanche' is the rule; and naturally slopes with south aspects are most dangerous. Whoever has visited the Alps in spring will remember how the avalanches begin to thunder a couple of hours before noon. From every mountain one hears the low rumble; between one and three o'clock the uproar is at its height, and dies slowly away towards the evening.

One is accordingly sometimes obliged to remain in the high-lying huts, avoiding descent during the day, and to wait till the cold of the night has frozen the snow again. With a pronounced thaw and warm rain, such precautions of course would be useless, for then the avalanches travel during the night as well as during the day. But, the quantity of snow in the mountains not being unlimited, the sportsman who is surprised by bad weather can sometimes wait till most of the avalanches have descended, and return to the valley in safety.

The usual rule is, in fine weather, do not traverse suspicious slopes—if you can by any means avoid it—except before ten or after five o'clock.

Besides the two types of avalanches already described there is a third, the so-called 'snow-slip' or 'snow shield' (the *Schnee-Brett* of German authors). One might call it a kind of superficial avalanche, for almost without exception a higher layer of snow slides down on the smooth surface of a lower one.

The chief characteristics of a snow shield are the clean cut, with the mass broken off some two yards deep and even more, the breaking of the whole shield into clods, the absence of conglobating snow, and the tendency to start at temperatures below freezing point.

Especially liable to the danger of snow shields are slopes

on the mountain sides protected from the wind. When snow has fallen under heavy wind, a great quantity of fine snow is heaped up at such spots in 'the shadow of the wind.' At all events this snow is of different consistency from its substratum; generally it is more compact because finer. It seems as if such masses got lifted a little locally, and no longer lay wholly on the lower snow, thus developing a state of tension. Therefore it is not necessary for the snow first to be saturated by rain or snow water, and then to be frozen again. At falling temperatures freezing water expands, as is well known, and it seems as if the closely packed snow surface *in toto* expands more than the substratum, from which tension must naturally result. It may happen also that locally the lower layer sets, and in this manner a cavity is produced. The effect, of course, is the same. When a layer in such tension is disturbed it breaks off in a sharp line and is splintered into flocs, which glide down, and in doing so often break into small clods, but, if the movement be slow enough, remain whole.

The original starting-place is generally small, but the mass, once alive, may lead to the breaking down of more snow on the sides. Thus I have noticed a successive lateral breaking away of layers. Of course, it happens often enough that such snow-shields start regular avalanches.

The exact reason for these snow-slips is not yet fully understood, but at any rate big snow shields are among the most serious dangers for the ski runner, the more so as they are so treacherous and apt to deceive even the most experienced. On an apparently safe and hard slope you imagine yourself quite secure. Suddenly big cracks arise; with a dull crash, a moment later, huge angular blocks begin to slide down in a vast swarm.

Snow shields are doubly dangerous, owing to the rapidity with which they break down.

As already stated, the rupture of a snow layer in tension sometimes seems to be the cause of a snow shield. On the high plateaux in Sweden I have noticed the same cracking, the same splits, and often the collapse of a large mass of snow like a flat-formed shield within a radius of about fifty yards. This occurs there even on level ground on which large quantities of the finest powdery snow have been deposited and after a long spell of severe cold (10° to 20° C.).

My practical advice to ski runners is accordingly as follows: the moment the ominous crack of the snow shield is heard, or splits in the snow are noticed on a slope of more

than 23°, return at once! After strong gales every slope protected from the wind is more or less suspicious, even when it has not snowed for days. It is especially the drift snow on its new resting-place that originates snow shields.

The only protection for the ski runner against avalanches is caution and the avoidance of suspicious places. If a certain slope looks dangerous, on no account attempt it. Often you may circumvent such a slope; you may follow ridges and edges, and traverse it high up under the protection of rocks. Sometimes it is quite safe to go *up the face* of a slope, while the *crossing* of it would be fatal; sometimes you may walk in it, whereas the continual cutting of the ski would disturb the equilibrium.

'The why, when, and wherefore' of all those possibilities cannot be taught by precept; it is matter of experience, of personal instruction, instinct, feeling.

To sum up, neglect no precaution, never use the rope, let the members of a party be well spaced on all slopes where an avalanche is in question.

Only when crossing small gullies, and with a sure foothold for the holder of the rope, should you rope as a protection against an avalanche. And, finally, follow this rule: the snow is safe on all slopes of less than 23°, safe also on steeper slopes if it appears of the same consistency throughout, is not deeper than a yard or so, and the slope has a rough surface (bushes, stones, and so on). In all other conditions the possibility of an avalanche exists.

But should you, in spite of all precautions, be caught by an avalanche, do your utmost to keep on the surface of the flowing snow stream, so as not to be overwhelmed by it. In rare cases one may escape by lying flat on the back, freeing the limbs as they again and again are imprisoned by the snow, so, as it were, swimming on the avalanche. But this is out of the question with the long ski blades on the feet. Your first thought must be to get rid of them. Cut the binding with your knife and let the blade go. The above, of course, only applies to the solid avalanche and the snow-slip. In the whirlwind of the powdery avalanche one is helpless.

APPENDIX.

1881. *T. Coaz*: Die Lawinen in den Schweizeralpen. Bern.
 1885. *A. Heim*: Handbuch der Gletscherkunde. (Chapter I., 'Lawinen.') Stuttgart.
 1899. *F. W. Sprecher*: Grundlawinenstudien, 'Jahrbuch S.A.C.' 1899, p. 268 *et seq.*

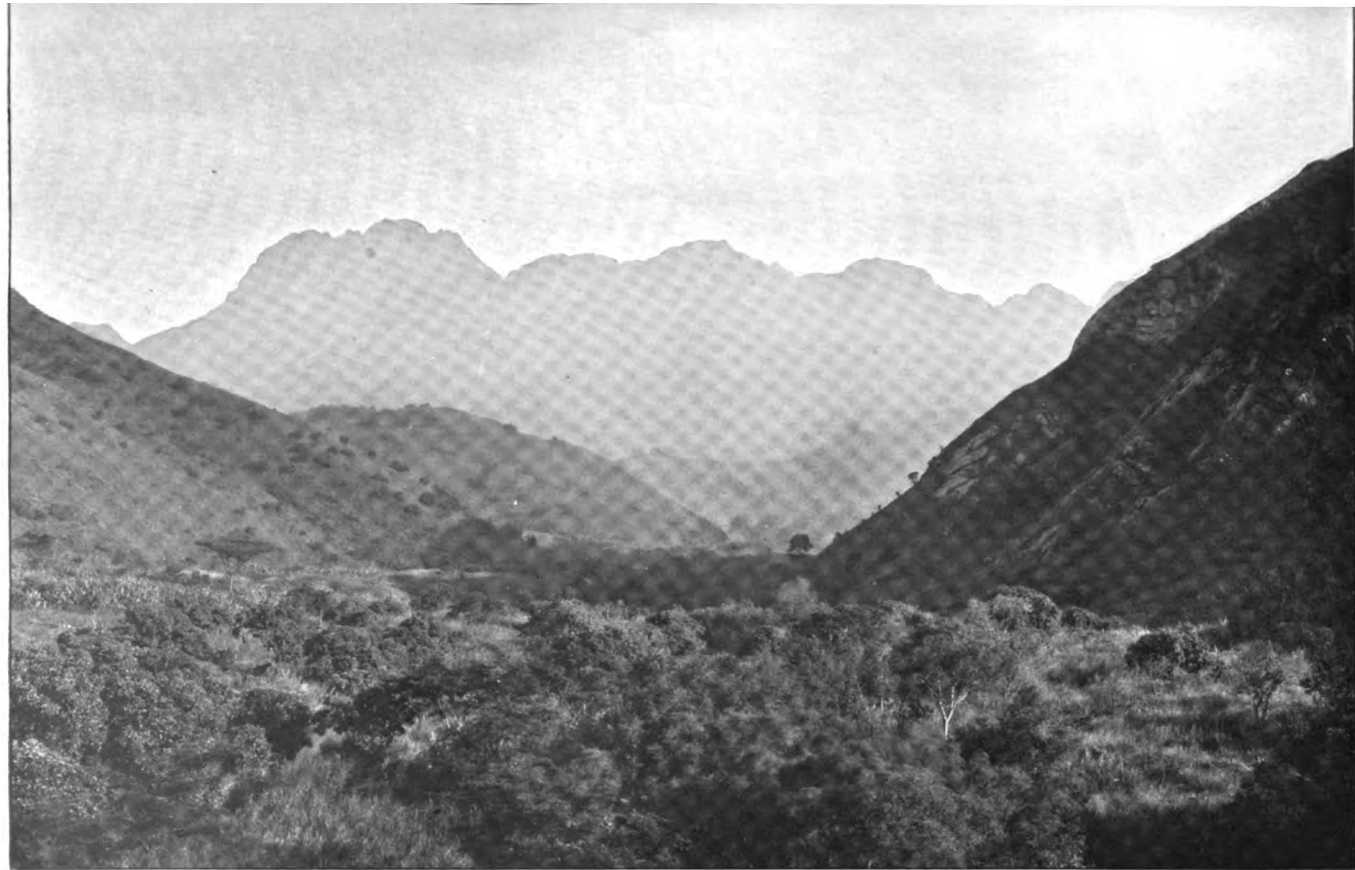
1891. V. *Pollack* : Ueber die Lawinen Oesterreichs und der Schweiz und deren Verbauung. 'Zeit- und Wochenschrift des Oesterreich. Ingen.- und Architekten-Verb.,' 1901.
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1903. A. v. *Radio-Radius* : Die Lawinengefahr für den Skiläufer, 'Oester. Alp.-Ztg.' 1903, p. 386.
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1904. M. *Madlener* : Ueber Schneelawinengefahr, 'Deut. Alp.-Ztg.' 1903-4, p. 164 *et seq.*
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1905. E. *Zsigmondy* : Die Gefahren der Alpen (the chapter dealing with avalanches in the fourth edition). Innsbruck.
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THE CONQUEST OF RUWENZORI.

BY DOUGLAS W. FRESHFIELD.

ON January 12 our member H.R.H. the Duke of the Abruzzi read before the Royal Geographical Society, in the presence of its Patron and Vice-Patron, his Majesty the King and H.R.H. the Prince of Wales, an account of his recent explorations and ascents in the Ruwenzori range. The Duke's narrative has been printed in full in the February number of the 'Geographical Journal.' With the leave of the Duke and the Council of the Society the illustrations and map that accompany it are here reproduced. I propose to take the opportunity to join with them a few notes on the results of this most successful expedition.

I shall imitate the Duke of the Abruzzi in avoiding any lengthy discussion as to the identification of Ruwenzori with Ptolemy's Mountains of the Moon. It is enough for me that its snows feed two of the Nile lakes. But I may point out the sort of rumours which two hundred years and more ago were recorded in Arab chronicles. For it is highly probable that stories of the same kind reached the Greek geographer



MOBUKU VALLEY BETWEEN IBANDA AND BIHUNGA AND PORTAL PEAKS.

and were the ground of his long disputed assertion that the lakes of the Nile are fed by eternal snows.

In A.D. 1686 an Arab compiler, quoted by Sir H. M. Stanley,* undertook to describe from earlier authorities the legendary snows at the Nile sources. I make here a few extracts from his compilation:—

‘Others say that the Nile flows from snowy mountains, and they are the mountains called Kaf.’

‘. . . This chain has peaks rising up into the air and other peaks lower. Some have said that certain people have reached these mountains and ascended them, and looked over to the other side, where they saw a sea with troubled waters, dark as night. . . . Some say that people have ascended the mountain, and one of them began to laugh and clap his hands and threw himself down on the further side of the mountain. The others were afraid of being seized with the same fit, and so came back. It is said that those who saw it saw bright snows, like white silver, glistening with light. Whoever looked at them became attracted and stuck to them until he died, and this science is called human magnetism’ (*sic*).

‘It is said that a certain king sent an expedition to discover the Nile sources, and it reached copper mountains, and when the sun rose the rays reflected were so strong that the men were burnt. Others say that these people arrived at bright mountains, like crystal, and when the rays of the sun were reflected they burnt them.’

Here we have a curious combination—references to snow-burns, mountain sickness, and one might almost add to the ‘*amor scandendi*.’

It is, surely, rather a large claim on our credulity to insist that these graphic details were all pure inventions of the happiest kind and had no connexion with the corresponding local facts.

I turn from legend to discovery. The accompanying map supplies us for the first time with a clear picture of the upper region. Its characteristic is the absence of any continuous snowy chain and the number of relatively small glacier-clad blocks or *massifs* separated by gaps 2,000 ft. below them. In the upper region no extensive névés are found; the gneiss summits carry frozen caps, the substance of which heat and consequent infiltration rapidly turn into ice. A conspicuous and peculiar feature are the cornices supported by icicles which have grown into ice columns, till, looked at from below, they recall in

* *In Darkest Africa*, vol. ii. pp. 280-1.

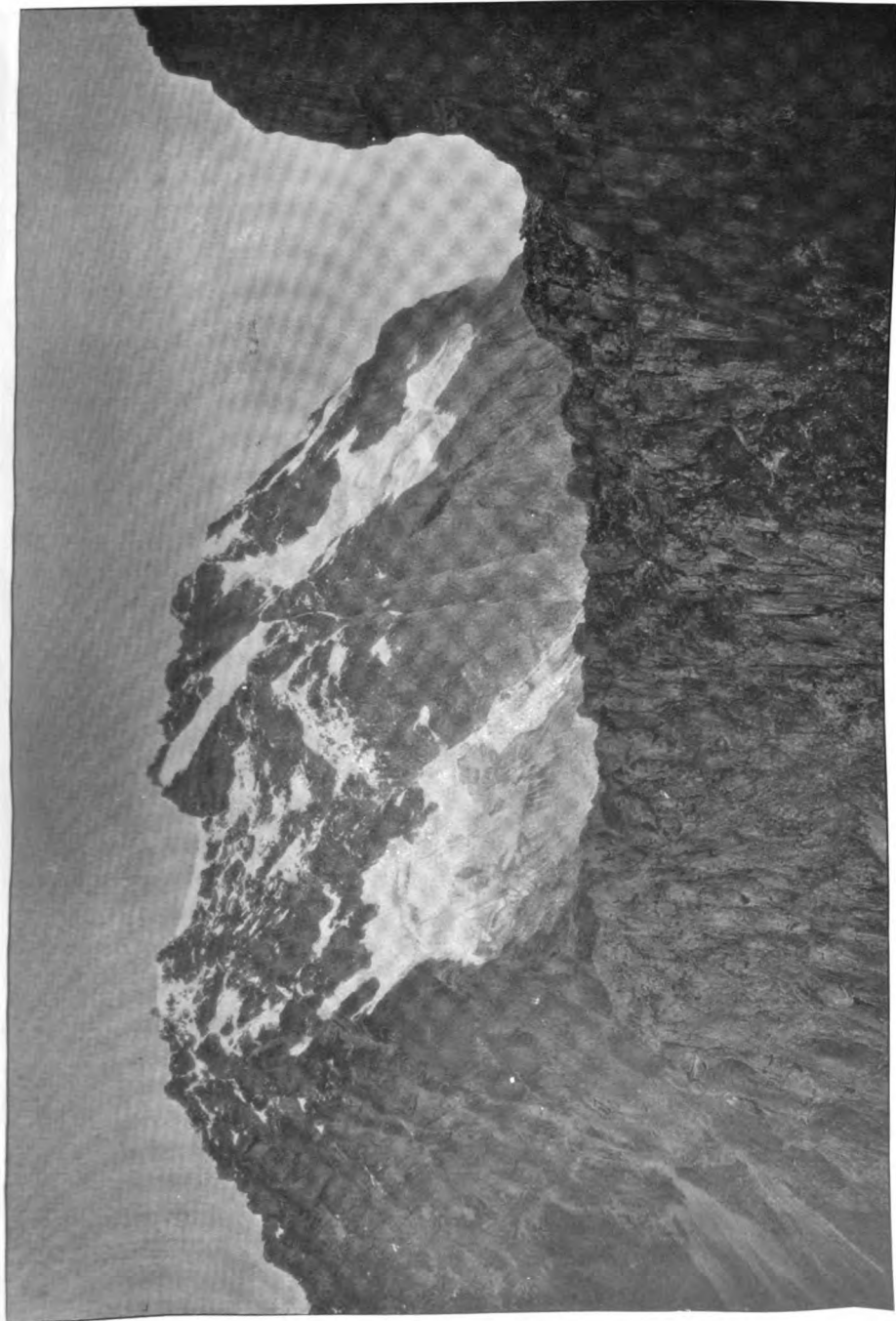
form the cliffs of Staffa. There is little or no permanent snow apart from glaciers, but here and there an avalanche lies unmelted among the exuberant vegetation. As in most regions of similar geological structure (the Maritime Alps, the Adamello group) rock basins abound, and not a few have escaped from being choked by alluvial deposits, and contain still tarns, which reflect the snows and waterfalls of the highest peaks in a framework of giant Senecios and white Everlastings. Of these tarns the Bujuku Lake appears to be the most fascinating. The rocks everywhere are much weathered, and easy to climb.



MOUNT STANLEY: MARGHERITA AND ALEXANDRA PEAKS.

The glacier slopes present no difficulty to the mountaineer. The Duke's party met with but one serious obstacle, and that because they took a short cut from one to the other of the highest peaks. The final slope of the Margherita Peak seems to have been found of the nature of that of the Wetterhorn in its worst state.

With his excellent Cormayeur guides and porters the Duke made a thorough sweep of the snows. Fourteen summits were scaled, and those that remain are of secondary importance. The finest expedition left is probably the glacier pass between the Alexandra and Moebius Peaks, the western



KING EDWARD PEAK, SEEN FROM THE N.W., FROM THE CAMP, N.W. OF SCOTT ELLIOT PASS, NEAR THE ELENA GLACIER.

side of which may be studied in the excellent illustration opposite p. 288 in Dr. Stuhlmann's book 'Mit Emin Pasha ins Herz von Afrika.' The illustration on p. 296 of the same work can, by the help of Signor Sella's photographs, be recognised as King Edward's Peak. The westernmost summit of Mount Stanley, conspicuous from Butiti, is also unnamed and unclimbed, and the W. rock-face of King Edward's Peak should afford a good climb. The extent of the glacier region being so small and the snow level being only 2,500 to 2,000 ft. below the peaks, two could often be climbed in a day. The weather was far from perfect, but it was more than tolerable. This is proved by the photographs. Moreover one of the views shows that there was scarcely any water in the Mobuku torrent at the spot below Kichuchu where we found it unfordable and had to build a bridge. Midsummer is clearly the Ruwenzori season.

In one respect the Duke was unlucky. He never when on the highest summits enjoyed a view of the great lakes or a clear horizon. Now Ruwenzori can be seen in intervals in the rains from as far as Mbarara, some seventy miles to the east as the crow flies. The explanation may be—at any rate this explanation is suggested by the tales of previous travellers—that during the dry season on the mountain haze obscures the lowlands. Most of those who have approached Lake Albert Edward speak of its fogs. When we passed it the air between the storms was gloriously clear, except about Ruwenzori, and we saw distinctly the Sfumbiro volcanoes. Dr. David, the Belgian traveller, tells us that he saw them and the lake from a point 1,400 ft. below the top of Ruwenzori on its western slope.

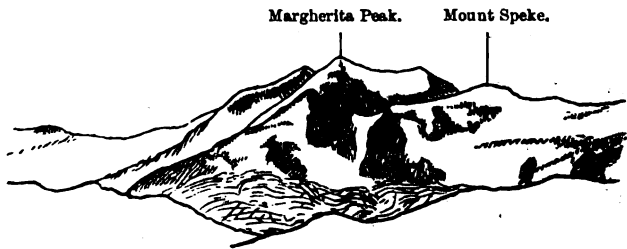
With regard to the traces of ancient glacial action Dr. Roccati, the geologist who accompanied the Duke, confirms and enlarges my observations with the authority of an expert. He sees distinct traces of moraines on the steep slope at the mouth of the upper Mobuku valley, five miles from and 6,500 ft. below the existing glacier. With regard to the blocks scattered still lower in the level valley at Ibanda, he, like me, hesitates to express a definite opinion as to their mode of transport. I shall be interested to ascertain if he is disposed to entertain my hypothesis of a flood caused by the bursting of a sub-glacial reservoir.

As regards the practical uses Ruwenzori may prove to have for Uganda, it will be discovered, I imagine, that it is not in the valleys below the snows but on the broad upland slopes at the northern end of the chain that sites for

European cultivation and for a sanatorium may be found in the future.

I would ask map-makers to bear in mind two physical facts often misrepresented. The Kafuru Straits, connecting Lakes Albert Edward and Ruisamba, are only 700 to 800 yards wide and many miles long. They are more accurately shown in Sir H. Johnston's maps than by any other cartographer. Next, the Ruwenzori range ends to the N. in a bold spur thrown out into the Semliki valley, and there is a deep recess between this and the escarpment which runs N. from the neighbourhood of Fort Portal to the southern end of Lake Albert.

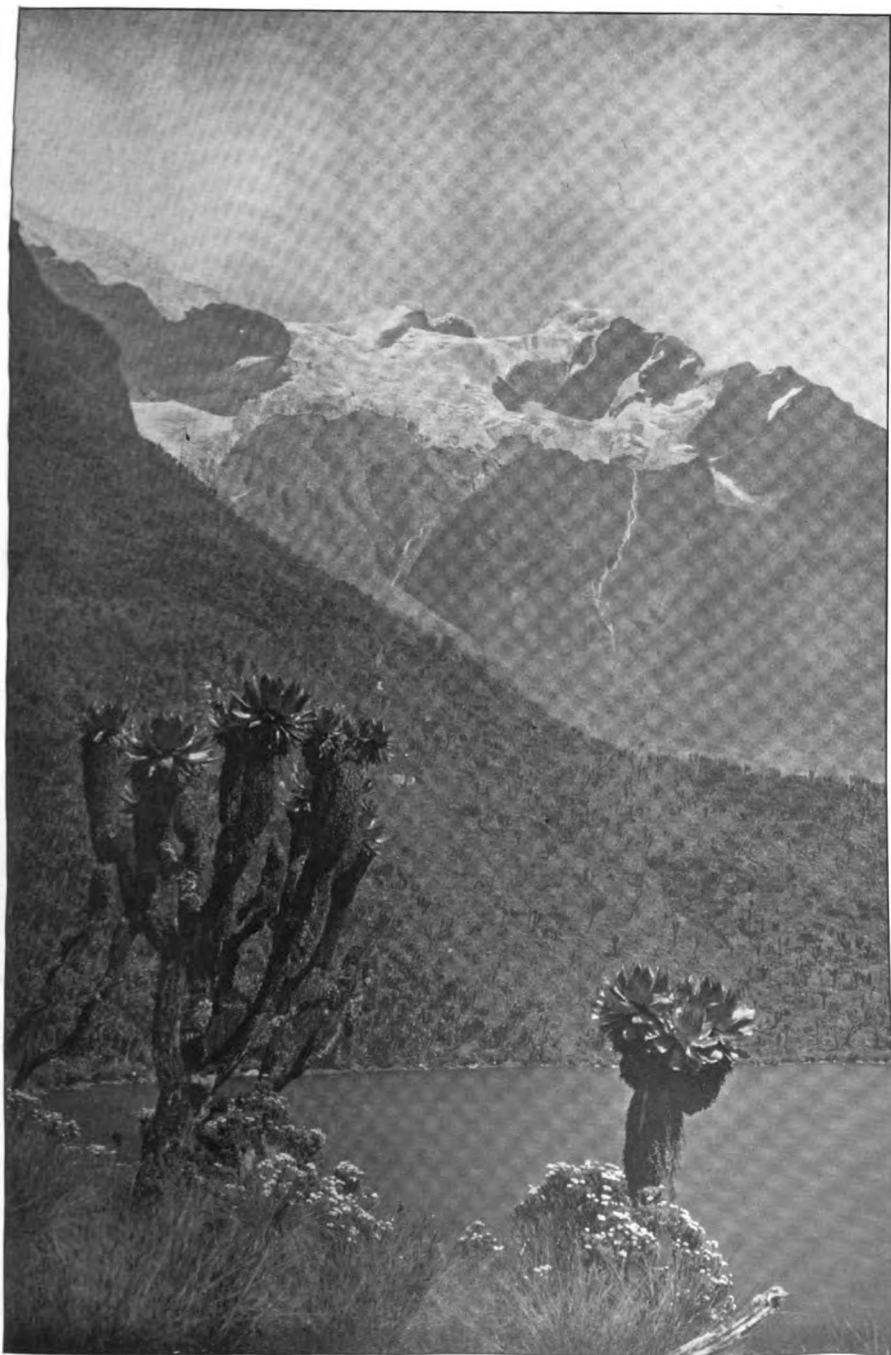
With respect to the main characteristics of the glaciers of the Nile, it will be seen that my own first impressions have been, as a whole, confirmed. The highest peaks reach very nearly 17,000 ft.—the elevation Mumm and I conjectured on the spot. I may note, parenthetically, that I did not (as



MOUNT STANLEY AND MOUNT SPEKE FROM BUTITI.

has been quoted) assign to them 18,000 ft., but put the *possible limits* of their height as 16,500 and 18,000 ft., inclining myself towards the lower figure. I estimated the glacier region to be included in a circle twelve miles in diameter; on the Duke's map it is reduced to ten. As to the permanent snow level, 14,400 ft., I am in exact accordance with the Duke. The snowy mass we saw from Butiti proves, as I wrote in May last, to be composed of the tops of the highest peaks (Mt. Stanley) seen over Duwoni (or Mt. Baker). This summit is rightly known as 'Johnston's Duwoni,' since it is the peak he drew from Ibanda. But some confusion has arisen from the fact that when at the head of the Mobuku valley Sir H. Johnston thought the summits to the E. of the icefall were identical with those he had seen from Ibanda (see Johnston's 'The Uganda Province,' vol. i. pp. 158 and 187).

On the other hand Dr. Wollaston's report led me into the erroneous belief that the highest peaks were not on the water-



QUEEN MARGHERITA AND QUEEN ALEXANDRA PEAKS FROM LAKE BUJUKU.

shed. The Duke has cleared up and established the topography of the inmost portion of the group by his discovery of the importance of the long Bujuku valley. When we passed its opening mists and rain storms hid the landscape; but it is strange that it should altogether have escaped the British Museum party, for whom it might have proved a happy hunting ground during the weeks they spent at Bihunga. The Duke has also shown that all previous travellers were in error in regarding the crest at the head of the Mobuku Glacier (Moore Glacier) as part of the watershed.

The route of the Italian expedition can be followed on the map. Grauer's Gap was first reached and Kiyanja (King Edward's Peak) climbed from it. The Buamba Pass (Freshfield's Pass) was then crossed and the western flanks of King Edward's Peak traversed to the Scott Elliot Pass, whence all the summits of Kanyangungwe (Mount Stanley) were climbed. The party then proceeded in a northerly direction across the heads of the western valleys to Duwoni (Mt. Speke) and Mt. Emin, and recrossing the watershed explored the heads of the Bujuku valley and climbed two more outlying ice-clad summits, Mt. Gessi. They were forty days in the mountains.

Captain Behrens, R.E., has, with the advantage of the more exact positions ascertained by the Italian party, recalculated the heights he had trigonometrically measured, with the following results:—*

	Captain Behrens' Heights.	Duke of the Abruzzi's Heights.
Margherita Peak . . .	16,619 ft.	16,815 ft.
Alexandra Peak . . .	16,543 ft.	16,749 ft.
Mt. Speke . . .	15,846 ft.	16,060 ft.
King Edward's Peak . . .	15,748 ft.	15,988 ft.
Mt. Emin . . .	15,554 ft.	15,647 ft.
Mt. Gessi . . .	15,258 ft.	15,647 ft.
Mt. Luigi di Savoia . . .	none	15,286 ft.

In the foregoing remarks I have been greatly assisted by the superb panoramas and photographs presented to me by

* The Anglo-German Boundary Commission values for the two highest peaks were determined by seven rays each from different stations, the means of which were taken as the result. The remainder were obtained from one ray only, all rays being observed from one station of the Anglo-German Boundary Commission triangulation. The Duke of the Abruzzi's positions for these summits, therefore, have been used as a basis in the calculation by Captain Behrens. There would seem to be some error about the height of the Yolanda Peak (Mt. Gessi), the height of which is the result of boiling-point readings. With this exception all the Duke's heights depend

my former companion in the Himalaya, Signor Vittorio Sella. The perfect panorama from King Edward's Peak (Kiyanja) is a masterpiece of mountain photography, which rivals his 'Caucasus from Elbruz' or his 'Kangchenjunga from the North-West.'

It is not uncommon, even in unexpected quarters, to find it assumed that 'a mountaineering party' is incapable of rendering any return to geography and science. Mountaineers may point, in Ruwenzori, to an instance where they have succeeded, after many experienced travellers, who were not mountaineers, had failed, in lifting the veil of centuries and giving the world accurate knowledge of a most interesting and fascinating region—the Snows of the Nile. The Duke of the Abruzzi and Signor Sella have done for the region above the snow level what Sir H. Johnston had previously done for the lower zone of forests and flowers.

upon mercurial barometer observations referred to Bujongolo as a lower station, the height of Bujongolo above Fort Portal having been previously determined by a series of barometer readings extending over a month, reduced as nearly as possible to the same time, at each place. The height of Fort Portal above Entebbe was in the same manner determined by a comparison of mercurial barometer readings taken at these two places, but in this case the series of readings extended over a period of three months. The following are the figures for these three places:—

Entebbe	3,862 ft. (barometer cistern)
Fort Portal (near Collectorate)	5,026 ft. (barometer cistern)
Bujongolo	12,461 ft.

The height of the barometer cistern at Entebbe depends upon the surface of the lake being 3,726 ft., but according to Captain Behrens, R.E., of the Anglo-German Boundary Commission, the lake is only 3,720 ft. As the height of Fort Portal, which was the first station to be determined after leaving Entebbe, has not yet been definitely fixed trigonometrically, some correction may have to be made to the height of Bujongolo, which depends upon Fort Portal, and consequently to the heights of the peaks depending upon Bujongolo; but probably the necessary correction will, in any case, be small, since the barometric results agree (with one exception, for which reasons can be given) within 100 to 200 feet of the trigonometrical determinations of Captain Behrens. In addition to the barometer observations Captain Cagni fixed the height of the Cagni Peak above Bujongolo by theodolite vertical angles, and from the summit of this peak took vertical angles to the other peaks. The heights resulting from these observations agree very closely with the barometer determinations.

RUWENZORI.

ABRUZZI.

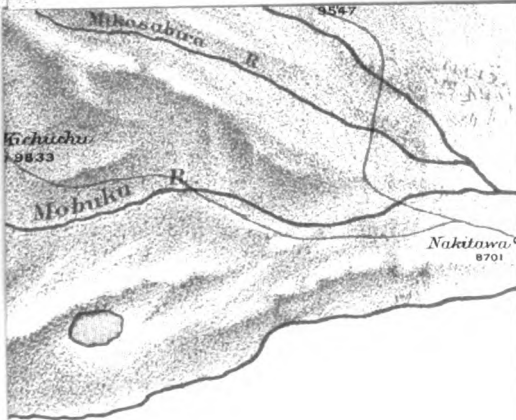
THE PEAKS,
PASSES & GLACIERS
OF
RUWENZORI.

to illustrate the paper by
H. THE DUKE OF THE ABRUZZI.

Scale 1: 50,000 or 1.27 inches = 1 mile.



Heights in Feet. Route ———
Watershed



Wollaston gives views of Mt Speke from
and the Wollaston Pt from near Buyongole
for the name of Duwoni, in his book
"Uganda Protectorate"

A NEAR THING ON THE AIGUILLES ROUGES.

BY L. S. AMERY.

κυλίνδετο λάας ἀναίδης

MOST climbers who have been to Arolla are familiar with the traverse of the Aiguilles Rouges. It has been described in this 'Journal' fairly recently (August 1904), and all that I need say of it here is that it combines one of the finest views in the whole Alps with an abundance of interesting and diversified scrambling. But even the best of mountains have their imperfections, and the Aiguilles Rouges; I most regretfully acknowledge, are not wholly above suspicion in the matter of loose rocks and falling stones. The ingenious efforts of one of these rocks to annihilate our party, both singly and collectively, may be worth recording in the 'Journal' as an interesting tale in itself and as presenting several curious technical features.

On August 21 last we—that is to say, my brother, Captain Harold Amery, and myself, accompanied by Martin Pralong and Jean Bétrison, of Evolena, the former as guide and the latter as porter—traversed the ridge from north to south. We had practically completed the climb by noon, and were lurching on the ridge above a large patch of snow, very conspicuous on the accompanying illustration,* by which the descent of the east face of the mountain is usually made, when I suggested that we might as well continue along the ridge and do the last little piece of it which rose in front of us, and which climbers as a rule do not seem to have bothered about. Martin laughed at my anxiety to add another 'dix minutes de moraine,' as he scornfully called it, to the exertions of the day, but readily acquiesced. We went down the ridge to the col from which the last piece rises fairly steeply, and, instead of mounting all the way along the ridge traversed to our left on to the eastern face. We crossed the upper end of a shallow gully which ran straight down, as far as I remember, to the glacier some 1,500 to 2,000 ft. below, and started climbing up the steep but not otherwise particularly difficult face on the far side of the gully, in order to rejoin the ridge some 60 ft. above us. We were now all on the face, more or less in a vertical line, Martin some 10 to 15 ft. below the summit, Harold, who was

* Mr. C. D. McCormick's drawing is from a photograph by Mr. A. W. Andrews.

second on the rope, about the same distance below him, myself 8 to 10 ft. below Harold, and Bétrison just out of the gully. Martin was wriggling up the only difficult bit when, suddenly, a large rock, which had been poised on the very crest, started sliding straight down on him.

There was neither time nor opportunity for dodging, but Martin, as the rock reached him, most gallantly tried to push it to one side, in order to save us. But the rock, an ugly lump, 2 ft. or more in length, and perhaps half as wide and thick, simply crushed and doubled back his right hand and passed on, bent on mischief. Harold was not over well placed, but, hearing Martin cry out, at once gripped hard on to his holds and tucked in his head as well as he could. The rock struck him right on the head, but apparently with only part of its weight, and, thanks to the many thicknesses of knitted wool in his *passee-montaigne* cap and to his snow goggles, whose wire frames it completely flattened out, it failed to kill or even to stun him. At the same moment it fell upon the rope between him and Martin above, and jerked Martin, already maimed in one hand and no doubt shaken, backwards right off the face of the rock.

So far I have given the story as pieced together by Martin and my brother afterwards. Now for my own share in the proceedings. I was standing on an excellent level ledge, 5 or 6 ft. long and varying from a foot to nearly two feet in width. When I became aware of the rock it had passed Harold and was falling clear, apparently straight for my head. I shifted a step to the left, barely enough for the purpose, for it just touched the fingers of my right hand and, missing my foot by a few inches, struck the ledge with a tremendous crash and bounded on. Almost at the same moment I saw Martin flying past me, well clear of the face, head down and feet clawing about in the air. I glanced up, saw the rope come taut on Harold's waist with a jerk which no one in that position could have held up against, and knew that my turn had come. There was nothing over which I could have slung the rope; the only thing was to turn round, so as to face outwards, haul in the slack, and lean well back to take the strain. There was hardly time for much reflection, but I distinctly remember feeling a thrill of satisfaction at the excellence of my foothold, and recollecting, as in a flash, some story I had once heard of a guide holding up two men who had fallen from above him, mixed with a vague doubt as to whether that had happened on rock or on ice—a curious instance of the inconsequent

things that may pass through one's mind at a critical moment.

Then came the jerk; exactly how or when I cannot for the life of me remember, for the next thing I was clearly conscious of was that Harold was lying on his face across my right foot right along the edge of the ledge, with both hands clutching tight in a crack at the inner angle of the ledge, and that we had escaped. Though he had not managed to save himself from being torn out of his hold he had held on tight enough to prevent his being jerked right away from the face, and had fallen vertically, striking the ledge below feet first. The joint action of Martin's drag downwards and of my haul inwards had then pulled him over on his face in such a way that not only was his weight transferred as a factor on my side of the equation of forces, but that, by lying on the rope, he caused the final jerk to be largely taken by the angle of the ledge. A luckier combination of circumstances it would be difficult to imagine.

A second later we heard a most unearthly yelling and wailing below us. I noticed that the strain was off the rope and thought for a moment that it must have parted and that Martin was gone. I looked over, and saw Bétrison holding Martin in a safe position in the gully, and concluded that the sound came from both of them and that Martin was, at any rate, alive and conscious. We made our way down cautiously, and in doing so discovered that, as a culmination of its performances, the rock had, after missing me, fallen on the rope between me and Bétrison and cut it clean in two! So instead of joining us in a sudden descent to the glacier, if things had not turned out so fortunately above him, Bétrison would have been left alone on the top of the mountain with a few feet of rope round his waist, and, perhaps, have incurred the suspicion of having cut the rope himself. Martin presented a terrible spectacle. At first I thought his face had been clean torn off, but on coming closer I found that what had happened was that a large piece of the flesh on the top of his head and most of the forehead had been scalped to the bone, and that the flap of scalp hanging down concealed the rest of the features, which were badly cut about, but nothing like destroyed. Harold, with a coolness I envied, poked about the exposed skull with his fingers, declared that it was intact, and proceeded to put the scalp back into its place and tie it up with a large silk handkerchief. I got some snow and applied it to stanch the flow of blood both from the scalp and from the other cuts, which was very heavy.

We then felt his ribs and limbs generally, and found that, except for his right hand, which was evidently very painful, nothing was damaged. A lot of blood came from his mouth, but from the colour I concluded it was only from the inside of his lips and cheeks, and though he moaned a good deal about internal pains I was inclined to think it was only the result of the jerk on the rope, which must have been tremendous, considering that he fell some forty feet clear. I imagine the fall must have been taken almost entirely by the rope, otherwise he could never have got off so lightly. In that case his head must have grazed the face of the rock near the end of his fall, which would account for the extraordinary clean cut which lifted off his scalp.

In about twenty minutes or so the flow of blood had decreased considerably. Martin was evidently able to move about, and we decided to try and get down. Fortunately the climb down to the glacier was easy. Martin led the way, climbing for a few minutes at a time and then lying down to rest and recover. More than once he showed great reluctance to start again, but I was determined, if possible, to get him down to the glacier, where it would be easier to get help and where he could be carried. This was the worst part of the whole business, but at last, after about three hours of it, we got down. I sent Bétrison ahead to Arolla to fetch bandages and spirits and to telephone to Evolena for a doctor. We followed by slow stages and got in towards half-past seven. The doctor arrived at nine o'clock and stitched away till midnight. He found no internal injuries, and with good luck, he assured us, Martin would be well in a month.

The next day he was pretty bad, but the day after, coming in from a long scramble on the Bouquetins, I found him in the best of spirits and very anxious to do some more climbing before the season was over. A day or two later he was sitting about outside the hotel, watching my progress up the Za with a telescope, and seriously distressed that his *locum tenens* shirked the last steep pitch to the summit by traversing to the right. On the twelfth day after the accident we took the field together again and went up to Bricolla to try the west arête of the Dent Blanche next morning. But Martin's hand was still too bad, and after an hour on the rocks we decided, somewhat to his regret, to get down on to the glacier again and work round the side of the mountain up to the top of the Wandfluh and thus down to Zermatt. Even so we had a good eighteen-hours day before we got in, no small performance for a convalescent. Martin's ambition



From a Drawing by A. D. McCormick

Swan Electric Engraving Co.,

THE AIGUILLES ROUGES FROM THE ROUSSETTES.

to add the Zmutt arête to his book was gratified a few days later, though I think his pride was a little mortified by his having to play the passenger rather than the guide, and though his hand gave him many a painful twinge. For the traverse of the Rothhorn, however, he insisted on taking the lead again. We parted at Sion soon after. A most cheery companion, an excellent climber, and a man of remarkable pluck, I hope I may yet have a chance of accomplishing with Martin Pralong some of the many climbs we had fixed up before our programme was cut short by that shameless rock on the Aiguilles Rouges—not so short, though, as it well might have been. I only hope that before this account is in print his summer's earnings will not have been wholly swallowed up in a pending action for grievous assault and battery committed upon another guide with whom, at the time of the last cantonal elections, he had a serious difference of opinion on the subject of denominational teaching in the schools.

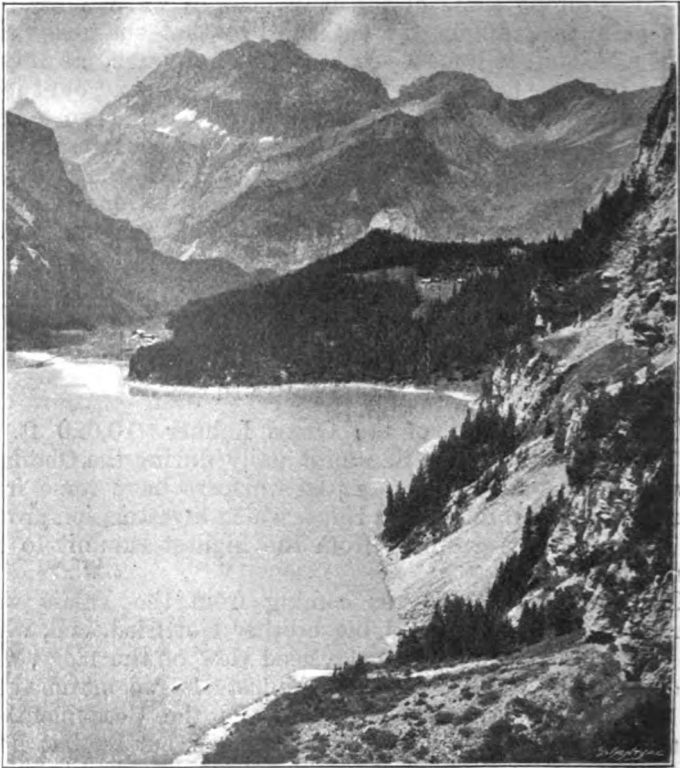
THE TRAVERSE OF THE GROSS LOHNER.

By W. R. CAESAR.

THE highest point of the Gross Lohner (10,020 ft.) is ascended from the S. almost daily during the Oberland season, but for several years past whispers have come from Kandersteg of an untrodden ridge, which investigation proved to be the range running from the highest summit to the Bonderkrinden.

Last year (1906) I was coming from the Valais with Abraham Müller, jun., and his brother Gottfried, and, while crossing the Gemmi, we had a good view of the ridge, with the result that on the next day—August 21—we marched off at 8.15 A.M. up the Kanderstrasse and the Ueschenthal. Some people object to roads on principle, but at that hour a sharp walk on an even surface sets the machinery of muscles running smoothly, and seems to me to have advantages over spasmodic movements on moraine or scree. After 3 hrs. we reached the foot of the rocks on the E. flank of the ridge and near the most northerly patch of snow seen in the photograph taken from above the Oeschinen See. The snow patches showed traces of falling stones, and one or two sniping shots were fired down the couloirs on either side of our breakfast place. After our meal we set off again at 6.55 A.M. There is a seeming choice of several broad couloirs,

but, to avoid difficulties on the loose face below point No. 5, it is desirable to take one about a hundred yards to the N. of that summit and almost exactly opposite the Gellihorn. Stones fell at times, but quick progress can be made, and, edging a little to the right, we struck the ridge at 8.45 a.m. immediately to the left or S. of a pointed gendarme and about 200 ft. lower than point No. 5.



GROSS LOHNER FROM ABOVE THE ÜSCHINEN SEE.

The arête is not tempting. It is rather steep and very rotten, and we descended on the western side by a couloir filled with new snow, made a short traverse, and then went straight up to point No. 5 (11 a.m.). After replenishing the inner man—no smoking yet—we continued at 11.30 along the ridge, but met with difficulties at once. The friable rocks everywhere broke away, and we were forced from the crest



Photo by E. H. Caesar.

Swan Electric Engraving Co.,

GROSS LOHNER, FROM THE WEST.

two or three times, and traversed on the western side for short distances.

During these traverses we encountered new snow, which to some extent plastered loose stones together, but on the whole it was an uncertain blessing. After a short time there would be an inquiry, answered by, 'Back to the ridge.' A small chimney on the eastern side was interesting, and we found in it several good handholds, but as a rule they were bad, and it goes without saying that each one of them had to be tested carefully, and frequently there was only a choice of evils. In some places rocks were piled loosely together, and one could not help thinking of the immortal 'seven maids with seven brooms,' roped together, I suppose. We three cleared away quantities where opportunity offered, but there are plenty for other sweepers. Abraham attacked one little gendarme with his axe, to try to reach something solid, but pieces came off and such a hole was made that, for safety's sake, we upset our top-heavy 'policeman.' He fell with a crash and, bursting into a thousand fragments, dashed down like a cataract, gathering innumerable contributions. Perhaps I should add that no one awaited him below. At another spot we crept through a rectangular hole about 4 ft. by 3 ft., something like the arches on the Cornish coast.

We arrived at point No. 4 at 1.5 p.m., and were surprised to find another distinct summit between us and No. 2—that is to say, we had not expected to find four marked gaps along the ridge. After building a stoneman on point No. 4 we continued to No. 3, keeping to the crest and under conditions similar to those already met with. For about 35 ft. there is a wall of loose stones about 15 in. wide, and on this as well as on several small gendarmes we spread our weight as much as possible, often crawling on hands and knees. We came across the tracks of chamois here. Point No. 3 was gained at 1.25 p.m., and then our difficulties came to an end. The ridge broadens and falls considerably and then rises to point No. 2 (1.40 p.m.). At 2.55 p.m. we proceeded to No. 1—the highest summit—which we reached at 3.55 p.m., and we returned by the ordinary route to Kandersteg, arriving at 8 p.m. It was an interesting scramble, because holds were no more easy to find than on harder but smoother slabs in other districts, and though the rocks were rotten I do not think a careful party incurs more than the ordinary risks. It only remains to add that 80 ft. of rope was ample.

RAPID GLACIAL ADVANCE IN THE HINDU KUSH.

BY DR. ARTHUR NEVE.

SOME years ago, in 'Picturesque Kashmir' and in some notes about Nun Kun in the 'Alpine Journal,' I suggested that in the Himalayas a period of glacial advance had set in. Last year two cataclysms took place, one of the upper Shayok, the other of the Gilgit River, both due to glaciers blocking high valleys.

I have just visited Nanga Parbat and Hunza, and find very full evidence of glacial increase.

In 1887 I saw and sketched the snout of the Tarshing glacier of Nanga Parbat, $74^{\circ} 7' E.$ long., $35^{\circ} 2'$ approximate N. lat. It had already advanced, judging by the careful description of Drew, since he saw it fifteen years earlier. Now I find that the whole mass of the glacier is some fifty feet higher than in 1887, and at the point where the snout crosses the valley, and is tunnelled by the Rupal River, it is now some 300 feet high, and it has turned down to the east for about 100 yards. Similarly the other Rupal glaciers are now far more prominent than formerly.

Coming to the Hunza-Nagyr group, the advance there signalled must be quite unique. This year there was a flood caused by the Shimshal valley being blocked by ice and the dam giving way after about a fortnight. The flood wave rose to about thirty feet above the ordinary level at the Tushot bridge, and continued at nearly that height for eight or ten hours, causing much damage to the road in places and many landslips.

The Minapin and Pisan glaciers have advanced for the last three years, but the most remarkable by far is the Mutzazil glacier, which now comes down to within a quarter of a mile of the main road on the west side of the valley close below Aliabad, Hunza. From three independent witnesses, two on the spot and the third the Wazir Humayun in darbar, I ascertained that three years ago that glacier was five or six miles up the valley (one man said three days' walk!). They all agreed that it had advanced two miles or so during the summer months of the present year, but not since the end of July. Their chief grazing ground is up that valley, and also the heads of two important irrigation canals, upon which depend the very existence of two villages, so there has been every reason for careful observation of the icy inroads. I was

also told that fifty or sixty years ago the glaciers were almost as low as at present.

The Government of India has sent Mr. H. H. Haydyn to survey and report upon the Hindu Kush glaciers, and surveyors have also been at work this year in Kumaon, so before long detailed reliable information will be available. Last year there was a flood in the upper Shayok, due to the advance of the lower Kunduz glacier, which caused a similar catastrophe sixty years ago.

IN MEMORIAM.

GEORGE CHEETHAM CHURCHILL.

IN George Cheetham Churchill, who died at Clifton on October 11 of last year, the Club lost a member who added to a love of the Alps a remarkable knowledge of their flora. Born at Nottingham on September 25, 1822, and educated as a solicitor, he followed that profession, first in his native town and afterwards at Manchester. An ardent naturalist from boyhood, he gradually gave his chief attention to botany, devoting his holidays to the enrichment of his herbarium, while an early interest in geology and agriculture had led, through William Gilbert, afterwards knighted in honour of his researches in agricultural chemistry, to a friendship with his artist brother Josiah. The two, with their wives (Churchill married in 1853), were gradually drawn to the Alps, and in 1856 obtained their first glimpses of the Dolomites, then all but unknown to English travellers. They were fascinated at once, though some time elapsed before a really close acquaintance became possible. In 1860 Churchill, unaccompanied, visited the Fassathal, and the four together carried out a systematic tour in the following summer. Starting from Atzwang in the Eisack valley they worked their way through the now well-known Dolomite mountains to the Gailthal in Carinthia, and thence through the Terglou district to the Sulzbacher Alp in Styria. In the summer of 1862 they again traversed the same region, mostly by different routes, in the opposite direction (Churchill and his wife starting for botanical reasons a month before the others), and completed their knowledge by a supplementary journey in 1863. The outcome was 'The Dolomite Mountains,' published in the following year. Gilbert's sketches illustrate the volume and he apparently wrote much of the text, but Churchill contributed the scientific remarks, the account of his journey in 1860, and the concluding chapter on the physical geography of the region, his wife's letters describing their wanderings in the early summer of 1862. Well written, with a certain sense of humour and a keen appreciation of natural beauty, the book attracted much attention, opened a new region to Alpine travellers, and is now numbered among their classics.

In 1868, Churchill was able to retire from business and devote himself wholly to scientific pursuits, settling ultimately at Clifton. He was elected a member of this club in 1864 and a Fellow of the Geological Society in the same year. In 1866 he suffered the loss of the companion of his rambles, and, marrying again two years later, was a second time left a widower in 1870, till in 1878 he found a consort who survived him. Though not a climber in the ordinary sense of the word, for he frankly confesses that his 'willingness to ascend ceases with the last phanerogamous specimen,' Churchill had nevertheless a deep and true love of the Alps, and in his extensive and minute knowledge of their flora was probably excelled only by John Ball. A man of wide sympathies and generous nature, he won the regard of all who knew him, and deserves to be remembered, if only for the gift of his great herbarium to Kew Gardens.

T. G. B.

THE ALPINE CLUB PICTURE EXHIBITION OF 1906.

THE index to the catalogue of this year's Exhibition suggests some curious inquiries. The contributors are divided into exhibitors and artists. Some appear as both, but Mr. Colin Phillip is entered as a contributor and not among the artists! It would appear that the intention was to make one class of those who lent pictures, whether as owners or painters, and a second of painters only. The result is open to misapprehension. We notice also misprints which confound family relationship—J. Fox and Miss J. M. Dox, W. Donne and Mrs. W. Foune!

The aspect of the show as a whole suggests to us some general reflections. The wave of impressionism has made but little stir in the backwater of Alpine art. We might expect, remembering Turner, that the mountains would lend themselves readily to such treatment. But then we recollect that the modern impressionist is as a rule averse from light and sunshine and the great effects of Nature. He cares little for line and delicacy of detail. He finds himself more at home under gloomy skies when the trees recall Mrs. Browning's description of them as 'saturated sponges' than among the snows. Take the general purpose of the paintings on our walls, and we shall conclude that they are not characteristic of any particular tendency of the day, unless it be a negative one, an effort to discard the prettiness of the old-fashioned watercolour art of the chalet and pinewood period. They represent more or less capable attempts to put faithfully on paper or canvas the average impressions of contemporary visitors to Switzerland. If there is no commanding talent, no such originality as carries with it a fresh impression to our minds and reveals to us new beauties, there is plenty of honest and pleasing endeavour.

We can mention but a few of the meritorious works noticeable on the walls. First in order of place is a luminous coast view,

'Alpes Maritimes from Viareggio,' from the practised hand of Mr. Fulleylove. Mr. Compton has many exhibits. We prefer the 'Five Tarns,' a Norwegian scene with a dark pool and deep shadows, and next to this his views in the chain of Mt. Blanc. When he draws in Tyrol, Mr. Compton has a tendency to make his rocks monotonous and weak in colour. Mr. Cecil Hunt is one of the few contributors who has a dash of impressionism. His 'Mountain Silver' and his 'Jungfrau unveiling' are dignified and effective; his 'Pilatus' gives the contrast of light and storm cloud and is skilfully composed. The sail in the foreground on the misty lake adds much to the picture. But when he paints the Lake of Como in cheerless gloom, one regrets the want of a feeling for the genius loci.

In 'Alpine Notes' Mr. Rackham shows that he is as familiar with Alpine tourists as with hobgoblins.

The black and white drawing he exhibited was a compendium of tourists, from which the climbing class was not excluded. We saw ourselves on cliffs and in crevasses, but even more graphic were the portraits of paterfamilias and his family at lunch, of the spinster pursuing Edelweiss to her own destruction, and of her younger sister snapshotting the maid of the restaurant as she brings her a glass of milk. We trust the author of this delightful drawing may design the card for our Jubilee dinner.

Miss Hilda Heckle knows how to paint an icefall or a crevasse. We doubt if her Bergschrund is improved by the lady, 'Natura maligna,' at the bottom of it, apparently engaged in using strong language to a climber who is stepcutting in a perilous position on the slope above. She is not without reason, for the ice that yields to his axe is falling on her in a smart shower. Miss Norton's 'Twilight at Davos' was sober and harmonious. 'Fujisan from the North-east,' lent by the Rev. W. Weston, was a good specimen of the traditional art of Japan. No. 100 was a curious example of the mechanical result that may arise from an attempt by a Japanese artist to follow European examples. It was an admirable bit of topography—of realistic reproduction with no attempt at feeling, and no charm. Herr von Kleiner sent some capable views near the Gross Glockner. One of the most prolific exhibitors was Miss M. H. Fox. She sketches snow-subjects, peaks or glaciers, with force and sympathy. 'Sunrise on the Viescherhörner' and an 'Ice Cliff near the Bergli Hut' were effective examples of her work. Mr. Walter Donne showed several charming small views, surely in some instances incorrectly described in the catalogue. In Mrs. Jardine's winter scenes in the Engadine, there was good workmanship. M. Jeanés paints Dolomites lit by fiery sunsets; the effects obtained were crude simplifications of Nature's colouring, and the result was too theatrical for our taste. Miss Pertz contributed two of the best paintings of winter landscapes by any new hand; in her 'Sunset on Piz Languard,' the shadow thrown across the snows was delicately indicated, and a view of the 'Piz Margna' was equally successful. Our old friend, M. Loppé, gave us excellent likenesses of Mont

Blanc and the Wetterhorn, and the icebergs of the Märjelen See. A welcome variety was a very forcible rendering of an Alpine gorge in winter, from the same hand. Mr. McCormick, another old favourite, again appealed to our imaginations. He sees in a glacier 'The Gate of Fairyland,' and at dawn the ranges resolve themselves for him into opposing armies of light and darkness.

One of the most important oil-paintings was Mr. Howard's picture of the glow of sunset on the Dent Blanche; as near to Nature as paint can come in seizing a momentary effect. Mr. Hardwicke Lewis's 'The Grammont: Lake of Geneva' was a delicate representation of winter sunlight on water and mountain snow. We have left to the last the striking contributions of Signor Giacometti, an avowed follower of the late Signor Segantini both in technique and feeling. Of these, 'Springtime' was the most important. Had some atmosphere been indicated between the spectator and the snows in the background, this picture would have been a success. There was much to admire in the vivid realisation of the fruit-blossom and flowers, and the restrained sentiment of the figures. S. Giacometti also showed a strong Engadine landscape, and a violent head of a red-haired boy.

In endeavouring to notice a few characteristic works we have had to leave unnoticed many paintings by the artists referred to, as well as much meritorious effort by other and here unnamed contributors.

THE ALPINE CLUB LIBRARY.

The following additions have been made since October:—

New Books and New Editions.

- Alpine Gipfführer.** 8vo, ill.
 Stuttgart u. Leipzig, Deutsche Verlags-Anstalt, 1906. M. 1.50 each.
5. A. v. Radio-Radiis. Der Dachstein. 8vo, pp. 74.
 6. H. Cranz. Bettelwurf- und Speckkarspitze. pp. 104.
 7. J. Gmelch. Der Grossglockner. pp. 80.
 8. R. Roschnik. Der Triglav. pp. 84.
- This is a very useful series of monographs, well printed and well illustrated. The four earlier numbers, published in 1905, were on the Zugspitze, the Elmauer Hauptspitze, the Ortler, and Monte Rosa.
- Baedeker, K.** The Dominion of Canada with Newfoundland and an excursion to Alaska. Handbook for travellers. 3rd edition.
 8vo, pp. lxiv, 330; maps. Leipzig, &c., Baedeker, 1907. 6/-
 The notes on climbing have been supplied by Messrs. Jackson, Fay, Vaux, and Wheeler.
- [**Barrère, E.**] *see ps. Phagao.*
- Brock, R. W.** The Lardeau District, B.C. In Geol. Survey Canada, Summary Report AA for 1903. Ottawa, Dawson, 1904
 8vo, pp. 42-81.

On the Pool Creek valley, Mr. Brock writes:—The glaciers have retreated little during the last few years. The present glaciers are merely remnants of large valley glaciers. Some are more than 100 ft. thick, even at their lower terminals. These valley glaciers have produced rock basins and cirques at the head of the streams, but in slates and schists these are usually not well preserved, unless the glacier has only recently vacated them, the stream altering their forms to funnel-shaped basins. For this reason, if for no other, well-

formed cirques are less common than in granitic rocks. . . . There is strong evidence of the important effects of abrasion by the ice-mass. . . . A characteristic result is the production of lake basins. Trout Lake is 765 ft. deep, has a rock lip, and there is a rock divide above its head. There is no evidence of important faulting here, but every indication that the valley bottom is a huge "dug-out."

Brooks, A. H., Alaska; see Report 8th Geogr. Congr.

Chaney, L. W., Montana Rockies; see Report 8th Geogr. Congr.

Chiavero, A., see Santi, F.

Cranz, H., Bettelwurf- und Speckkarspitze; see Alpine Gipfelführer, 6.

Deutsche Alpenzeitung. Natur und Kunst. VI. Jahrgang (1906-1907). I. Halbband (April 1906-September 1906). München, G. Lammer, 1906. M. 7

4to, pp. 380; plates.

Among the articles are;—

Dr. Uhde-Bernays, In corsischen Bergen.

L. Günthersberger, Die Guglia in den Brenta-Dolomiten.

M. Hoek-Kaltenbach, Auf Skiern in Jotunheim.

K. Gundlach, Winkelkar, Pyramidenspitze.

F. X. Endres, Auf d. Innerkofler Turm über die Nordostwand.

J. Simon, Tour Sallières.

H. Prey, Der 'Linzerweg.'

O. Langl, Die Zillertaler Mörchenschneide.

A. Halbe, Die neue Kreuzeck-Hütte.

R. Zeller, Das Schweizerische Alpine Museum in Bern.

E. W. Brecht, Alpine Landschaften aus verschiedener Zeit.

W. Fischer, Eine Ueberschreitung des Bosstocks im Elbsandstein-gebirge.

Th. Girm-Hochberg, Auf südlichen Grenzpfaden.

No. 4, May, is devoted to the Bernese Oberland.

As in previous years, this periodical is again remarkable for the number and the excellence of its illustrations, taken from photographs, paintings, and woodcuts. O. Barth and E. T. Compton contribute several coloured plates.

— Beilage zur Verkehr und Sport. II. Jahrgang, Nr. 1-12. 1906
4to, pp. 200.

Durst, Carola. Im Zauberreich der Berge. Märchen und Sagen. Den Freunden der Bergwelt für ihre Jugend gewidmet. Stuttgart, Horster, 1906. M. 3
8vo, pp. 144; ill.

A volume of well-told fairy tales.

Eichenberger, A. Guide routier Suisse. 2^{me} édition. Zurich, W. Steffen, 1906
8vo, pp. 124; map.

Ferrand, H. Le Vercors. Le Royannais et les quatre montagnes, Région du Mont-Aiguille, du Vilard-de-Lans et des Grands-Goulets. Les Montagnes Dauphinoises. Grenoble, Gratier et Rey, 1904. Fr. 20
4to, pp. 95; ill.

— D'Aix-les-Bains à la Vanoise. La Savoie Méridionale. Grenobls, Gratier et Rey, 1907. Fr. 25

4to, pp. 124; plates.

Very finely illustrated.

Förderreuther, Max. Die Allgäuer Alpen. Land und Leute. Kempten u. München, Kösel, 1907. M. 10
8vo, pp. xvi, 525; plates.

Roy. 8vo, pp. xvi, 525; plates.

This finely illustrated work is now complete in eight parts. The coloured and other plates are from drawings by E. T. Compton and others; and there are numerous illustrations from photographs. The text is of very varied interest as it deals with the scenery, history, and daily life of the people. The sections are:—The land and its history, the scenery, botany, fauna, inhabitants, buildings (illustrations of all types of house, cottage, fence, etc.), industries (fully illustrated), the seasons. Altogether a very well filled-in picture of the life of an Alpine district.

- Gmelch, J.**, Der Grossglockner; see *Alpine Gipfelführer*, 7.
- Hints to Travellers**, scientific and general. Edited for the Council of the Royal Geographical Society by E. A. Reeves. 9th edition, revised and enlarged. Vol. I. Surveying and practical astronomy. Vol. II. Meteorology, photography, geology, natural history, anthropology, industry and commerce, archæology, medical, etc. London, R.G.S., 1906. 15/- net
8vo, pp. xi, 470; viii, 280; maps, ill.
Vol. 2, pp. 257-260, has an article on 'Mountain Travel,' by D. W. Freshfield, revised by C. T. Dent.
- Hoek, H., and E. C. Richardson.** Der Ski und seine sportliche Benutzung. Erste deutsche Auflage besorgt von H. Hoek.
München, Lammer, 1906. M. 4
8vo, pp. viii, 196; ill.
Partly a translation of Richardson's 'Ski-running.' A second edition of this useful work has been published. It is an excellent handbook to the sport.
- Holdich, Sir Thomas.** Tibet, the mysterious.
London, Alston Rivers [1906]. 7/6 net
8vo, pp. xii, 356; maps, plates. A volume of 'The Story of Exploration' series, edited by Dr. J. S. Keltie. This describes the country geographically and geologically, gives the history of its exploration by Europeans and a bibliography.
- Jacob, Louis.** La formation des limites entre Le Dauphiné et La Savoie (1140-1760). Contribution à l'étude de la Géographie historique du Sud-Est de la France.
Paris, Champion, 1906
8vo, pp. 106; maps.
Presented by the Rev. W. A. B. Coolidge.
- Jäger, V.** In der Gebirgswelt Tirols. Naturwis. Jugend- und Volksbibliothek. xxix. Bändchen.
Regensburg, Manz, 1906
8vo, pp. 132; ill.
- Jenny, Dr. E.** Ueber Fels und Firn. Wetterhorn, Jungfrau, Finsteraarhorn und Mönch.
Zofingen, Fehlmann, 1906
8vo, pp. 44.
Ascents, 1900-1905.
- Kalidasa.** Meghaduta; or, The Cloud Messenger. London, Scott [1906]. 1/-
This poem (translated by H. H. Wilson in 1813) describes the wanderings of a cloud.
'Thence to the snow-clad hills thy course direct,
And Croucha's celebrated pass select . . .
Winding thy way due north through the defile,
The form compressed, with borrowed grace shall smile:
The sable foot that Bali marked with dread,
A god triumphant o'er creation spread.
Ascended thence a transient period rest,
Renowned Kailasa's venerated guest;
That mount
Whose lofty peaks to distant realms in sight,
Present a Siva's smile, a lotus white.
And lo! those peaks than ivory more clear,
Where yet unstained the parted tusks appear.
Beam with new lustre, as around their head,
Thy glossy glooms metallic lustre spread;
As shows a Halabhrita's sable nest,
More fair the pallid beauty of his breast.'
- Kester, Friedl.** Der Falkenstein bei Füssen-Pfronten und seine Umgebung.
8vo, pp. iv, 84; ill. München, Selbstverlag, 1904
- Kocbec, Fr.**, Savinske planine; see *Slovenischer Alpenverein*.
- Landon, Perceval.** Lhasa. An account of the country and people of central Tibet and of the progress of the mission sent there by the English Government in the year 1903-4. London, Hurst and Blackett, 1905
2 vols. 8vo; maps, ill.

- Le Blond, Mrs. Aubrey.** True tales of mountain adventure for non-climbers, young and old. Third impression. London, Unwin, 1906. 5/-
8vo, pp. xx, 299; ill.
First edition 1902, reprinted 1903.
- Levier, Dr. Emile.** A travers le Caucase. Notes et impressions d'un botaniste. 2me édition. Paris, Fischbacher [1905]
Imp. 8vo, pp. 346; plates.
- Longstaff, T. G.** Mountain sickness and its probable cause. London, Spottiswoode, 1906. 1/-
8vo, pp. 56.
- Marinelli, G.** Guida della Carnia. Seconda edizione. Tolmezzo, Ciani, 1906
8vo, pp. viii, 502; maps, ill.
- Martel, E. A.,** Caves; see Report 8th Geogr. Congr.
- De Martonne, E.,** Karpates; see Report 8th Geogr. Congr.
- Norway.** Wie reist man in Schweden und Norwegen? Agricolas Wanderbücher, 3 u. 4. Chemnitz u. Leipzig, Wm. Gronau, 1906-1907. M. 1.60
8vo, pp. vii, 132; maps.
- Otani, K.,** Kuen-Lun; see Report 8th Geogr. Congr.
- Penck, A.,** Valleys of Alps; see Report 8th Geogr. Congr.
- Pfordte, O. F.,** Glaciers; see Report 8th Geogr. Congr.
- Phagos** [ps. i.e. Emm. Barrère]. En Pays Basque. Souvenir du Congrès du C.A.F. 1906. Bayonne, Lamaignère, 1906
8vo, pp. 29.
An interesting little guidebook to the neighbourhood of Bayonne.
- Pontresina.** Health Resort. Samaden, Engadin Press [1906]
8vo, pp. 23; map, ill.
This contains tariff of guides.
Presented by H. Cockburn, Esq.
- Radio-Radiis, A. v.,** Der Dachstein, see Alpine Gipfführer, 5.
- Reeves, E. A.;** see Hints to Travellers, 1906.
- Reichenwallner, L.** Alpenzauber. Berglegende und Volksschauspiel in vier Aufzügen. Wien, Ersten Wiener Vereins-Buchdruckerei [1906]
8vo, pp. 118.
- Reid, H. F.,** Reservoir lag; see Report 8th Geogr. Congr.
- Report of the Eighth International Geographic Congress held in the United States 1904.** Washington, Government Printing Office, 1905. 10/-
8vo, pp. 1064; ill.
This contains:—
pp. 138-145; E. de Martonne, Evolution d. Karpates méridionales. 165-172, plates; E. A. Martel, Scientific exploration of Caves. 173-184; A. Penck, Valleys and lakes of the Alps. 185-191; W. N. Rice, Classification of mountains. 191-192; G. K. Gilbert, Sculpture of massive rocks. 204-230, map; A. H. Brooks, Geography of Alaska. 231-238, map; K. Sapper, Grundzüge d. Gebirgsbau v. Mittelamerika. 478-479; F. E. Matthes, Lewis Range and glaciers. 487-491; H. F. Reid, Reservoir lag in glacier variations. 492; — Glaciers of Mounts Hood and Adams. 493-496; L. W. Chaney, Glacial exploration in Montana Rockies. 497-500; O. F. Pfordte, Glaciers of Poto, Peru. 724-731, plate; F. B. Workman, Hoh Lumba and Sosbon glaciers. 732-736, plate; W. Workman, Chogo Lungma glacier. 741-751; K. Otani, Where are the Kuen Lun mountains? 757; H. C. Parker, First ascents in Canadian Alps. 758-762; F. A. Cook, Around Mt. McKinley. 763-764; A. H. Brooks, Exploration of Alaska.
- Rice, W. N.,** Classification of mountains; see Report 8th Geogr. Congr.
- Richardson, E. C.,** Ski-Running; see Hoek, H.
- Roschnik, R.,** Der Triglav; see Alpine Gipfführer, 8.
- Santi, F., A. Chiavero e A. Ferrari.** Itinerari effettuati da Torino in uno o due giorni. C.A.I. Torino. Torino, Cassone, 1906
8vo, pp. 115.

Schider, Dr. E. Gastein für Kurgäste und Touristen. 12te Aufl. ergänzt v. Dr. O. Gerke. Salzburg, Mayer, 1906. Sm. 8vo, pp. 98; frontispiece.

Schnyder, Dr. L. Alcool et Alpinisme. Résultats d'une Enquête faite parmi les Alpinistes. Genève, Kündig, 1907. 8vo, pp. 43; reprinted from Arch. de Psychologie, vol. 6.

From replies to various questions sent to medical men and climbers, Dr. Schnyder comes to the conclusion that before or during prolonged exertion alcohol should not be taken, but it is permissible to take it for a special short effort, if needed, or when the expedition is nearing an end.

Sehrig, Othmar. Skiführer durch Tirol. Innsbruck, Edlinger, 1906. M. 1.30 8vo, pp. 55.

de Souville, Henry. Visions d'Engadine. Paris, Victor-Havard, 1906. Fr. 2 8vo, pp. 186; plates.

Steinitzer, Alfred. Geschichtliche und kulturgeschichtliche Wanderungen durch Tirol und Vorarlberg. Innsbruck, Wagner, 1905. M. 5 8vo, pp. xvi, 530; ill.

This interesting book would form an excellent companion volume to the traveller's Baedeker or Murray. It supplies much information on history, antiquities, and art, as well as descriptions of places and scenery. It is clearly written by a competent hand, and is well illustrated.

Switzerland. Dictionnaire géographique de la Suisse. Livraisons 141-152 (Tome IV, 1-12). Quader—Roosbodengletscher. Neuchâtel, Attinger, 1907. Imp. 8vo; maps, ill.

This section of this valuable gazetteer contains, among many other articles;—

Rhätikon, 9 pp. 15 illustrations; Rhône glacier, 5 pp., 8 illustrations; Mont-Rose, 3 pp., 4 illustrations; and illustrated short articles on Rigi, Rimpfischhorn, Ringelspitz, Piz Roseg, Rosenhorn, etc.

— **Les Sports d'Hiver en Suisse.** Annuaire de la Suisse hivernale, 1906-1907. Neuchâtel, Attinger frères, 1907. 8vo, pp. 280; ill.

Now that Switzerland is so much resorted to for all forms of winter sport, this handbook will prove useful to many. The first portion is descriptive of the various sports; and the second an alphabetical list of places in Switzerland where hotels will be found open in winter, with a few notes on the special attractions of each place, and the means of getting to it.

Unser letzter Kampf. Das Vermächtnis eines alten kaiserlichen Soldaten. Wien u. Leipzig, Stern, 1907.

A story of future war in the eastern Alps.

Wheeler, A. O. The Selkirk Range, British Columbia. Ottawa, 1906. Vol. 2: maps and plates.

1. The Selkirk Range from 'Napoleon.'
2. Map of portion of N.-W. Territory.
3. Sketch showing ascents of Swiss Peak and Rogers Peak.
4. Sketch showing ascents of Mt. Sir Donald and Uto Peak.
5. W. S. Green's Map, 1888.
6. Selkirk Range, to illustrate climbing in 1890 from Glacier House.
7. Part of Selkirk and Rocky Mountains, 1892.
8. Sketch showing the Abbott Ridge.
9. The Selkirk Range from Mount Abbott.
10. Profile of Canadian Pacific Railway.
11. Four sheets of topographical map of part of Selkirk Range adjacent to the C.P.Ry., 1901-2. Scale, 1/60,000: contour lines, 100 ft.

Winter in Switzerland. Berne, Swiss Federal Railways, 1906. Obl. 8vo, pp. 63; ill.

An illustrated list of winter resorts with names of hotels open.

Workman, W. and F. B.; see Report 8th Geogr. Congr.

Wundt, M.; see Spemann's Alpen-Kalendar, under 'Items.'

Older Books.

- d'Arve, Stéphen** [ps. i.e. E. de Catelin]. De Genève à Chamonix. Voyage de la famille Robineau. Genève, Vérésoff, 1876
8vo, pp. x, 145.
- B[eaufort], L.** Des montagnes de la terre. Notice servant de commentaire à un tableau comparatif de la forme et de la hauteur des principales montagnes du globe ; avec un appendice sur les cascades les plus remarquables. Paris, Rey et Gravier, 1827
8vo, pp. 140.
- Bremer, Frederika.** Two Years in Switzerland and Italy. Translated by Mary Howitt. London, Hurst and Blackett, 1861
2 vols. 8vo.
Life round Lausanne, Hasli Valley, Chamonix, Simplon, Zermatt.
- Burat, Amédée.** Une excursion dans les Alpes françaises. Liège (? 1868)
8vo, pp. 19 ; reprinted from Rev. universelle. Geological.
- Buttel, Le Chanoine.** Oraison funèbre de Mgr. Louis Rendu, évêque d'Annecy. Annécy, Burdet, 1859
8vo, pp. 46.
- Cockburn, Major James.** Views to illustrate the route of Mont Cenis. Drawn from nature, by Major Cockburn ; and on stone, by C. Hullmandel. London, Rodwell and Martin, 1822
Folio, 50 plates. In 10 parts as published.
— Views to illustrate the route of the Simplon. Drawn from nature, by Major Cockburn ; and on stone, by J. Harding. London, Rodwell and Martin, 1822
Folio, 50 plates. In 10 parts as published.
- Grange, Jules.** Recherches sur les glaciers, les glaces flottantes, les dépôts erratiques, sur l'influence du climat, sur la distribution géographique et la limite inférieure des glaciers. . . . Paris, Masson, 1846
8vo, pp. 142.
- Kohl, J. G.** Austria. London, Chapman and Hall, 1843
8vo, pp. 532.
- Laisus, Dr. C.** En Savoie. La Tarentaise. Guide du baigneur, du touriste et du naturaliste. Moutiers, Duclos, 1894
Sm. 8vo, pp. 526 ; ill.
- Liégard, Stéphen.** Une visite aux Monts Mandits (Ascension du Néthou). Paris, Hachette, 1872
8vo, pp. 92.
- Linton, E. Lynn.** The Lake country . . . illustrations. . . . by W. J. Linton. London, Smith, Elder, 1864
Sq. 8vo, pp. x, 351 ; maps, ill.
- Rendu, L.** Oraison funèbre ; see Buttel, Le Chanoine.
- Sherwill, Captain Walter S.** Notes upon a tour in the Sikkim Himalayah Mountains, undertaken for the purpose of ascertaining the geological formation of Kunchinjinga and the perpetually snow-covered peaks in its vicinity. [? Calcutta, privately printed, 1852 ?]
8vo, pp. 59 ; plate.
This was also printed, with maps, in vol. 22, 1854, nos. 6 and 7, of the Journ. of the Asiatic Soc., Bengal.
Presented by G. W. H. Ellis, Esq.
- Notes upon some atmospheric phenomena observed at Darjiling in the Himalayah Mountains, during the summer of 1852.
8vo, pp. 9 ; plate.
- Trollope, Mrs. [Frances].** Travels and Travellers. Including Rambles in Bavaria, Switzerland, and Sardinia. London, Knight [? 1860]
First published in 2 vols. in 1846.
Among other papers this contains ;—
A midnight passage of the Mont du Chat.
Rousseau's favourite residence.
Aix-les-Bains.
One more Savoy ramble.

- Wiesener, Louis.** L'hôtel de la Jungfrau. Souvenirs de Suisse. Meulan, Masson, 1889
8vo, pp. 11: reprinted from. Ann. Soc. philotechn. 1888.
- Wood, C. W.** Norwegian By-ways. London and New York, Macmillan, 1903
8vo, pp. 384; plates.

Club Publications.

- Akademischer Alpen-Verein, Berlin.** III. Jahresbericht. 1906
8vo, pp. 20.
This Club consists of 28 members. Among climbs made by members in the past year were;—
Muthorn, first ascent by the S.-E. ridge.
Castor, new route over the west side.
Kanzelkopf, first ascent by north face, descent by east side.
Gr. Greiner; first traverse of the ridge from Gr. Greiner to the Schönbichler Horn.
- Associazione 'Pro Cadore.' 'Cadore.'** Rivista illustrata della regione delle Alpi dolomitiche. Anno 1, no. 1-4. Padova, Settembre-Dicembre, 1906
4to, ill. This is a charming little magazine. It will be reviewed on the completion of the first volume.
- Austrian Alpine Club. Oester. Alpenzeitung.** 1906
4to, pp. 310; ill.
Among the articles are;—
K. Blodig, Eine Woche im Berner Oberlande.
G. Halsler, Erste Ueberschreitung d. Kl. Gelmehorns.
E. Lecher, Route VI a. d. Montblanc.
M. Pfannl, Die Erste Begehung d. Matteriol-Südwestgrates.
H. Hoek, Vom Adlerpasse z. Alphubeljoch.
- Austrian Tourist Club. Oester. Touristen-Zeitung.** XXVI. Band. Wien, 1906
4to, pp. 302; ill.
Among the articles are;—
H. Nägele, Die Drei Schwestern.
W. Fleischmann, Tannheimer Bergen.
P. Trömel, Nosemital.
W. Thiel, Pisciaduseeturm.
W. Fleischmann, Die Dreitorspitz-Gruppe.
A. v. Fetzer, Lofer u. seine Berge.
J. Soyka, Die Westwand d. Spitzkofels.
O. Barth, Cortina d'Ampezzo im Winter.
- C.A.F. Annuaire.** Table générale des quinze dernières années . . . par J. Lemercier. 1906
8vo, pp. 212.
- **La Montagne,** revue mensuelle. 2^e année. 1906
8vo, pp. xxvii, 596; ill.
Among the articles are;—
E. Canzio, L'Aig. Verte du glacier du Mont Blanc.
S. Chabert, Les pentes Sud Est du massif de Chamrousse.
E. Diehl, La montagne aux Salons de 1906.
L. J. Edmond-Durand, Le Col de la Faucille.
E. Gaillard, L'Aig. de Lépéna.
P. Lory, L'Oucane, la Pusterle, le Roc de Chabrières.
H. Metrier, L'histoire du Mont Iseran.
A. L. Meurice, Au long du Valgaudemar.
H. Spont, Le Pic Féchan.
R. du Verger, L'Aig. du Fruit.
- **Alpes Maritimes.** Bulletin, 25^{me} et 26^{me} années, 1904-5. Nice, 1906
8vo, pp. 438; plates.
The articles are;—
V. de Cessole, Le Cirque de Rabuons.
Has list of maps and books.

L. Purtscheller, Dans les Alpes Maritimes.

Trans. from Zeitschrift d. D. u. OE. A.-V. 1893.

F. Cavillier, La Cime Burnat.

R. Thierry, Berthemont et le Cirque de Ferisson.

A. Saint-Yves, La saxifrage à floraison abondante.

J. Dinner, Le reboisement dans les Alpes Maritimes.

P. Casimir, Le Trophée d. Alpes du Col de la Turbie.

M. Giacobini, La montagne, ses phénomènes, et ses glaciers.

L. Girod-Genet, La pisciculture dans les Alpes-Maritimes.

A. Guébbard, Les enceintes préhistoriques des Préalpes Maritimes.

C.A.F. Section Lyonnaise. Revue Alpine, vol. 12. 1906
8vo, pp. x, 376; plates.

Amongst the articles are;—

P. Helbronner, Un mois dans les massifs de Belledonne, des Grandes
Rousses, etc.

H. Ferrand, Les cartes du Mont Blanc.

— Au pied du Viso.

W. A. B. Coolidge, Autour de Panestrel.

P. Mougín, La débâcle de Champagny en 1818.

G. Gignoux, Au Glacier Blanc en avril.

G. Le Tagnard, Les Pyrénées et leurs vallées aragonaises.

C.A.I. Torino; see Santi, F.

Catalan Club. Butlletí del Centre Excursionista de Catalunya, Any xvi,
nos. 132-140. Barcelona, 1906

8vo, pp. 288; ill.

Among articles of antiquarian interest occur the following on moun-
taineering;—

J. Soler y Santalo, Excursions per l'Alt Ribagorçana.

E. Vidal y Riba, A través del Canigó.

A. Gaza, Circonvalant el Canigó.

D.u.Oe.A.-V. Bücherverzeichnis d. Zentralbibliothek. Verfasst v. Dr. A. Dreyer.
8vo, pp. 316. München, 1906

The items are arranged under districts and subjects, with a reference
index of authors at the end.

— Zeitschrift, 37.

Innsbruck, 1906

Roy. 8vo, pp. 396; plates.

The articles are;—

G. Steinmann, Geologische Probleme des Alpengebirges.

H. v. Staff, Wind und Schnee.

On snow and sand forms taken under the influence of wind.

E. W. Bredt, Wie die Künstler die Alpen dargestellt.

With this compare the note and illustration in the Alpine Journal,
Nov. 1906, p. 386. This article contains illustrations of 37
pictures. In the reproduction of Witz picture the alps in the
background do not appear. This interesting article is to be
continued in the next volume.

L. v. Hörmann, Der tirol-vorarlberg. Weinbau.

G. Merzbacher, Der Tian-Schan.

On his journey of 1902-3; very finely illustrated.

F. Reichert, Aus d. Hochgebirge d. Wüste v. Atacama.

H. Hoek, Bergfahrten in Bolivia.

H. Bertram, Hochtouren in d. Zentralpyrenäen.

G. Becker, Champex u. Umgebung.

H. Pfann, Zwei führerlose Fahrten in d. Montblancgruppe.

E. Enzensperger, Zur tourist. Erschliessung d. Allgäus.

R. Schlucht, Das Pitztal.

E. Niepmann, Die Ortlergruppe.

H. Barth, Die Brentagruppe.

A. Gstirner, Die Julischen Alpen.

K. Doménig, Die Karnischen Voralpen.

- D.u.Os.A.-V. Mitteilungen, N.F. Band 22.** 1906
4to, pp. 298; ill.
Among the principal articles are;—
F. Schneider, Erste Ersteig. d. Nordkante d. Crozzon di Brenta aus d. Val Brenta alta.
Wer ist d. erste Ersteiger d. Königsspitze?
M. Hofmüller, Neue Touren im Nordzuge d. Palagruppe.
F. Eckardt, Schülerreisen.
G. Becker, Die Hochalpenunfälle, 1905.
J. Ittlinger, Die Aig. Verte.
L. V. Jäckle, Die erste Ueberschreitung d. Grats v. nördlichen Faulkogel z. Südlichen.
F. Hörtnagel, Die neuen Touren 1905 in d. Ostalpen.
Eine Ersteigung d. Aconcagua.
On Jan. 31, by R. Hebling.
- **Ansbach.** Bericht 1901-1903. 1904
8vo, pp. 20.
- **Satzungen.** 8vo, pp. 7. 1903
- **Frankfurt a.M.** Bericht. 8vo, pp. 38. 1906
This section has nearly 800 members. During 1906 it had completed the Verpeilhütte.
- **Landshut.** Jahres-Bericht. 1906
8vo, pp. 5.
- **Tölz.** Rechenschafts-Bericht nach 25jähriger Tätigkeit 1881-1906. München, Wolf, 1906
4to, pp. 36; ill.
- Fiume.** Club alpino fiumano. Liburnia, rivista mensile, anno V. 1906
8vo, pp. 148; ill.
This contains among other articles;—
R. Paulovatz, Escursioni invernali.
Prof. Wanka, Risnjak.
E. Marcuzzi, Obruca.
R. Fürst, Sneznik.
G. Depoli, Pakieno.
G. Sablich, Sul Risnjak.
G. Depoli, L'evoluzione delle strade nella regione liburnica.
- Royal Geographical Society, London.** The Geographical Journal, vol. 28. July to December, 1906
The articles of alpine interest are;—
July, pp. 43-50, T. T. Behrens, The snow-peaks of Ruwenzori.
Aug., pp. 105-130, E. Nordenskiöld, Travels on the boundaries of Bolivia and Peru.
Sep., pp. 245-266; C. R. Enock, Two expeditions in Southern Peru.
Nov., pp. 481-487; D. W. Freshfield, Ruwenzori and the frontier of Uganda.
Dec., pp. 537-560; J. L. Myres, The alpine races of Europe.
- Rucksack Club, Manchester.** First report. 8vo, pp. 20. 1903.
Mr. J. T. Ewen, the editor of the Rucksack Club Journal, has after prolonged inquiry succeeded in securing for the Alpine Club a copy of this rare report. The thanks of the Club are due to Mr. Ewen for the trouble he has most kindly taken.
- Russian Alpine Club.** Year Book V. Moscow, 1906
Roy. 8vo, pp. vi, 159; plates.
The articles are;—
N. Poggenpohl, Glaciers of Digoria.
Dr. Stehourofski, Cols of the Eastern Caucasus.
N. Korjenefski, Cols of the Alai Chain.
B. Fedchenkos, Journey on the Pamirs.
W. Rasevigie, On Shah-Dagh.
A. de Meck, Glacier Commission of the Imperial Russian Geog. Society.
W. Sapojnikof's Journey in the Altai.

S.A.C. L'Echo des Alpes, No. 1.

Genève, 1865

8vo, pp. 15.

This contains the Rules and Report, and, with three pamphlets published by F. Thiolly, forms the first volume of the 'Echo d. Alpes.' By the addition of this part, which has been secured and kindly presented to the Club by Mr. H. Montagnier, the Club set is now complete.

— **Alpina.** Bulletin officiel. XIV. Jahrgang. 1906
4to, pp. 188.

Among the articles are ;—

- C. Täuber, Auf d. Gr. Windgelle.
- F. Zscholle, Grenzfahrten.
- A. Baumann, Breithorn u. Neues Weisstor.
- W. Baumann, Piz Bernina.
- J. Guex, Au Mont Blanc.
- E. Fankhauser, Tourist u. Führer.

— **Echo des Alpes.** 42^{me} année. 1906
8vo, pp. 432; ill.

Among the articles are ;—

- F. Burky, Traversée de la Dent Blanche.
- E. Buset, L'Histoire de l'Oldenhorn.
- G. Hantz, A la Pointe de Tricot.
- H. E. Gans, Taesch.
- B. et G. Gallet, Du Simplon à la Disgrazia.
- L. Seylaz, Huit jours dans le massif de Saleinaz.
- T. Aubert, Ascension au Mont-Blanc.
- G. Rossier, D'Arolla au Grand Paradis.

Slovensko planinsko drustvo; Slovenischer Alpenverein; Laibach, 1893.
Seznamek markiranih potov v podroczju 'Slovenskega planinskega drustva.'
Sm. 8vo, pp. 96. n.d.

List of marked paths and tariff for guides.

— **Po desetih letih 1893-1903.** V. Foerster. 1903
8vo, pp. 25; portraits.

'Festschrift' for first ten years.

— **Vova zeleznica skoroskega skozi karavanke, bohingske gore in Crez Cras v Trst.** n.d.
8vo, pp. 30; map, plates.

A descriptive account of the district on the opening of the Tauern Railway.

— **Savinske planine. Vodnik po gorah in dolinah v Savinskih paninah.** Sestavlil Fr. Kocbek. 1904
Sm. 8vo, pp. 122; map.

A guide-book to the Sanntaler Alps.

— **Planinski Vestnik, xii, 4.** April, 1906

A copy of the Club's monthly publication.

Soc. alp. d. Giulie. Alpe Giulie, rassegna bimestrale. Anno xi. Trieste, 1906
8vo, pp. 232; ill.

The principal articles are ;—

- G. Kugy, Il Mont Dolent.
- N. Cozzi, Impressioni di una traversata, Monte Durano.
- Nuova via alla Cima d. Cianevate.
- V. Segre, Da Innichen a Cortina d' Ampezzo.

Société des Alpinistes Dauphinois, Grenoble. Revue des Alpes dauphinoises.
Journal mensuel. 8^{me} année. Juillet, 1905-juin, 1906
8vo, pp. viii, 192; ill.

Among the articles are the following ;—

- H. Duhamel, Entre le Valgaudemar et le Vénéon.
- V. Zotier, Le Goléon.
- C. A. Barnicoat, Une Néo-Zélandaise en Dauphiné.
- P. F. Chabert, La Tête de l'Étret.

W. A. B. Coolidge, *Le Sirac dans l'histoire alpine.*

R. Tissot, *L'Aiguille Doran.*

Unione escursionisti Torino. Calendario programma per l' anno 1907.

Obl. 4to; ill.

Each year this society publishes a pretty illustrated wall-calendar containing the mountaineering engagements for the year.

Pamphlets and Magazine Articles.

Benson, E. C. Scrambles in Yorkshire. In *Fry's Magazine*, Newnes, London, vol. 6, no. 23. November, 1906.

8vo, pp. 147-151; ill.

A well-illustrated article on climbs on Almes Cliff.

Boegan, E. Elenco e carta topografica delle Grotte del Carso. Soc. Alp. d. Trieste, Caprin, 1907

8vo, pp. 20; map.

Bohr, O. Hochgebirgs-Photographie. Ratgeber für Ausrüstung und Arbeitsweise. Unter Mitwirkung von Dr. Kuhfahl, Dresden, Karl Wipplinger, Graz. Dresden, Bohr [1906]

8vo, pp. 64; ill.

A maker's catalogue, with directions.

Bourgogne, Jean. Dans les Pyrénées occidentales. Le Pic du Midi d'Ossau et le refuge d'Arrémoulet. In *Le Monde illustré*, Paris, no. 2581.

Folio, pp. 170-171; ill.

15 septembre, 1906

Brodrick, T. N.; see New Zealand.

C[asparis], T. Avers, Graubünden.

8vo, pp. 32; ill.

Zürich, Lobhauer [1901]

A nicely illustrated little descriptive pamphlet.

Chamberlin, T. C. A contribution to the theory of glacial motion.

University of Chicago, 1904

4to, pp. 16; plates. Reprinted from *Decennial Publications*, vol. 9.

'A glacier is a colossal aggregation of crystals grown from snowflakes to granules of much greater size. . . . Movement of the glacier takes place by the minute individual movements of the grains upon one another. . . . The movement is supposed to be permitted chiefly by the temporary passage of minute portions of the granules into the fluid form at the points of greatest compression, the transfer of the moisture to adjoining points, and its resolidification. . . . Instead of assigning a slow viscous fluidity, like that of asphalt, to the whole mass, which seems inconsistent with its crystalline character, it assigns a free fluidity to a succession of particles that form only a minute fraction of the whole at any instant.'

Churchill, G. C., Obituary notice of. In *Roy. Botanic Gardens, Kew Bulletin*, vol. 9. 1906

8vo, pp. 384-392.

Cilvanet, C. Une ascension militaire au Mont-Blanc. In *Rev. franç. de l'Etranger*, no. 333. Septembre, 1906

8vo, pp. 510-518.

In August last a column of Chasseurs Alpins, 63 strong, under Cap. Crignon, with one guide, ascended to within 400 m. of the summit.

Crammer, Hans. Die Gletscher. Reprinted from 'Die Natur.' 1906

8vo, pp. 385-413; plates. Very good photographs of glaciers.

Cuenot, Henri. Le Mont Blanc. In *Le tour de France*, nos. 21 and 23.

Folio, pp. 34-38; 71-75; ill.

Août, septembre, 1905

Kindly presented by the author. The articles are finely illustrated.

— Le Grand St. Bernard et le Simplon. In *Le tour de France*, no. 32.

Folio, pp. 266-277; plates.

Juillet, 1906

This beautifully illustrated article has been most kindly presented by the author.

- Damenez, Monsieur.** L'alpinisme. In *Revue pédagogique*, Paris, N.S. tome 49, no. 8. 15 Août, 1906
8vo, pp. 174-182.
- David, J. J.** Il Runssoro secondo le esplorazioni del dott. J. J. David. In *Le Globe*, Soc. de Géogr. Genève, vol. 45, no. 2. Février-Mai, 1906
8vo, pp. 138-142.
Résumé of an article in the *Boll. Soc. geogr. ital.*, vol. 7, no. 4. Dr. David travelled in April, 1904. He arrived at Karewia, and on the 19th camped at Itère. Thence he ascended to 5,050 m. on the glacier.
- Dawe, M. T.** Mount Ruwenzori. In *Uganda Notes*, Mengo, Uganda, vol. 6, no. 9. September, 1905
8vo, pp. 134-135.
Botanical notes during exploration in July, 1905.
- Demanches, G.** Le Cañon du Verdon. In *Rev. franç. de l'Étranger*, no. 333. Septembre, 1906
8vo, pp. 503; ill.
Concerned with speleology.
- Dübi, Dr. Hch.** Zwei Beschwörungen des Grindelwaldgletschers im XVIII. Jahrhundert. In *Sonntagsblatt des Bund*, Bern, Nr. 12-13. 25. März, 1. April, 1906
4to, pp. 92-94; 100-102.
These articles contain several interesting details taken from the Grindelwald chronicles and elsewhere, including a letter written by Herr Mann (whom Dr. Dübi identifies with Sir Horace Mann) in 1723, on the glaciers. This was first printed in the works of Abauzit, to whom the letter was addressed, in 1783.
- L. Duparc.** L'âge du granit alpin. In *Bibl. Univ. Arch. d. Sc. Genève*, 4^{me} pér., tome 21, no. 3. 15 mars, 1906
8vo, pp. 297-312.
- Ferrari, Dr. Agostino.** Il Rocciamelone. In *Il Secolo XX*, Treves, Milano, vol. 5, no. 8. Agosto, 1906
8vo, pp. 637-643; ill.
A well-illustrated article.
— see Santi, F.
- Garwood, E. J.** The tarns of the Canton Ticino. In *Quart. J. Geol. Soc.* vol. lxii. May, 1906
8vo, pp. 165-193; plates.
The results of investigations during several summers; with a view to consideration of the question of method of formation of lake basins.
- Glaciers, Commission internationale des glaciers.** Les variations périodiques des glaciers. 11^{me} rapport 1905 rédigé par Dr. H. F. Reid et Muret. Berlin, Borntraeger, 1906
8vo, pp. 21; reprinted from *Annales de Glaciologie*, vol. i. Sep. 1906.
It is of interest to note that the study of glaciers has received a new stimulus in France, on the commercial side, from the fact that their diminution interferes with the water supply for agriculture and for manufactories. As a consequence the Minister of Agriculture has assisted in the scientific study of glaciers.
— see Reid, H. F.
- Grande, Julian.** Irishmen in the Alps. Mountaineering with an Irish terrier in Ireland, Dublin, vol. 6, no. 6. September-October, 1906
4to, pp. 264-268; ill.
- Huntington, E.** The Vale of Kashmir. In *Bull. Amer. Geogr. Soc.* New York. Vol. 38, no. 11. November, 1906
8vo, pp. 657-682.
- Jacot Guillarmod, Dr. J.** Au Kangchinjunga. In *Le Globe*, Soc. de géogr. Genève, vol. 45, no. 2. Février-Mai, 1906
8vo, pp. 87-90.
Résumé of a paper read on February 23rd.
- Jullian, Camille.** Hannibal en Gaule. In *Rev. Universitaire*, Colin, Paris, 15^e année, no. 8 et 9. 15 Octobre et 15 Novembre, 1906
8vo, pp. 202-213; 309-321.

- Kennedy, Sir A. B. W.** Address to the Institution of Civil Engineers, 8vo, pp. 13-15; Mountain Railways. Westminster, 1906
- L., R.** Les glaciers de la Vanoise. In Rev. mens. du Touring-Club de France, 16^e année. Octobre, 1906.
4to, pp. 467-468.
- See note under Musset.
- Latour, A.** La triangulation géodésique des hautes régions des Alpes. In La Nature, no. 1705. 27 janvier, 1906
4to, p. 138.
- Mann, Sir Horace.** Letter, 1723, on the Grindelwald glaciers. First printed in Abauzit's Works, 1783; reprinted in H. Dübi, Zwei Beschwörungen, q.v.
- Martel, E. A.** L'avalanche de l'Altels. In La Nature, année 23, no. 170. 2 novembre, 1905
4to, pp. 353-356; ill.
- Ruptures de poches d'eau des glaciers. In La Nature, année 23, no. 1138. 23 mars, 1895
4to, pp. 258-260; ill.
- Martin, David.** Aperçu sur les travaux relatifs à la mise en observation des glaciers dauphinois. Gap, Jean et Peyrot, 1906
8vo, pp. 15; reprinted from Bull. Soc. d'Etudes, Gap, 2^e trimestre 1906, no. 18.
- Mercanton, P. L.** La III^e conférence glaciaire internationale. In Bibl. Univ. Arch. d. Sc. Genève, 4^{me} pér., tome 21, no. 3. 15 Mars, 1906
8vo, pp. 313-325.
- The first conference was held at Gletsch in 1899, the second at Vent in 1901, and the third at Maloja in 1905. About 20 scientists are invited to these meetings, which are held in districts suitable for practical study.
- Mougin, L.** Rapports. Mensurations pluviométriques et nivométriques. Ministère de l'Agriculture, Eaux et Forêts, Départ. de la Savoie.
Folio, pp. 15, 13, 12. Chambéry, 1904, 1905, 1906
- Etat des avalanches et de leur dégats pendant l'hiver 1904-1905. pp. 3. 80 juillet, 1905
- 1905-6. pp. 4. 12 juillet, 1906
- Etat des chutes de neige survenues pendant l'hiver du 1 octobre, 1904-31 mai 1905. pp. 3. 12 juillet, 1905
- 1905-6. pp. 4. 11 juillet, 1906
- The above are lithographed folio reports issued by the Ministère de l'Agriculture, Eaux et Forêts, Départ. de la Savoie, Chambéry.
- Mougin, P.** Le glacier de la Tête-Rousse. In La Nature, année 32, no. 1633. 4to, pp. 231-234; ill. 10 septembre, 1904
- Musset.** Sept jours dans le massif du Pelvoux. In Rev. mens. du Touring-Club de France, 16^e année. Octobre, 1906
4to, pp. 462-465; ill.
- This has been kindly presented by the Secretary. The 'Revue' is only for members, and is not sold to the public.
- Newton, Rev. H. E.** A new pass and the third ascent of Mount Cook. In Christmas Number of Christchurch Weekly Press. 1906
Folio, pp. 45-50; illustrated.
- New Zealand.** Report on the Department of Lands for the year 1905-6. Folio. Wellington, 1906
- C. 1a, pp. 16-17, 2 maps. Report on Mount Cook Glaciers by T. N. Brodrick.
- Ogilvie, J. H.** The effect of superglacial débris on the advance and retreat of some Canadian glaciers. Reprinted from the Journal of Geology, Chicago, vol. 12, no. 8. November-December, 1904
4to, 722-740; ill.
- Quincke, G.** The formation of ice and the grained structure of glaciers. In the Proc. Royal Soc., London, vol. A76. 1905
4to, pp. 431-439.

- Reid, H. F.** The variations of glaciers, xi. 1906
8vo, pp. 402-410; reprinted from Journ. of Geol. Chicago, vol. 14, no. 5, July-August, 1906.
Synopsis of report for 1904;—
Switzerland and Eastern Alps: increased tendency to decrease.
Italian Alps: indications of coming increase on Italian side of Mont Blanc.
French Alps and Pyrenees: some smaller glaciers disappeared.
Norway: retreat and advance which does not appear to correspond with the difference of snowfall in different parts.
Caucasus: apparent preparation for advance.
- see *Glaciers.*
- Ronchetti, Dr. V.** Al Monte Rosa da Macugnaga. Rovereto, Grandi, 1906
8vo, pp. 14; ill.
Presented along with reprints from the Riv. Mensile by the Author.
- Tank Roar.** Winter in Norway, the land of the midnight sun.
Kristiania, Cammermeyer, 1906
Folio, 27; ill. Published by the Norwegian Tourist Traffic Association.
- Tarr, R. S.** Second expedition to Yakutat Bay, Alaska. In Bull. Geogr. Soc. Philadelphia, vol. 5, No. 1. January, 1907
8vo, pp. 1-14; plates.
- Turner, S.** Traverse of Mount Cook. In the Auckland Star.
January 24, 1906
This traverse was described by M. Ross in the 'Times' of April 17, 1906
— First and only attempt on Mt. Elie de Beaumont. In the Auckland Star.
February 7, 1906
- Der Winter.** Illustriertes Wochenblatt für den Wintersport. Vol. 1, Nr. 1.
19. November, 1906
This is the first number of a weekly newspaper on ski-ing, etc., published by the proprietors of the Deutsche Alpenzeitung. It ought to be useful, as it is certain to be well edited. It is issued during winter by G. Lammer, Munich, price, post free, 4/6.
- Winter in Norway;** see Tank, R.
- Yeigh, F.** Mountain climbing in the Canadian Alps. In the Sunday at Home, R.T.S. London. November, 1906
8vo, pp. 65-72; ill.

Items.

- Gos, François.** Three coloured lithographs of an Alpine chapel, hut, and wayside cross.
Vevey, Säuberlin & Pfeiffer, 1907
- Jeu du Simplon.** Bern, Punta-Haus A.G., 1907
This is a game played on a large folding map of the Alps by 6 persons or fewer. Each person moves his piece as many stations along the line, Lausanne-Milan, as the dice-number indicates. A wait at the tunnel entrances, until a 6 turns up, prevents uninterrupted enjoyment of the journey. The map is illustrated by small views of the places on the line.
- Schwingerfest im Oberland.** Charles Giron pinx. Photographure Bruckmann.
München, Photogr. Union, 1906. M. 30
This plate, 27 ins. by 17 ins.—represents a wrestling-match held on a Swiss upland. The men and women of the district, including the clergyman and an Alpine guide, sit in a semicircle round the two wrestlers, one of whom is just throwing the other. In the background rises a range of snow-covered high peaks.
- Spemann's Alpen-Kalender.** Berlin u. Stuttgart, Spemann, 1907. M. 2
8vo, ill.
Three days on a page with an Alpine view on each page. Arranged by Frau M. Wundt.
- Tourist. Calendar.** E. Lauterburg, Bern, 1907
A scenic illustration for each day, a large proportion being Alpine.

ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 3s., can be obtained from all book-sellers, or from Messrs. Stanford, 12 Long Acre, W.C.

THE LIBRARY CATALOGUE may be obtained, bound in cloth, on application to the Assistant Secretary, 23 Savile Row. Price 3s.; postage, 4d.

THE ALPINE HISTORY OF THE FINSTERAARHORN.—In Mr. Compton's paper on the ascent of the Finsteraarhorn by the S.E. arête (November 'Alpine Journal') I find a number of mistakes as to matters of fact relating to the Alpine history of that peak, and I desire to correct them in order to avoid confusion in the future.

1. On p. 305 Mr. Compton throws out the suggestion that the Meyer party in 1812 climbed the E. arête. But he has clearly overlooked the fact that the line showing their route on the map annexed to their 1818 pamphlet makes them reach the S.E. arête high up (not the E. arête, also shown thereon) while the text of their narrative, whether in its 1813 or its 1852 dress, confirms the accuracy of this line. Their route on the way up from the Studerfirn and down to the Fiescher glacier is accurately stated in my 'Climbers' Guide to the Bernese Oberland,' vol. ii. p. 33, while the small square inserted on the map leaves no doubt that they started from a bivouac on the Gemslücke, and returned to it the same evening.

2. On pp. 305 and 308 Mr. Compton states quite positively that in 1898 the four Meiringen guides climbed the E. arête, basing this statement on the narrative they wrote in the Oberaarjoch Club Hut book, and referring to 'Alpine Journal,' xx. p. 142. Mr. Compton, however, is completely in error on this matter, as the four guides simply mounted from the Studerfirn to the S.E. arête, never touching the E. arête at all. I looked into the matter before making this assertion in my book (pp. 34-5) issued in 1904, and since the publication of Mr. Compton's article have again examined the question.

Dr. Andreas Fischer very kindly requested Melchior Kohler (one of the four guides of 1898, and now *guide chef* at Meiringen) to address to me a letter (dated January 7, 1907), in which he describes the 1898 route as follows (I translate pretty literally): from the Oberaarjoch Club Hut 'we went over the Studerfirn towards (*gegen*) the Ober Studerjoch for 1 or 1½ hour. Then we turned to the left towards the arête that mounts from the Gemslücke or Rothhornsattel to the top of the Finsteraarhorn. Our first intention was to mount, just to the left hand of the small glacier (*Gletscherlein*) which descends from the arête to join the Studerfirn, by a rock rib, but owing to the danger of falling stones we had to bear more to the left in order, by a pretty steep rock rib,

to gain the arête. From this point we climbed over several towers on the arête before gaining the final steep cliff (*Stutz*) of the Finsteraarhorn. The best and shortest line of ascent from the Studerfirn to the arête seems to me to be by the rocks just to the left hand of the small glacier. One of my comrades tells me that Herr Bodenstein, with the guides Stähli and Tännler, in the summer of 1905, made use of those rocks in order to mount from the Studerfirn to the S.E. arête, and it is said that they offer pretty good going.' This letter by one of the 1898 men finally settles the question of the arête which they climbed—it was the main S.E. arête (descending to the Gemslücke), and *not* the E. (strictly speaking E.S.E.) arête (falling towards the Ober Studerjoch).

By the courtesy of Dr. H. Dübi I give here the translation of a letter addressed to him (in answer to his inquiry) under date of December 24, 1906, by Alexander Tännler, a well-known Meiringen guide, who has 'traversed' the peak on four occasions: 'in reply to your query I beg to inform you that the expedition in question consisted of the guides Heinrich Rieder, Melchior Kohler, Kaspar Kohler, and Albert Huggler, and that they took the route from the Studerjoch, to the left of the small glacier, up the rocks to the arête. The same route had been taken in July of the same year (therefore previously) as far as the arête by the guides Joh. Moor, Heinrich Fuhrer, and Melchior Kohler, with the similar object of fixing the rope, but this party was obliged to turn back, after gaining the arête, owing to a snow storm. I have myself 'traversed' the Finsteraarhorn four times, and have only been able to use (and that with difficulty) the rope on one occasion, as it was always covered by ice.' It will be noticed that Tännler uses the term 'Studerjoch' to designate what is really the 'Studerfirn,' and this is no doubt the detail in the original account of the four guides which has led Mr. Compton astray. Tännler says distinctly that the four guides mounted to the left of the 'kl. Gletscherli,' and the view given by Mr. Compton opposite p. 305 shows that this can only be that little glacier which clings to the E. slope of the S.E. arête.

When writing my book I had before me a note addressed to Dr. Dübi by Herr Albert Weber (of Berne), who, with Alexander Tännler, climbed the peak in 1899. Herr Weber states without ambiguity that he reached the 'Südgrat,' and certainly Tännler imagined himself then to be following the route taken by his comrades the year before. My book, on the basis of the above note, gives (p. 84) Herr Weber's route quite correctly.

It would thus seem to be quite certain that none of these parties ever touched the E. arête, which has probably never yet been climbed by anyone.

3. On p. 305 Mr. Compton mentions the case of a lady who 'in 1904, it was said,' spent 72 hrs. on the mountain, which she ascended by the E. face. I have now lived eleven years at Grindelwald, and have made inquiries without being able to discover anything as to this party of 1904. I am inclined to think that Mr.

Compton is really thinking of Miss Gertrude Bell's *unsuccessful* attempt on the peak by its *N.E. face* in 1902—the party started from the Grimsel, and the whole story is narrated in No. 218, August 6–7, 1902, of the 'Bund' newspaper, a reference I give on p. 42 of my book, while mention is made of this expedition in the 'Alpine Journal,' vol. xxii. p. 322, note †.

4. On p. 307 Mr. Compton, of course unintentionally, misquotes my book. According to him I wrote: '(The 1899 party climbed from the rope [slab] to the top in 20 min.)' Now what I really wrote (p. 86) was: 'Here . . . is the fixed rope, by means of which the steep cliff is more easily scaled (in 20 min. by the English party of 1899) than formerly.'

On p. 309 Mr. Compton seems to be rather vexed with me because I considered in my book (as I still consider) that in 1899 (as again in 1905) he found the mountain in exceptionally favourable condition. My estimate of the time required from the 'minor summit' on the S.E. arête to the top of the Finsteraarhorn is 2–3 hrs., is based on the reports of various parties (I myself have never taken this route), and is not a 'record' time, but, as I state in my Preface, an 'average' time such as would be employed by average walkers under average circumstances.

In a hurried addition to his article (p. 310) Mr. Compton states that Mr. Claude Macdonald's experience of the S.E. arête (Mr. Compton says textually 'our expedition,' and so cannot refer to the final climb only) 'seems sufficiently like my own to justify me in recommending our expedition in good weather.' Mr. Compton, in order to go from the point where he struck the S.E. arête to the top, took 2½ hrs. in 1899 and 2 hrs. in 1905. Now Mr. Macdonald in September, 1905, to cover the same ground, took (see p. 339) no less than 3 hrs. 55 min., a very considerable difference! I had the good fortune of talking over this climb with Mr. Macdonald shortly after he made it, and the impression our conversation left on my mind was that he inclined to the usual estimate of the route and not to that of Mr. Compton, as expressed in the letter which he had shortly before addressed to me.

W. A. B. COOLIDGE.

By the kindness of the Editor I have been permitted to see the above, and have only to add that I am glad to note the corrections of what I had taken on imperfect information. I made no allusion, however (p. 310), to Mr. Claude Macdonald's experience of the S.E. arête. I said, 'His experience seems,' &c. And I had mentioned (p. 307) the portion *beyond* the 'minor summit' as that 'about which there has been considerable difference of opinion.' For this portion I gave 1½ hr. as my time. Mr. Macdonald gives (p. 339) 1 hr. 55 min. when the rocks were 'a good deal glazed' and 'the fixed rope near the summit was buried in ice.' W. C. COMPTON.

A WINTER ASCENT OF PIZ BERNINA.—Mr. W. Fowler writes, 'At midday on Thursday, January 17, I left the Hôtel Pontresina, with my wife and two guides, Andreas and Anton Rauch, for the

Boval Hut, with the intention of climbing the Piz Bernina (13,295 feet) next day. We arrived at the Boval Hut at 5.15 p.m., having taken exactly three hours to go up the Morteratsch glacier. I left the hut with Andreas and Anton Rauch at 4 a.m. on January 18, after bidding my wife good-bye. She was able to watch our movements with a telescope most of the day. For the first three hours we advanced over the soft snow and glacier with lanterns. Just before daybreak a slight accident occurred to the younger Rauch, who was leading. He fell into a deep crevasse with no note of warning, and was only extricated after 50 minutes had passed. His presence of mind in retaining hold of his ice axe and setting about to help himself at once was most praiseworthy and lessened the danger considerably. We continued at once, as time was precious, gaining the summit at 1.15. We could only remain there 15 minutes. The view was superb on all sides, the sky cloudless and the sun brilliant. We examined the Piz Roseg from the Bernina summit, as I also thought of attempting this some day later, but its sides were so steep and slippery with smooth ice that my guides did not care about it. We effected the descent quickly, being back in the hut at 5.40 p.m.: $4\frac{1}{2}$ hours from Berninagipfel to Bovalhütte. I have only to add that I found the ascent of the Piz Bernina in winter quite as enjoyable and very little colder, though more toilsome and dangerous, than the ascents of, e.g., the Finsteraarhorn, Wetterhorn, and Gspaltenhorn, which I climbed last September.'

CORRESPONDENCE.

THE WATKIN ANEROID IN MOUNTAIN MEASUREMENTS. (CONCLUSION.)

To the Editor of the ALPINE JOURNAL.

SIR,—May I be permitted to reply once again to the renewed criticisms contained in the rejoinder by Mr. Freshfield in the November 'Alpine Journal,' p. 347.

Mr. Freshfield asserts that I persist 'in the attempt to represent Mr. Graham's heights as doubtful altitudes.' I answer, Mr. Freshfield's zeal in behalf of his contention for Mr. Graham leads him to persist in misinterpreting the application of my remarks. Will he explain how one can persist in an attempt which has not been made? The only two altitudes ascribed to Mr. Graham which I have characterised as doubtful, or even mentioned (see pages 83 and 345), are those attained on A. 22 and Dunagiri, as quoted by Professor Collie, the summits of which peaks, as I understand the quotation, were not reached. May I ask Mr. Freshfield to cite any other ascents by Mr. Graham to which I refer as being of doubtful altitude?

He also says, 'In the large majority of that climber's ascents they

are heights calculated trigonometrically? ' Where trigonometrically calculated peaks are fully ascended, it is self-evident there would be no question as to the heights reached. In case of those not fully ascended, the fact that the peaks themselves have been trigonometrically fixed is just as evidently of no account, since this would not save estimated heights attained on them from the suspicion of not being accurate. Would Mr. Freshfield, for 'the advantage of your readers,' and among them myself, kindly name the instances composing the 'large majority' of Mr. Graham's ascents in which he reached the summits of peaks trigonometrically calculated?

Mr. Freshfield again says I assume 'that Mr. Graham and his guides were non-enduring.' Will he quote the passage in which I assume this? I consider my remarks on mountain sickness (page 345) sufficiently explicit to indicate to the average reader that they are directed, not against Mr. Graham and his guides, but against Mr. Freshfield's method of reasoning.

Mr. Freshfield's explanation of the grounds on which he bases his 'impression' about aneroids does not improve his position. Apparently in support of this, he states that my paper 'had first been offered to the editor of the "Journal of the Royal Geographical Society," who had not accepted it in its then form,' thus giving to the public what should have remained a matter of editorial confidence, which seems in some way to have come to his knowledge.

If he considers it proper to publish information of this character, which certainly does not concern him, and has no value whatever in support of his impression about aneroids, why did he not tell the whole story? He having failed to do so, I will tell it for him, viz., I handed the paper in question, in the exact form and wording in which it appeared in the 'Alpine Journal,' to the editor of the 'Geographical Journal,' asking him to read it over and see if he would consider it within the scope of the latter journal. He duly reported that it was rather long as there was much material pressing for publication, but if I would 'condense' (not alter) it he would use it. As I considered that condensation would deprive it of a part of whatever value it might have, I declined to do this, and sent it to the editor of the 'Alpine Journal.' Shortly afterwards, while in Paris, I received a letter from the editor of the 'Geographical Journal,' requesting the paper for publication.

The question of the value of the aneroid is not to be settled by the *ipse dixit* of any man, but only by the accumulated evidence of carefully controlled observations in actual field service.

I am yours obediently,

WILLIAM HUNTER WORKMAN.

To the Editor of the ALPINE JOURNAL.

SIR,—I trust that Dr. Hunter Workman will not impute to me any discourteous intention if I decline his invitation to go over again ground that has been already well beaten in these pages. On his return to Europe Dr. Workman will find in the past

volumes and numbers of the 'Alpine Journal' the basis of my recent statements and the answers to most of his enquiries, including that as to the triangulated peaks climbed by Mr. Graham.

I may note, however, that the heights assigned to some of these peaks in Mr. Graham's paper and quoted by Dr. Norman-Collie have been corrected. When Mr. Graham's paper was published in 1884 the final results of the survey of Sikhim were not accessible in this country (see vol. xii. p. 57).

With regard to the merits of aneroids, I was compelled by Dr. Workman's challenge to quote the opinion of the staff of the Royal Geographical Society, of which I have the honour to be a vice-president. The matter, however, is one on which we all agree that further discussion must prove profitable. Every traveller's results deserve record. But it seems to me, as it seemed to Dr. Keltie, inconvenient to generalise on the result of any one man's observations. It was in this sense—by eliminating generalisations and confining himself to individual experiences—that Dr. Workman was invited to 'condense' his paper.

With the last sentence of his last letter I am glad to find myself in most cordial agreement.

I am yours obediently,
DOUGLAS W. FRESHFIELD.

PROCEEDINGS OF THE ALPINE CLUB.

THE ANNUAL GENERAL MEETING of the Club was held in the Hall on Monday evening, December 17, 1906, the Bishop of Bristol, *President*, in the chair.

The following candidates were balloted for and elected members of the Club: Messrs. J. Buchan, F. S. Goggs, T. E. Goodeve, S. L. King, C. E. Montague, W. F. O'Connor, H. W. Prichard, G. Thomson, G. F. Travers-Jackson, and C. A. Werner.

The *PRESIDENT* declared the following officers and elective members of Committee for 1906 duly elected: Mr. G. W. Prothero, Vice-President, in the place of Mr. J. H. Wicks, whose term of office expired; Messrs. T. G. Longstaff and Howard Barrett as new members of Committee in the place of Messrs. L. W. Rolleston and J. J. Withers, whose term of office expired.

The *President*, the Vice-President (Mr. Wm. Cecil Slingsby), the Honorary Secretary and the other members of Committee (Captain J. P. Farrar, Messrs. H. V. Reade, H. Priestman, Alfred East, R. A. Robertson, and C. H. R. Wollaston), being eligible, were re-elected.

On the motion of Dr. G. H. SAVAGE, seconded by Mr. F. A. WALLROTH, Messrs. J. H. Rolland and R. L. Harrison were elected Auditors.

The *PRESIDENT* mentioned that the Club had lost a distinguished member in Mr. G. C. Churchill, F.R.S., a well-known botanist and

geologist, who had left his collection of dried European plants to Kew Gardens.

The PRESIDENT also referred to the expedition of Mr. A. F. B. Wollaston to the Ruwenzori range, and to the ascent of the highest peaks of that range by the Duke of the Abruzzi, both members of the Club.

Mr. H. RÆBURN read a paper entitled 'Some Traverses in 1906,' which was illustrated by lantern slides.

Mr. G. H. MORSE congratulated Mr. Ræburn and his party on the fine expeditions they had made, and the paper was also shortly discussed by Dr. Wilson, Messrs. C. Pilkington, A. Fairbanks, and W. Leaf.

The proceedings then terminated with a hearty vote of thanks to Mr. Ræburn for his paper.

An Exhibition of Alpine paintings was held in the Hall from December 4 to 29, and was attended by about seven hundred persons. Refreshments were provided on the afternoon of December 18.

THE WINTER DINNER of the Club was held at the Criterion Restaurant, Piccadilly Circus, on the evening of December 18, the Bishop of Bristol, *President*, in the chair. Three hundred and twenty members and guests were present, among the latter being Lord Kinnaird, the Archdeacon of London, Professor Sidney Martin, F.R.S., Sir H. Trueman Wood, Professor Mayo Robson, the Rev. Canon Childe, Professor W. P. Ker, etc.

Corrigenda in No. 174.

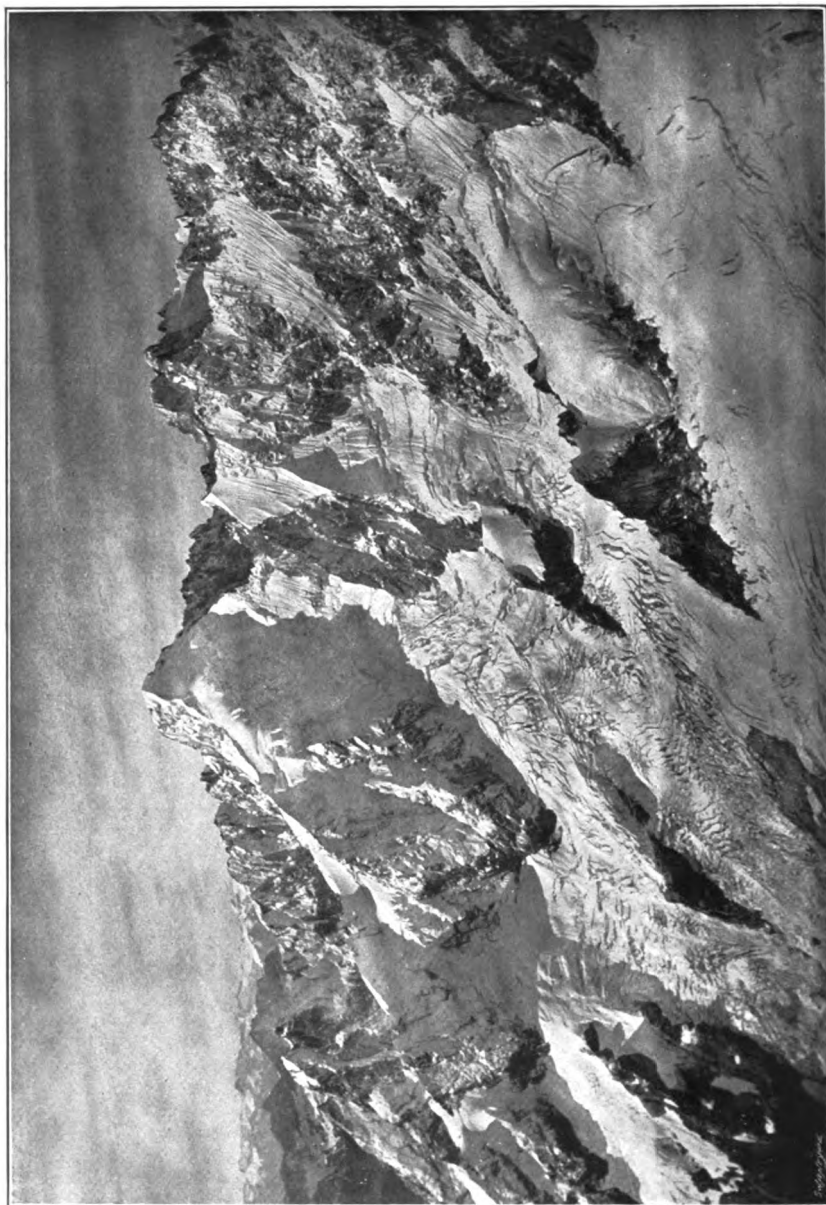
P. 338, lines 7-8, dele the words 'French translation.'

P. 338, line 9, after 'vol. i.' insert 'p. 27 of the 1802 edition' (the visit to Chamonix being described between pp. 18 and 30 of the 1802 edition).

Corrigenda in No. 175.

In the Illustration which faces p. 366, for 'Delaga' read 'Delago.'

In the Illustration which accompanies 'A Near Thing on the Aiguilles Rouges,' for 'Rousettes' read 'Rousette.'



W. Inglis Clark, photo.

Swiss Electric Engineering Co. Ltd.

MONT DOLENT, AIGUILLES ROUGES DE DOLENT & THE NEUVAZ GLACIER

FROM THE GRAND DARREI.

THE
ALPINE JOURNAL.

MAY 1907.

(No. 176.)

SOME TRAVERSES IN 1906.

By HAROLD RAEBURN.

(Read before the Alpine Club, December 17, 1906.)

IT has been well said by a French writer in the pages of 'La Montagne' that to know a mountain one should not only have climbed it, but should also have traversed it and retraversed it in every possible way. This, no doubt, is what every mountaineer, who really loves the mountains, and who is not simply a tourist, ignorant of the art of climbing and only intent upon running up a long list of 'peaks,' would choose to do had he the leisure.

It is a counsel of perfection, I fear, and not to be readily attained. We can, however, often arrange that our peak is traversed, and thus in one day gain a closer and truer knowledge of it than can be obtained by a simple ascent. This was the plan of campaign fixed upon by my friend Mr. W. N. Ling and myself in settling our Alpine holiday of 1906.

The sub-title of the 'Alpine Journal' is 'A Record of Mountain Adventure.' Now I regret that, owing to the absolute smoothness and hitchlessness with which all our plans worked, and to the extraordinarily accommodating manner in which the somewhat patchy weather of July arranged itself for our benefit, adventures, except in the sense that all the climbs might be said to be adventures, were conspicuous by their absence. Not even a night out occurred to make contrast, with its darkness, cold, and discomfort, to the glorious days of sunshine and pleasure on the ridges and summits of the great peaks. I feel, therefore, some diffidence in bringing before the Club an account of the Alpine doings of our party. We were visitors to well known districts and to

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old and favourite mountains. Only on one of our traverses did we explore any extent of new ground. The actual interest, therefore, must be sought for in the general idea of the campaign, which was designed to bring back as far as possible some of the charms of the old days of exploration.

The pioneers of this Club were fortunate men. They came to the Alps, all round them they saw unclimbed peaks, unmade passes, and untrodden glaciers. They conquered these, and now the would-be mountain explorer and maker of first ascents must go far afield if he desires to emulate or surpass their exploits. Indeed, the great peaks of the Himalaya will soon be the only possible field for conquest on a great scale at the rate at which the dominating peaks of Africa, North and South America, New Zealand, and the Caucasus have fallen in the last few years.

These early pioneers of the Alps were also true 'guideless climbers,' for the Swiss and Savoyard peasants they employed were rather in the capacity of comrades or porters than as guides in the modern sense of the word. The amateurs of those days, if not in most cases the actual physical leaders of the party, were almost always the mental. They were the planners of the battle and the organisers of victory, and oftentimes drew their hesitating companions to the icy summits by the rope of will.

The modern 'Alpinist' (hateful word in English) is quite a different being. Without going so far as to dub him 'the fibreless contents of fashionable clothes,' for, to do him justice, he is often a sufficiently active and athletic young man; yet he may be styled the 'Kodaker' of the art of climbing. He is content to 'press the button' of his breeches pocket; the guides contract to do the rest.

Naturally enough, the pioneers climbed the peaks by the easiest routes; all others, to an explorer, are wrong routes. There came a time, however, when the Alps ceased to be a field for any large exploratory climbing. Then all the so-called wrong routes afforded means of making practically new ascents, and they were done for the new interest, sport, and training thereby afforded. Nowadays, almost all the wrong routes that should be done, and some perhaps that should not, on the great peaks have been accomplished, and on the traverses included in the title of this paper our party has on only one any portion of novelty to report.

To ourselves, of course, all the routes were exploration, and to carry out our plan of campaign we agreed that all tracks of other parties, ropes, chains, tin cans, broken bottles, &c.,

should be avoided as much as possible. We had been struck by the fact that, though members of this Club for several years, we had never visited the Oberland. The Swiss section of the chain of Mont Blanc was also unknown to us. There is a well known advertising phrase, 'Come early and avoid the rush.' We resolved to apply this advice to the Alps, and to go at the beginning of July. We should, no doubt, if the weather was at all unfavourable, find the peaks iced; but, on the other hand, the glaciers were likely to be less troublesome. Chief advantage, we should be able to almost dispense with the lantern. Personally I should prefer to deal with 1,000 ft. of iced rocks, than hunt along in the dark over moraine and scrub for the alleged track on the lower slopes, Diogenes-like for the non-existent. There may, I suppose, be a non-existent track as well as an invisible hold. This is truly a game which 'ne vaut pas la chandelle.'

Wishing to extend our knowledge of the Alps as much as possible, but looking upon the dictum that no two nights should be spent in the same place, as the mere fanaticism of eccentricity, we divided our time of three weeks between three districts—the Swiss Val Ferret, the Oberland, and Zermatt. In the second of these we had the pleasure of the company of Mr. Eric Greenwood. In one respect we fell from exploring and sporting grace (like the modern big game shooter, who smashes his lions with explosive bullets). We took guides, three in number, crammed full of local information and of a convenient bulk to go into the breast pocket. We cannot sufficiently praise their 'intelligence,' though occasionally finding their times too fast for Herren who were also porters as well. Their names were the well known ones of Siegfried, Conway-Coolidge, and Kurz.

On July 13, 1906, Ling and I strolled down the Val Ferret to Praz de Fort, past chalets still untenanted except by black redstarts, and through uncut hay meadows bright with Alpine flowers, where numerous pairs of whinchats chided with harsh notes the disturbers of their domestic peace. On the previous day, a fine one, sandwiched in between two bad nights, we had succeeded in making—thanks to information kindly given by Monsieur M. Kurz through Monsieur E. Philidius—the first ascent of a hitherto unclimbed pinnacle of the Aiguilles Rouges de Dolent. From its slender spire, as from a wrecked ship's mast, we had enjoyed a marvellous view. Below our feet, and stretching to the horizon, lay a white plain of cloud like a frozen sea. Out of this soared the mighty form of Mont Blanc, a great Arctic island, its

attendant aiguilles, like islets, rocks, and stacks, clustering round its shores.

Two sleepless nights had we spent under a boulder, above the Neuvaz glacier, dodging by the flickering light of a fire of pine roots the cunningly pursuing water drops from the roof of our *gîte*.

Now we felt we had earned a day off, and it was so just as well, as it gave the new snow, fallen even far down on the Catogne, time to melt.

On the afternoon of the 14th we walked up to the Saleinaz *cabane*, by a well-engineered track on the right bank of the grandly shattered ice cataract of the lower Saleinaz glacier. The hut is splendidly placed on the shoulder of the Planereuse, a good many meters above the placider upper portion of the Saleinaz glacier. It is a very comfortable hut, with central kitchen, and sleeping-rooms on each wing, is in charge of an attendant, one Ferdinand Droz, but is not as yet provided with provisions.

The evening was a fine one, and we sat long outside the hut admiring the magnificent surroundings, till at length driven indoors by the increasing cold.

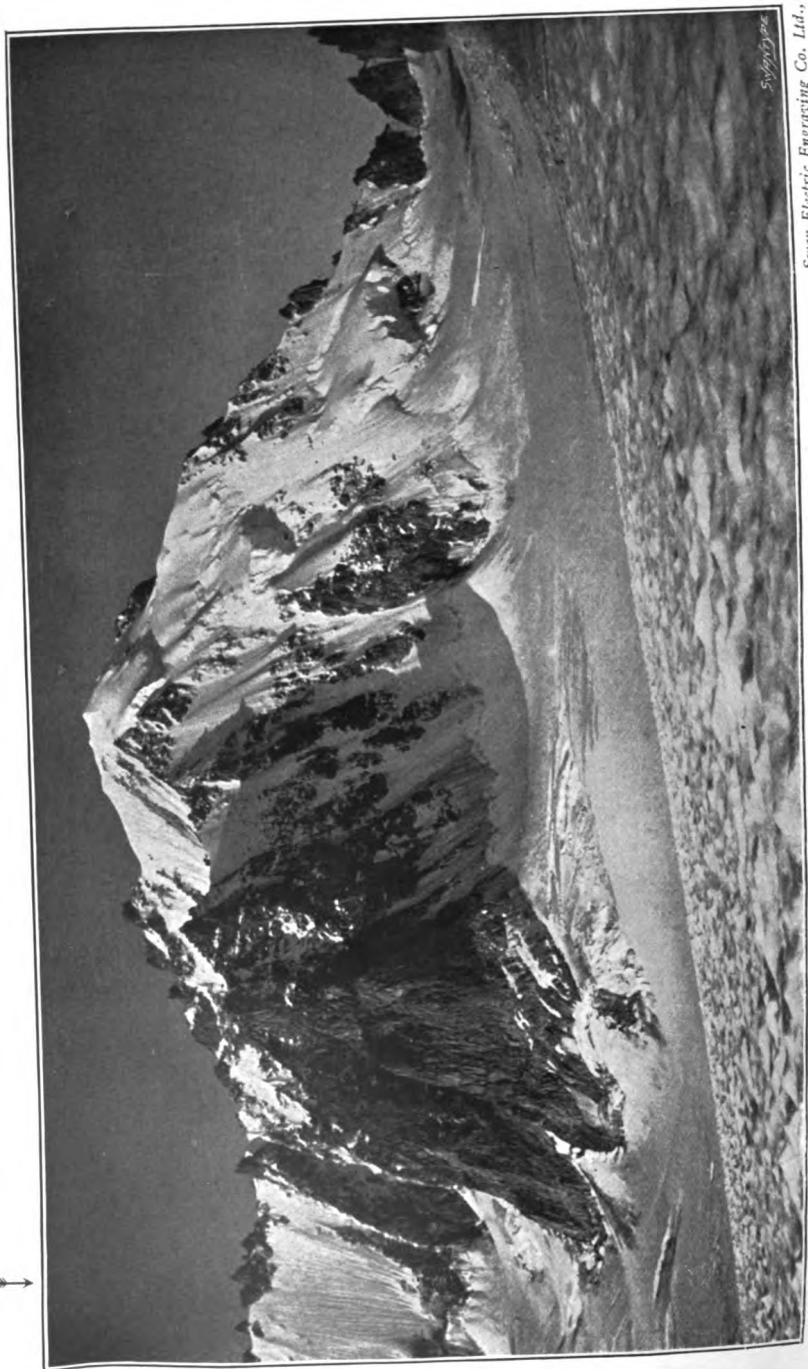
Traverse of the Aiguille d'Argentière by the Saleinaz Ice Wall and over La Flèche Rousse (South Peak).

We were duly called next morning by the attentive Droz, and at 3 left the hut. Bright starlight and a faint expiring moon allowed of the lantern being dispensed with, as we descended by a well marked track across snow slopes and scree to the Saleinaz glacier. The route for the Col du Chardonnet at once crosses to the left side of the glacier, but we soon left it, and after roping, turned straight up the glacier in the direction of the great E. buttress of the Aiguille d'Argentière. Now slowly came the dawn; but what words can paint the colour glories of dawn on the great ice peaks, the million infinitely delicate tones and gradations of shade that are so ever new, and so fleeting before the full blaze of the risen sun? As we gradually neared the mountain we hoped to cross, we had its whole east side exposed to view, and could readily discover its weak points and its strong. The former, it appeared, were decidedly in the minority.

The Aiguille d'Argentière was first climbed on July 15, 1864, exactly forty-two years ago, by Messrs. Adams Reilly and Whympet, with Croz and Couttet, after two previous defeats. They attacked it from the Chardonnet side on the

Flèche Rousse.

S C N



W. Inglis Clark, photo.

AIGUILLE D'ARGENTÈRE

FROM NEAR THE ENTRÉE DE SAUDINAZ.

Swiss Electric Engraving Co. Ltd.,
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N.W., still the ordinary way of ascent. A way up on the Saleinaz side was discovered by a party composed of MM. Albert Barbey and Eug. Zschokke, with the guide Justin Bessard, in 1884. This leads up from the great ice bay under the S. side of the E. buttress, on to that ridge, which is then followed to the top.

In 1893 a strong guideless party, Messrs. Morse, Wicks, and Wilson, invented a new route.* A long, high, and very jagged ridge connects the S. peak of the Argentière with the Aiguille de la Neuvaz. Reaching this ridge to the N. of a minor peak, just N. of the Col du Tour Noir, from Lognan, this party traversed the ridge, avoiding some of the great towers and gendarmes, and, skirting the S. peak on the Saleinaz side, gained the arête beyond, and so reached the central point. Six years later another party, Mr. E. L. Stewart, with two guides,† ascending by the Glacier des Améthystes, crossed the S.W. ridge, and, skirting the S. peak on the Argentière side, succeeded in gaining the arête beyond, and by it the central summit. Thus up to that time the S. peak was still unascended. Though hardly expecting that this would still be the case in 1906, the fascinating appearance of the great gendarme-studded S.E. ridge made us resolve that the traverse should be attempted this way. A route on to the S.E. ridge had now to be found, without going so far along as the Col du Tour Noir. The difficulties on the Saleinaz side of that col, crossed but once in either direction, have led Ball's 'Guide' to describe its passage as 'one of the greatest *tours de force* in the Alps,' and our force we considered not strong enough to attempt the *tour*.

About midway between the Col du Tour Noir and the S. peak of the Argentière, two rock ribs, separated by an ice couloir, run up the Saleinaz ice wall. The larger, or N. rib, runs from a short distance above the bergschrund to the top of the ridge, where it terminates in a steep gendarme; the S. rib, more slightly marked, begins higher up and dies out under the ice about halfway up the slope. Could we once gain a footing on this N. rib the rest of the ascent to the ridge should go fairly easily.

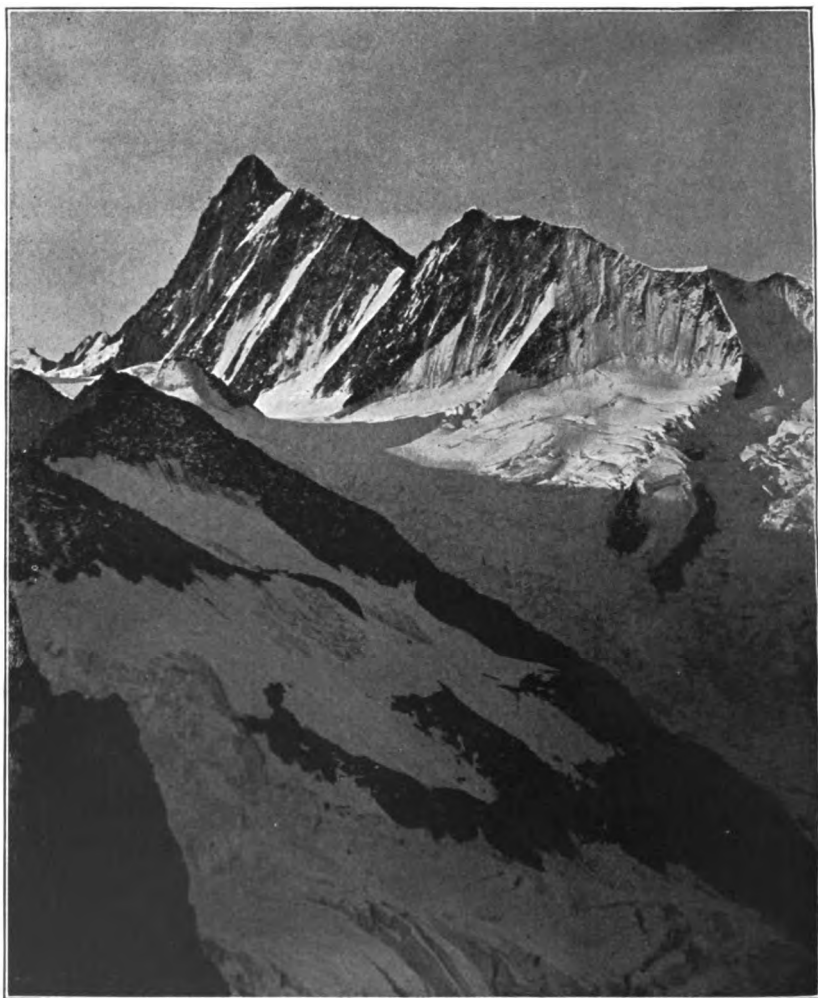
The bergschrund below the N. rib was reached at 5. It was here a wide gulf, but further S., a little past the S. rib, it proved well choked, and after a struggle the sneering upper lip was mounted. The thin snow here soon gave place to

* *Alpine Journal*, vol. xviii. p. 207.

† *Ibid.* vol. xx. p. 15.

hard ice, and heavy cutting became necessary. On the rocks being at length gained they proved iced and difficult. So steep is the wall here that handholds were necessary. Fortunately it was often possible to obtain, with judicious cutting, good holds for the fingers between the ice and the rock, and we gradually hauled ourselves up. Thin streams of powdery snow came from above, and evinced a rather malignant propensity for taking refuge up one's sleeve, or down one's neck if given a chance. A guided party—they probably considered us misguided parties—which had left the *cabane* shortly after us, now settled down for breakfast on some rocks at the foot of the E. buttress, and we should have been glad to follow their example. It proved several hours later, however, and after a great deal of cutting, that we at length gained a small niche in the S. rib, where a sit-down meal could be indulged in. A short distance above the breakfast place we cut across the ice couloir to the N. rib. The rocks here, though loose, were almost ice-free, and fairly easy scrambling led us rapidly up to the top of the gendarme on the ridge, and to a splendid view of all the peaks surrounding the upper part of the Argentière glacier (10.55). Serious difficulty for a time now over, we followed the ridge, climbing and cairning two gendarmes *en route*. Turning the last great tower below the S. peak on the Argentière side, we halted for a second meal where some snow water trickled over the sun-warmed rocks, then climbed an ice couloir, mostly by rocks, on the right bank to near the ridge. Here the rocks of the S. peak become exceedingly steep, and are, moreover, in large slabs, like those of the *aiguilles* round the Mer de Glace. The S. peak is a double one. From this point, Mr. Morse's 'false col,' an ice couloir runs up between the two peaks to a connecting ice arête. This, if in snow, would be the obvious and easy way of gaining the foot of the final peak. On our attacking it, however, it was evident that, like the cold lady of the Frenchman's apostrophe, it was 'pure ice from head to foot.' Our severe spell of step-cutting above the bergschrund had made us think that a change was now preferable, and we accordingly attacked the slabs. These did not prove easy, and, as they were out of the sun and, moreover, somewhat iced, they were rather cold. The climbing, in fact, will compare not unfavourably with the more difficult parts of the Dru or the Charmoz-Grépon ridge.

The summit of the lower peak is composed of great blocks, through letter boxes of which one creeps. A short drop then led down to the ice arête between the two peaks. To keep up



Eric Greenwood, photo.

Swan Electric Engraving Co. Ltd.

**THE FINSTERAARHORN
FROM THE SCHRECKHORN.**

the interest to the last this arête abutted against the foot of a nearly vertical wall.

Fortunately, however, this was cleft by a narrow chimney, which, though a little iced, let us up without serious resistance to where a short scramble led to the summit. Here was a small cairn. Across a narrow cleft and somewhat higher there shot into the air the projecting 'Cannonstone' of the 'Flèche Rousse,' many feet overhanging the ice wall above the Saleinaz glacier. A seat on the point of the 'Arrow' gives a curious sensation of insecurity, almost of flight, so narrow is it and so much does it project. We gained the top at 3.7 p.m. The 'Flèche Rousse' (name only on the 1905 revision of M. Kurz's map) was first ascended by a party consisting of M. Kuhlmann with two guides on August 18, 1901.* They climbed it from the central col, returning by the same way. We left the top at 3.25. The first drop to the ridge on the N. is well-nigh overhanging, but the reserve cord, which our party is never without, was not uncoiled.

The arête soon becomes easy, and we strolled up to the central peak, a beautiful snow cornice, at 4.10.

Willingly would we have spent an hour or two there in admiring the splendid views from this frontier coign of vantage, especially as we had 'no guide to point the way, no porter chiding our delay,' but thoughts of evening's fading light, and of the long traverse before us for the morrow, drove us at 4.25 down the ordinary way to the Glacier du Chardonnet. The toil up from there to the col, slipping and slopping in the semi-soft snow of the track, 'the sun,' if not 'the knapsack, full upon the back,' was about the stiffest work of the day, but by 6.25 we stood once more on the Swiss frontier. The rest was easy, and we had gorgeous visions, revealed and veiled alternately by strange forming and vanishing masses of vapour, as we wandered down in the glowing evening light to the Saleinaz *cabane*, which we entered precisely at 8.

The Finsteraarhorn 'from End to End.'

The following morning we left our comfortable quarters at 4, and, bidding *au revoir* to the obliging Droz, dropped down the steep track under the walls of the 'Clochers de Planerense,' past 'La Gare,' where the whistling of a numerous colony of marmots had to do duty for the engines,

* *L'Echo de Alpes*, 1903, p. 95.

down the 'Pas des Cables,' and through the dim cool aisles of the pines, out into the already glowing and tremulous light of the Val Ferret at Praz de Fort. Thereat bath and breakfast, and a walk to Orsières to catch the diligence, and at evening we found ourselves at Fiesch. An interrogative wire to the 'Jungfrau' brought a diplomatic reply from our complementary party for the Oberland traverses, Mr. Eric Greenwood. We, however, felt stifled in the thick, dusty air of the underworld at Fiesch, after our free life among the peaks above the Val Ferret, and went up to the Eggischorn that evening, not, I may here confess, on our own feet. On the following afternoon, accompanied by a porter, Greenwood, Ling, and I, took the charming walk past the Märjelsee, and up the Aletsch glacier to the Concordia Inn. A comfortable little place we found it, with excellent cooking, good food, and reasonable charges, considering that everything must be transported on men's backs. The eggs and coffee were particularly good, and a haunting and punning French rhyme I had picked up and infected Ling with—it became a kind of 'Punch Brothers' to us—of no application. The libel runs—

Dans les montagnes de la Suisse
Le café noir est très mauvais,
Mais il est bon pour l'alpiniste,
Car il est encore pi-o-let.

As evening came on the 'white maiden' wrapped herself up in multitudinous folds of thick mist, and we were told, 'For to-morrow it will be fine; but after?'

In the morning we crossed, *sans porteur*, the Grünhornlücke to the new hut at the foot of the Finsteraarhorn. This hut, built out of the materials of the old Oberaar hut, is placed on some rocks above the Fiescherfirn, close to the figures 3,237 on the Siegfried Map. It is neat and clean, but very small, has wood in a lean-to outside, and a small supply of provisions, in case of need. Little more than an hour above the hut runs the bergschrund which marks the junction of the Fiescherfirn with the rocks of the great S.E. arête of the Finsteraarhorn. For our purpose of going over that peak from 'end to end,' it was necessary to find a way on to this ridge fairly low down, before the actual peak begins to rise more steeply. We did this, and returned to the hut for dinner. We were congratulating ourselves on having the hut to ourselves when, about 6, a party of fifteen Swiss and guides turned up from the Oberaar hut.

At 3.10 on the morning of the 19th we left the hut, and, steering an E. course, threaded our way through some crevasses, and reached the bergschrund at 4.15. Thunder, with some hail and rain, had been going on all night, and now the weather was rather threatening, thick mists veiling all the upper crags of the Finsteraarhorn. We were, however, too glad to escape from the stifling, overcrowded hut to think of waiting till it cleared. Thunder still growled faintly in the distance as we crossed the bergschrund, and, by our steps cut yesterday, mounted an ice couloir. Escaping from this soon, by a somewhat rotten chimney on our left, we came out on an easy slope of rock, ice, and snow which led with no difficulty up to the ridge. This was at a snow arête, between two rock towers, just before the ridge begins to rise more steeply.

Here met us a keen wind from the Finsteraar glacier, and, after a smart snow shower, the mists began to open out, and gradually the wonderful panorama visible from the highest ridge in the Oberland unfolded around us as we gradually rose up the steepening arête. We reached the summit at 11.15 in perfect weather.

The S.E. arête of the Finsteraarhorn is long, and broken into many rock towers, and was at this date tolerably snow and ice clad; but at no place is the climbing really difficult, while always full of variety and interest. Like Kederbacher, Mr. Farrer's leading guide in 1883, I had wasted a good deal of the party's time in a well-meant attempt to follow the arête straight up to the right of the 'slab.' I am still misguided enough to think that, in good conditions and with scarpetti, or without boots, this could be done.*

* Since writing the account of our traverse I have been much interested in reading Mr. W. C. Compton's well illustrated and capital paper of his party's ascent in 1905, in the *Alpine Journal* for November 1906, and also Mr. Coolidge's comments on that paper in the *Journal* for February 1907. It appears that the chief point about which there seems to be a question is in regard to the time occupied in getting from the 'slab' to the top of the mountain. I regret that I cannot give exact records of this from our notes, but our recollection makes it about 30-35 minutes. If I may be allowed to suggest, however, I think any discrepancies may be easily reconciled by the conditions encountered by the various parties. Certainly Mr. Valentine-Richards's photograph shows that the conditions were very good in 1899, and Mr. Compton himself indicates that they were similar in 1905.

When we did it the conditions were not really bad. There was a little fresh snow on the rocks, and a good deal of ice in the final

After a glorious hour on the summit we left at 12.15 and rapidly descended a well-worn track to the Hugi Sattel, 12.45, but from thence to near the Schwarzegg, the snow and ice of the mountain, passes, and glaciers, were traceless as an Arctic waste.

After a short piece of horizontal snow on the Hugi Sattel, the slope plunges down pretty steeply, the good snow gradually thinned out till the ice axes had to be set a-swinging, and a good deal of step-cutting was necessary before we gained the cornice-free rock arête leading down to the Agassizjoch. This arête is loose, but easy, and we reached the Agassizjoch at 2.25.

I don't know if the couloir here is ever climbed in the afternoon, but we did not consider it attractive. The loose snow cornices at the top lay on hard ice, and small avalanches were constantly sliding down. We mounted the Agassizhorn for a short distance, and then descended the rocks on the left bank of the couloir. These rocks are disagreeably disintegrated, but nowhere difficult, and in a warm niche we made the longest halt of the day—about 2 hrs.—boiled water, and made afternoon tea. Towards the bottom it became necessary to leave the rocks, and cut down the last

gully. The rope was partly buried, but it was only used to save the cutting of a few steps, in swinging across to the right wall, practically free from ice, and offering good holds and no difficulty. One could easily understand, however, that if completely iced this part of the climb might be really difficult, and take a considerable time. One might say, generally, as regards the S.E. arête of the Finsteraarhorn, that while Mr. Compton has given a perhaps slightly too favourable account of the ease of the climb, Mr. Valentine-Richards is by far too flattering in comparing it with the Italian ridge of the Matterhorn. Cut the bonds of rope, chain, and ladder from that 'Samson bound to make sport for the Philistines' and no comparison will hold for a moment.

As regards the attempted ascent by the N.E. buttress by a lady in 1902, this is mentioned, as Mr. Coolidge reminds Mr. Compton, in the *Alpine Journal*, vol. xxiii. p. 322.

We had the good fortune to meet on the summit of the peak Fuhrer (with a party by the Hugi Sattel) who led on that occasion. He indicated to us the place—'100 meters from the top,' he put it—where his party finally stopped. They were altogether 60 hours on the mountain, and were lucky to get off with only a few frostbites. He gave, he said, information as to the route to Fritz Amatter, and this young fellow, in 1904, with Mr. G. Hasler, completed the ascent of the Finsteraarhorn by this splendid climb (*Alpine Journal*, vol. xxii. p. 322).

part of the couloir—out of the avalanche tracks—to the choked up bergschrund. This was the only place during our whole season where any real risk had to be run. The snow had mostly run off here, and what remained merely adhered loosely in sodden strips, so a lot of cutting had to be done. Occasionally stones came sailing down, but no large flocks flew. The steps were made as small as consistent with safety, and the axes swung and the splinters flew in double quick *tempo*. Over the bergschrund with a jump into deep snow, and we plunged to the Finsteraar glacier, 6.35. A brisk ten minutes' rather heavy going then placed us on the Finsteraarjoch, 6.45. Here we gazed on the great unknown—to Ling and myself—ice-filled valley of the Obereismeer, the vast crags of the Lauteraarhorn and the Schreckhorn rising high above on the right, and great ice cliffs ranging round to the Eiger on the left. We gazed also down into a black gulf, the Grindelwald valley, whence ominous-looking thunder clouds were rising. The orthodox way from the Finsteraarjoch appears to be to climb to the right, N.E., to meet the route from the Strahlegg; but we, considering that it was so early in the year, resolved to try the direct descent through the séracs and by the right bank of the glacier to the Schwarzegg. Keeping well to the right, we succeeded in forcing a way through the séracs, having some weird glimpses of the under-world depths of the ice caverns from rickety snow bridges. Then we went across snow and ice slopes to a rock island. Here a short halt was called for a period of 'hydropathic treatment,' combined with the 'open air rest cure' for 'that tired feeling,' and one of the party then discovered a couloir on the N. side of the island cliffs which let us down the precipices to the snow slopes below. The bergschrund was just a convenient jumping width for loaded, and somewhat *ennuyés* mountaineers, and in the fast gathering darkness we traversed rock and snowslopes, many tracks of chamois, and got down a short snow couloir on to the almost level, moraine-strewn Eismeer.

For some time before this we had had a magnificent display of lightning, brilliantly bringing up the outlines of the great peaks. The thunder rolled and crashed, but, like the old fox in the song, we thought, 'That is fine music, still I'd rather be in my den, O.'

We did eventually reach the hut, at 10 P.M., by the aid of our little aluminium lantern, just in time to escape the heavy rain now beginning. The hut was in the sole occupancy of a German

climber, who had, it appears, made rendezvous with three friends, and who, I fear, was somewhat disgusted to find he had risen with alacrity to give admission to three somewhat uninterested and taciturn strangers. After a meal, of which the *pièce de résistance* was pea and maggi soup with a dash of cognac, we dropped off into delicious slumber, soothed by the dashing of the rain outside the hut. The morning was again fine, and we walked down to Grindelwald past the Bäregg, again almost rebuilt after its destruction by an avalanche this spring, and to the 'Bear' for *déjeuner* and rooms.

The following day, July 21, the weather was thoroughly bad, and, while Greenwood, the *blasé habitué*, loafed, Ling and I, as in duty bound, according to our plan of campaign, made another traverse, the little Scheideck. We did it by the easiest route, *i.e.* by train, but got no view. We could hear the avalanches falling from the great ice cliffs of the Jungfrau, but of the grand scenery saw very little. The mist was dense and rain fell at intervals all day. The 22nd, however, saw the weather again fine, and we sent a man up in the morning to the Schwarzegg hut with a heavy sack, and in the afternoon walked up ourselves.

Traverse of the Schreckhorn. Up by N.W., Down by S.W. Arête.

Twenty-eight people in the hut overnight, but our party luckily the only one for the Schreckhorn.

We left the hut—sleepless of course—at 3.15, and walked up the great couloir of the ordinary route, taking to the rocks on its left when it became too steep for our nails to 'bite.' At the top we crossed and followed the route to the N.W. ridge, except that we kept higher up and close under the steep rocks of the peak, crossing rubbly rocks and ice slopes above the upper Kastensteinfirn. A good deal of cutting was necessary, as the party was not using crampons. Crossing the couloir running into the N.W. face of the Schreckhorn, near its head, on ice, we climbed a steep chimney and rock wall to the N.W. arête just before it suddenly steepens. The N.W. arête, or Anderson Grat, as it is called—the first ascent was made in 1883 by J. Stafford Anderson and G. P. Baker, with Ulrich Almer and Aloys Pollinger*—affords a first-rate climb, continuously steep, but without any passage of serious difficulty. It is apt to be pretty icy early in the season, and

* *Alpine Journal*, vol. xi. p. 364.

was so at this date. It appears to be the better plan—and there is certainly no necessity of doing otherwise—to adhere to the arête as closely as possible. At one point, not far from the top, a very sensational, though perfectly safe, passage occurs, reminding one somewhat of the arête of the Ecrins close to the 'Almer Gap.'

Two and a half hours' interesting climbing landed us on the summit at 11 o'clock.

Perfect weather and glorious views rewarded our efforts. Already the new snow was melting, and running in streams of water off the S. side of the summit, and we were able to get water and set our aluminium stove a-boiling. Thereafter we lay, basked, and admired for over an hour. Few Oberland peaks can beat the Schreckhorn for views and pictures seen from it.

At 12.15 the descent was begun.

At first the S.W. ridge is of easy angle and narrow, and was now crowned and adorned by a tall corniced edge of ice and purest snow, the lovely wind-carved curves and flutings of which it almost appeared like sacrilege to shatter by the brute force of the ice axe, but it had to be done.

Soon broadening and steepening, the ridge became almost snow-free. It is, lower, almost vertical in places, but convenient chimneys and ledges always appear, and our spare cord was not uncoiled. At 4.55 we were down at the foot of the steep upper portion, then, getting on the west-running buttress, descended this for a time, first on good, then on loose rock. Then, crossing an ice couloir to the left, gained easy rocks, which soon led down to avalanche-marked snow slopes above the bergschrund. A jump across this landed us on the Schreckfirn. Descending this, and crossing the rocks, we jumped into the great couloir and had some capital standing glissades back to the hut. Our taking this route over the Schreckhorn was the outcome of a suggestion of the discoverers of the 'S.W. passage.'* I here most heartily endorse the opinion expressed in Mr. Bradby's paper of the S.W. route up the Schreckhorn as a good climb, and a safe and interesting route, and one which, under the leadership of good guides, ought, I believe, to become the quickest, as it is the most direct, from this side. This does not mean always that the nearer the climb approaches the right angle the righter the route. The formidable appearance of the great red bluff of the upper

* See Mr. Bradby's paper, 'A Month's Climbing in the Bernese Oberland,' *Alpine Journal*, vol. xxi. p. 499.

part seems to frighten most parties off, but there are in reality only two or three places of actual 'technical difficulty,' to use an expression much in favour with our Continental friends. No doubt the descent, as usual on really steep but good rocks, is considerably easier than the ascent, but the risk from falling stones is practically nil, unless sent down by the party themselves, and this risk, with a properly trained climbing party, should be extremely small. The route our party took off the ridge to the Schreckfirn might require modification. No stones or snow fell at the hour we crossed the couloir, about 6 P.M.

Greenwood's time was now nearly up. We discussed crossing the Jungfrau or the Eiger. He had ascended both, Ling and I neither. Ling rather inclined to the Jungfrau, I to the Eiger, but Greenwood would not hear of the latter. His memory of it had been for ever spoiled, he said, by the spectacle of an intoxicated guide standing on his head and singing on the very summit of the peak. Rather a test of sobriety, I should think. Our discussion was settled the same day, however, by the weather, and we went to Meiringen by rail and steamer in pouring rain, and in the same and a closed cab crossed the Grimsel col. Emerging from a wall of mist into sunshine again in the Rhône valley, we drove down to Brieg, our party again the poorer by the loss of Greenwood, who dropped off at Fiesch to rejoin his baggage.

Arrived at Zermatt on the 26th, Ling and I found the 'Wall' lined with 'unemployed' guides, all climbing stopped for over a week by bad weather. To give the new snow time to evaporate, and still to keep up the character of the expedition, Friday and Saturday were devoted to traverses of various kinds, including the 'Shoehorn' by various routes and the Riffelhorn by the Matterhorn couloir.

Traverse of the Matterhorn to Italy by the Zmutt Arête.

On Monday, July 30, the attractions of the Matterhorn traverse had finally prevailed over the charms of the Dent Blanche, and, accompanied by two porters, procured through the good offices of Joseph Biener, a former guide of Ling's, we set out for the Tiefenmatten face of the Zmutt arête. Two porters were taken, as we wished to carry with us plenty of wood, and to send them back from the *gîte* the same day. One of these porters proved a good man, but of the other the less said the better.

We walked up the lovely path to the Staffel Alp, and then,

without halting, except to collect wood at the last dead trees, along the grass slopes to the side moraine of the Zmutt glacier. Here we came upon a brood of ptarmigan, the young, though little larger than a sparrow, already able to fly. Getting on the ice we rounded the first rocky promontory that projects into the glacier from the lower part of the Zmutt arête. This arête is divided near the foot into two projections or capes, which enclose a steepish little glacier or icebay. Ascending this we then turned to our right, and, leaving the place known as the lower *gite* on our left, reached a shoulder or col of the W. promontory, which leads over to the upper part of the Tiefenmatten glacier. On the ice here we passed the much-weathered remains of an unfortunate chamois, probably killed by a fall some years ago. From the top of the little col we descended slightly to the Tiefenmatten glacier beyond (height about 2,900 meters), and then skirted along below the Zmutt ridge. We had here to wait over an hour for the porters, who had lagged behind, and on their at last coming roped them up.

Plenty of stones come down here at times, and at this hour—about 1 P.M.—we could not think of going up a gully, so it was necessary to find a safe access to the face. This was found at the buttress or rib forming the true right wall of Penhall's couloir. Penhall's party of course did not climb the couloir, but, as his diagram shows, crossed it at a narrow place pretty high up. Little difficulty was found in crossing the bergschrund, and effecting a lodgment on the rocks. We then ascended the rib a good way, and, bending to the left, slanted up towards the arête, crossing the rock couloir that bounds the rib on its right. The rocks here are easy but very loose.

We now began to look about for the alleged 'upper *gite*.' One of the porters was supposed to know of its whereabouts, but we speedily found that he knew about it less than we knew ourselves. So, leaving Ling to bring on the impedimenta slowly, I took half the wood and went on to prospect.

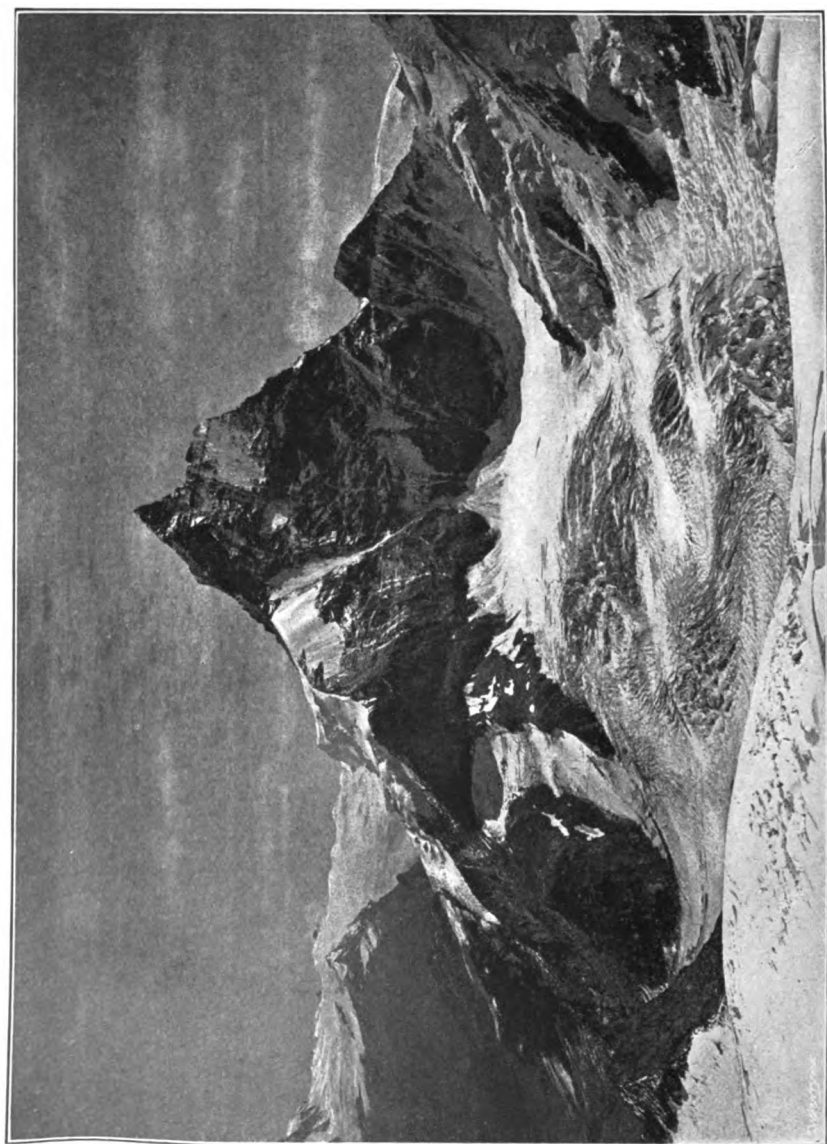
After some hunting, I came upon an excellent shelter rock, with a ledge underneath just large enough for two. With a wall in front to prevent our rolling off it would do capitally. We therefore pitched camp here, at a height by aneroid of 10,900 feet. Water ran down plentifully on either hand from melting snow beds, so afternoon tea was soon ready. We gave the porters a good rest, several cups of tea, and a share of our fare, and then sent them off. They got back to Zermatt that night, but I believe pretty late. Free at last,

Ling and I built up our wall, made the *gite* as comfortable as possible, and spent a heavenly afternoon and evening basking in the warm rays of the westering sun and admiring the grandly impressive views, ranging round from the stone-swept western face of the Matterhorn, to the avalanche-rushing ice cliffs of the Dent d'Hérens, and to where the sun set behind a crimson cloud above the shoulder of the glorious Dent Blanche. For a few hours in late afternoon our locality grew lively with falling stones; they buzzed and sang down the slight channels on each side of our rock, and one bolder than the rest would occasionally use our roof as a leaping off place. But these are birds that fly by day, and when the sun set they rested from flight and song.

Gradually it grew dark, but occasionally flickers of summer lightning lit up the ghostly white ice cliffs of the Dent d'Hérens opposite. From thence reverberated the whole night through the growling thunder of the ice avalanches. In our comfortable shetlands and blanket bags we were quite warm, but nothing, not even a coil of rope, could mitigate the uncompromising hardness of our rock couch, and sleep fled far from us.

There is, however, a kind of uplifting excitement, a nervous tension of a healthy kind, in such a situation as ours. So very different is the sharp, clear air from the stifling reek of a crowded hut, that one does not feel the want of sleep, and I think we went none the worse the next day on that account.

At 4 A.M. on July 31 we left the *gite*, incidentally also two blankets, a large bundle of wood, and one *pain*. Some aches we did at first take with us, but soon dropped them as, with crampons on for the first time this season, we scrambled up the broken rocks above the *gite* to the big ice patch below the arête. The angle of this is fairly steep—43° measured—and even with the crampons a little cutting was necessary. It was full dawn as we reached the arête, 5.15, and gazed down on the sleeping world of the Zermatt valley. The arête was of ice with a thin, delicate, semitransparent cornice of snow, of infinite beauty, adhering to the east side. The angle soon eased off, and walking up this true 'highway' we reached the first of the great 'teeth' at 6.15. These in normal condition would offer little difficulty, save that arising from the looseness of the rocks. To-day, there were at any rate no loose rocks; all were iced firmly into their places. The first two teeth were traversed, the third passed on the Tiefenmatten side, the fourth mostly traversed.



H. Walker, photo.

THE MATTERHORN:
VIEW FROM THE COL D'HÉRINS.

Swan Electric Engraving Co. Ltd.

Above the 'gap,' cutting off the 'teeth,' the arête rises very steeply, and we were forced out a short distance on the Great Zmutt Couloir side; but the work was so hard, everywhere iced and snowed up, that, to shorten the labour of the cutting and hacking, we presently turned straight up and got back to the arête again.

Though still very steep it went better for a while, but then became almost vertical and as iced as ever. Nevertheless we refused to be forced into the couloir, which looked a convenient path for stones, though we saw none fall, and at length gained the short level shoulder which the top of the couloir cuts off from the main arête, only a few yards to the left (E.) of its edge. The climbing now became less difficult for a while as we followed the arête, or rather the edge of the W. face of the Matterhorn, on the upper side of the Zmutt couloir.

Above here it becomes necessary to go out on the face to the right. Most parties on this climb appear to have kept too far out here, some as far in fact as the 'curved couloir,' Penhall's route.

The rocks here are all 'wrong,' speaking in a climbing sense. They rise in two great steps, like an overlapping double roof. The intermediate spaces, again, are composed of overlapping, downward tilted edges, like slates. To-day all, except the edges of the slates and the steepest portions of the steps, were covered with ice. It was perfectly safe from falling stones in such condition. From the overhanging rocks on the left, however, the edge of the great cliff of the 'Nose,' depended vast quantities of icicles, and these were continually breaking off and rolling down the 'roof' towards us, luckily broken into fragments too small to cause much inconvenience.

To shorten the cutting necessary, we only moved a little way out on the face, and discovered a narrow vertical chimney, which let us up the first step without much difficulty. We then started up to the right, cutting, and scraping where the ice was thin, to the foot of the next 'step.' This was rather smooth and difficult, and was also iced, and it was with considerable relief that on vanquishing it we then found ourselves level with an obvious traverse, over the usual disagreeable, sloping, ice-covered rocks, back to the arête. It was now plain sailing, but at one tower, turned on the E. side, a good deal of digging and cutting was again necessary. In fact on this arête our feet hardly ever touched bare rock till we reached the top. Here we arrived at 3 P.M. The time was very slow—11 hrs., including all halts—but I do

not think it could have been materially shortened under the conditions without incurring needless risk. We both wore crampons, but my right one broke shortly after leaving the lower arête, and I do not think I went any the worse without it. At the angles of much of the climbing, steps—and hand-holds—had to be cut even with crampons, and the steps must be larger for a cramponed boot to give an equal security.

The weather had been fine hitherto, but now light wisps of mist began to form and drift about the tremendous cliffs on the Italian side of the Cervin. After an hour spent in greeting old friends, both near and far—and they were many—among the peaks visible from this glorious view-point we commenced the descent down the Italian ridge.

Fine displays of the Brocken Spectre greeted us on the shoulder, and a small snow shower with thunder coming on we were treated to a considerable manifestation of electrical energy on the part of the rocks, and the ice axes sang their weird 'chanson du piolet.'

The wet snow made the rocks—and the ropes—rather slippery, and the way a little difficult to find, and we were not sorry to step into the Italian hut about 8 p.m.

Here a comfortable night was spent, no other party being there, and next morning, in brilliant weather, we continued the descent and then climbed the upper Furgjoch back to Zermatt, whence our next traverse, alas! had to be that of France, homeward-bound.

Perhaps I may be allowed a few comments on the Zmutt arête route. The great charm of it is that it gives the mountaineer a chance of making friends with the unspoilt Matterhorn. It is utterly free from any 'artful aids,' and long may it continue so! Then in scenic impressiveness it can hardly be surpassed by any route in the Alps. The guides have a considerable respect for it, and would refuse to go for it except when in good condition, and they are right, as the position of a party containing an incompetent or exhausted 'Herr' on that western face in icy condition would be one of considerable peril. In places it would be very difficult to check a slip.

Mr. Baumann, who made the ascent shortly after Mummery (behind Emile Rey), characterises it as 'a good rock-climb.' This may possibly be the case in September, after a long spell of fine weather, but I think must rarely be a fitting description for the climb in July. In fact it gave our party about two and a half times as much ice work as the traverse of the Aig. d'Argentière by the Saleinaz ice

wall. With regard to Penhall's route up the western face. This is altogether inferior both in scenery and in point of safety. Penhall's route has apparently never been repeated. Messrs. Lammer and Lorria, it is true, made what Mr. Whymper calls a 'mad attempt' to ascend the Matterhorn by this route in 1887,* with results that were nearly fatally disastrous. They are said to have reached a point 'not very far from the top,' but I think could not have been less than 1,000 ft. below it. Their principal mistake appears to have been in not traversing to Mummery's route on the arête, when the ascent appeared impossible, instead of retreating down the western face in the afternoon. Any one who has lain on the Tiefenmatten face of the lower part of the ridge, and seen and heard the stones fall from the western face of the peak, would take good care not to expose himself to the risk of being caught there in the afternoon hours.

Herr Lorria's comment on the adventure seems to me a very just one. 'The lesson,' he says, 'to be learnt from our accident is not, "Always take guides," but rather, "Never try the Penhall route on the Matterhorn" except after a long series of fine hot days, for otherwise the western wall of the mountain is the most fearful mouse trap of the Alps.' †

THE ALPS.

By A. D. GODLEY.

(Read before the Alpine Club, February 5, 1907.)

CANDID friends have taken me to task for the too ambitious title of this paper. Who, they have asked me, am I, that I should lecture the Alpine Club on the Alps? and I need hardly say that the same question has occurred to myself. I can only plead my attitude of mind at the moment when the title was demanded of me. This address was not at that time actually written; and having before my mind the case of the essayist who was described as 'singularly unfettered by a given subject,' I feared that I might fall into his error if a too narrowly specified theme tempted me to stray outside it. Hence I chose a heading which at least allows a minimum of possibility of wandering from the point.

* *Alpine Journal*, vol. xiii. p. 399.

† I wish to take the opportunity of thanking various friends, Messrs. Greenwood, Clark, Wilson, Priestman, Nettleton, and H. Walker, who either lent the negatives or allowed me the use of their slides.

But in spite of its high-sounding description the part which this paper plays is really very humble. Everyone, I suppose, knows by experience the temper in which one eats that meal which reason pronounces to be necessary, yet cannot deny to be indigestible—the two o'clock A.M. breakfast. You come to it in darkness and secrecy, like a burglar. You eat it—at least until a few weeks' climbing has developed a kind of bestial appetite—not with desire, but as a man might pack a portmanteau; you eat with your loins girded, like the Israelites; with the consciousness, like them, that you are going on a long journey, and that before the Promised Land is reached you must stumble for an hour at least over boulder-strewn alps and familiar paths which the darkness has turned into a difficult and dangerous traverse. Yet you know that if you can weather the horrid meal and the succeeding perils, there is a place, high up on the moraine, where you will rest and see the sun mount over the eastern peaks; where you will feel that the worst is over and the best lies before you; and that there you will eat your second breakfast in tranquility and gladness of heart. This Paper is the first breakfast; Ruwenzori will be the second. I do not mean to imply that there will be the usual interval of two hours and a half.

I suppose the first and obvious thought of everyone when he is asked to read a paper before this Club (whether as a *lever de rideau* or otherwise) must be, that it is the proudest day of his life. The next and perhaps equally obvious reflection for myself personally was, that somehow or other the paper must be constructed; that after a number of years chequered by a great variety of hill-climbing expeditions there must be ample material; and the final conclusion of the whole matter seemed to be, that however enthralling the subjective interest of one's own personal experiences, their objective value to an audience was absolutely nil; and that, in short, I had nothing to say. I communicated this fact to the Secretary. He, with a promptitude obviously born of experience, replied by return of post that the less I said the better. He did not put it precisely in that form. He spoke of mountains regarded from some other point of view than that of the mere (I am pretty sure he said 'mere') climber or the commonplace explorer. This troubled me a little. From what other point of view can you regard a mountain? I cannot geologise; to photograph I am—incompetent. At one time I did think of reading a paper entitled 'Mountains which I Have Not Climbed or Explored,' and

of hiring a set of slides illustrative of the Himalayas, the Caucasus, and the Breithorn. But eventually I thought I grasped the true inwardness of what the Secretary had said.

I appear, then, as a member of that class of perhaps not altogether respectable persons who ascend hills merely for pleasure. They have no particular principles, except the general maxim that it is better to be at the top of a hill than the bottom. They are not centrists nor excentrists; if they cannot have a peak, they will take a pass; if they cannot have a pass, they will be content with a glacier. Their object is to acquire such skill as will enable them to walk on steep places without danger to themselves and others. They are smatterers and general readers in an age of specialism; they are wedded to no dogmatic formulæ, but are simple, undenominational (may one say?) Cowper-Temple alpinists.

These are then mere Hedonists; and yet there is something to be said even for them. Their pursuit of pleasure is perhaps the less disreputable because they are in a sense martyrs. There are few to praise them. Within the circle of this Club they are regarded as lacking in seriousness and fixity of purpose, and that higher altruism which prompts to the increasing of knowledge by the ascent of untrodden peaks; mere voluptuaries, votaries of selfish pleasure. Outside, they are exposed to obloquy and detraction. To the public in general, which does not love mountains—except as a background to some scene of rational amusement—hill-climbing is either too difficult or too easy. Once it was too difficult, and Alpinists were condemned as bad citizens for their suicidal tendencies. Now, in general, the pendulum has swung the other way: it is too easy; with a vague consciousness of mountain railways—a distant recollection of *Tartarin sur les Alpes*—a hazy reminiscence of expressions perhaps used in the heat of the moment by members of this Club—with all this mass of imperfectly assimilated suggestion simmering in his mind, the uninterested outside critic is apt to conclude that mountaineering is a pastime where the facilities are too many and too obvious, and the need for personal exertion reduced to a minimum; and that on the whole a man who respects the dignity of human nature ought to be playing golf. Perhaps that is true. We are quite conscious of these variously unsympathetic attitudes; yet we persist in our vicious courses—being, as I said, mere voluptuaries, given over to self-indulgence and the gratification of appetite. And here the philosopher is confronted by what he must acknowledge to be a strange paradox. If we,

being otherwise for the most part persons of moderate respectability, and not more obviously mad than other people, continue in these unremunerative pursuits merely for the sake of pleasure, and proclaim that our climbing days have been among the best days of our lives, we ought to be able at least to define that pleasure in an intelligible way.

It is every man's duty to attempt to arrive at truth. That is not easy in matters connected with mountains. Speaking (if one may say so) as an augur to augurs, one may confess that inaccurate statements have from time to time been made, and even printed. I have even heard mendacity and self-glorification described as part of the necessary equipment of a true Alpinist. Nevertheless, truth must be investigated. Now, if we are to take the aggregate of outside public opinion—if not 'quod semper, quod ubique, quod ab omnibus,' yet what is held by most men at most times and in most places—we shall find that it speaks with no uncertain voice. I remember to have heard Mr. Edmund Gosse make an excellent speech when responding for the guests at the winter dinner of the Club. I shall always recollect his opening sentence, which claimed to interpret the real if unconfessed sentiments of the Alpine Club itself: 'I dislike,' he said, 'a mountain as much as any of you.' Mountains have only to be known to be disliked: and the Club, knowing them best, must dislike them most! A friend of my own, very highly placed in the University of Oxford, told me once that for him mountaineering held but two pleasurable moments—when you arrive at the top, and when you arrive (of course, voluntarily) at the bottom: nor did it appear that the sensual delights of the vanquished peak or the regained hotel were in themselves, for my friend, sufficient to balance the extreme agony incidental to the phases of existence preceding these two crises of achievement. Here, then, you have Literature and the Universities (for once) in agreement.

Any person of a candid and philosophic mind, not a mountaineer, must arrive at a like conclusion. The philosopher would say: Your expedition is made up of a series of acts which are either painful or unnatural or unnecessary or unremunerative, or (more commonly) all these at once. You get up at two in the morning—a thing horrible to imagine. Dragged or impelled by peasants of great strength and ferocious aspect, you ascend steep and slippery heights which no one will praise you for surmounting, while no sensible person would pity you if you fell. You eat and drink for the most part things from which at other times you would rightly

recoil. Chicago supplies your viands, and the very name of your so-called wine proves it (if proof were needed) the legitimate successor of that vinegar with which Hannibal, the first Alpinist, is fabled to have split the rocks. You are exposed to excessive cold and excessive heat; to the botanist who delays your advance by searching for probably non-existent vegetables, and the photographer who nails you like Prometheus to the rock. Can a succession of incidents, in themselves painful, compose an aggregate of pleasure? Apparently, it can.

If I may be autobiographical for a moment, I should like to describe to the Club my initiation into its pastimes a good many years ago. Hills, at that time, held no special attractions for me. I had no friends at that time who knew or cared anything about the Alps. From reading the usual kind of conventional descriptions of mountain ascents I supposed that the climbers' choice lay invariably between the side of an overhanging precipice and the bottom of a fathomless crevasse. I recollected the perilous rock-and-glacier work which (according to Sir Walter Scott) menaces the incautious traveller on the route from Bale to Lucerne. Altogether I do not suppose that a more crassly ignorant amateur than I was ever walked in a pair of improperly nailed boots. However, having been somehow imported into Switzerland, as I heard people talking about the so-called pastime of climbing, I thought I would demonstrate the futility of the thing *ambulando*. I therefore took to myself professionals and an alpenstock like 'the mast of some tall admiral'—the possession of an axe then implied some pretensions to being what is called an 'expert'—and thus equipped I set out to walk over the Adler pass from Zermatt to Mattmark. This seemed to be a good test, as Baedeker said it was wild and hazardous. We scaled those dizzy precipices; or rather, we walked and waded over leagues of very bad snow, which was naturally much more embarrassing to me than to the rest of the party. It was a misty day, and we saw no view. When we got to Mattmark my face felt a little hot after some eight hours of exposure to fresh snow, and I cooled it with very cold water (lanoline was not invented then). Over the agonies which my complexion endured some hours afterwards I can only draw a veil—and I remember wishing that I had drawn that veil before I started. Looking back on the cold details of that expedition, I can find nothing in it that a properly constituted mind could call enjoyable; yet I know very well that I seemed to myself to have discovered an entirely new

and unmixed pleasure, and to have merely wasted all the years which I had spent outside Switzerland. I am almost ashamed to say how little I have changed my mind since then.

One cannot say what the pleasure is. It defies analysis into its agreeable or disagreeable parts. It appears to be independent of external accidents (the word is used in the logical sense); it exists on the Diablerets, which is as nearly flat as a mountain can be; it exists on the west face of the Pillar rock, which is not flat at all. Novelty is all very well. But however delightful to vanquish some rock pinnacle ('noch nicht gemacht')—and possibly to find that your new peak is crowned by an old bottle, which you try to persuade yourself has been dropped by a passing balloon:—however fascinating to climb a gully, 'equal to new,' where the stones, accumulated by ages of justifiable neglect, only to fall on your devoted head, make you occasionally feel that you could be content with that gully in a slightly more used condition; whatever the charms of new ascents, it is not on these that the grovelling Hedonists for whom I speak primarily rely. As Aristotle might say, they do not need novelty, like an amulet. They recognise that if newness has its delights, so has familiarity; and, as I am professionally bound to think first of instruction, I ought to say that nothing is more educative from a climbing point of view than to make the same ascent under different conditions.

It may be urged that persons who approach the Alps in this casual and amateurish, and what I may call Bank Holiday, spirit are liable to be accused of forming an undesirable link between this Club and the ordinary tourist—in fact, of being ordinary tourists themselves. Now, no one can have studied the recent literature of Alpine adventure without realising that it is a very serious thing to be called a tourist. While the writer of an article in the 'Journal' is almost invariably a hero—or at least *the* hero of the piece—the tourist, should he unfortunately appear, almost always takes the rôle of the villain.

And the worst of it is that it is so fatally easy to become one. The affliction may come upon a man quite suddenly; it is in a sense an accident of time and place. You may be successful in your profession and respected by your friends—so long as you keep below the snow-line; cross it and you may be at once described as *hostis humani generis*; in a moment you may find that you are one of a class of persons who are generally obese: who belong by preference to some

alien nationality : in front of whom the rope is unduly taut as they ascend, and unduly slack as they descend ; who regard the practised mountaineer with peculiar animosity, and take every opportunity of dislodging portions of the hill-side on to his head : for whose sake mountains are draped with ropes and honeycombed by railways—while the true climber is driven far afield, before their locust-like advance, into distant and hotel-less solitudes.

Yet the harmfulness even of a tourist may be exaggerated.

After all, the crowds of persons only qualified for climbing by the possession of an ice-axe, who have certainly made some parts of the Alps less delightful in the past twelve or fifteen years, are not necessarily so baneful as we are sometimes given to understand—even granting the impossibility of their moral redemption. Natural gregariousness, which is perhaps the real differentia of the tourist, herds him into a few centres where he can dine off many courses and all the expeditions have sign-posts. But these are after all only a small part of the Alps. Fourteen years ago it was the singular good fortune of myself and a friend to find ourselves on five fine August days the sole visitors of five so-called first-class peaks. Allowing that now that would be a very unusual experience indeed—allowing the number of ‘hardest climbs in the Alps’ which are now ‘an easy day for a lady’—granting that on fine mornings a queue has, I am told, to be formed from the door of the Matterhorn hut, and that every peak at Arolla, from the Petite Dent de Veisivi to the Aiguilles Rouges, is crowned by its own particular picnic—surely those are desperate counsellors who would have us retire (as does a recent and very eloquent writer in the ‘Journal’) to Parnassus or Olympus or Ida. We are not really crowded out of the Alps. Not to go far afield, it cannot be said the district between the Grimsel and the Gothard is over-populated. There is quite good climbing there, nor is the climber’s initiative hampered or atrophied by the excessive skill of local guides. And any one who goes even to the Aiguilles of Mont Blanc with the ‘Climber’s Guide’ (a work which I mention for the sake of honour) will see at once that topography has not said its last word.

Why not accept the facts in an optimistic spirit, and acknowledge the potential perfectibility even of tourists? Many a man begins as a member of that class, yet afterwards lives quite respectably. Perhaps, among those who in later years have acquired quite enough knowledge to lead up (let

us say) the Galenstock, more than would care to confess it have begun by going up the Matterhorn because it was the right thing to do. Even such are men and brothers. This Club is based after all on the desires that are shared by ourselves with the humblest tripper who crawls on all fours across the slab of the easy route up the Pillar—the desire for the high air and the sun shining on the peaks and the sense of something accomplished. In the ‘concentration camps’ above described, much is being done for the moral, as well as the physical, elevation of the sojourner. When he ascends mountains, even those very boulders which he dislodges on to the head of the innocent mountaineer may be the ‘stepping-stones’ of his tourist nature whereby he climbs ‘to higher things.’ Even when he only makes what I have heard a guide describe—in reference to the chief seats at feasts gradually attained by length of stay in hotels—as ‘la grande ascension de la table d’hôte’—even then he may be imbibing that enthusiasm for mountains, that *animus ascendendi* which is the sign of the true mountaineer; which will, one hopes, still send some Englishmen to the Alps when climbing as a fashion has passed into the limbo of forgotten pastimes. And here I seem to be getting near the subject which the secretary may have had in mind when he spoke of the Alps regarded from an unprofessional point of view; but I have also got to the end of this unnecessary paper. I apologise for the length of the expedition.

THE BIFERTENSTOCK AND ITS NEIGHBOURS.

By A. L. MUMM.

(Read before the Alpine Club, March 5, 1907.)

THOUGH the idea of writing this paper did not occur to me till much later, it had its first origin in a proposal of mine, made about five years ago, to my friend Mr. Charles Cannan that we should celebrate the twenty-first anniversary of our first season together in the Alps by spending a few weeks there in the following summer. He replied by inviting me to suggest a district, not too far away, to which we had neither of us been before, where we should get some not too formidable climbing and be unlikely to meet any of our fellow-countrymen. After some deliberation I fixed on the Linth Thal as the nearest place which seemed likely to satisfy the prescribed conditions, and there accordingly we

went, in August 1902, with another old friend, Moritz Inderbinen.

The season was a very bad one, and there was only one short spell of five days in which it was possible to do anything; but we turned it to most satisfactory account, crossing the Bifertenstock to Brigels, going round to the Val Rusein, and returning from the Sandgrat pass over the Tödi. I should like to dwell a little more on my recollections of this first visit to the Tödi region, but space forbids, and I can only mention now that two young Swiss whom we met at Brigels told us that next year (1903), when the railway to Ilanz was opened, a new hut would be built in the Val Puntaiglas. What happened with regard to that hut I do not exactly know. I believe one of the Sections of the Swiss Alpine Club intended to build it and then changed its mind, and built one on the Dom instead. But the matter did not greatly interest me, for I had no thought at that time of ever going back there. I was then a confirmed 'mountain-climber' of the type described by Sir Martin Conway in an inspired moment seventeen years ago.* These are some of the things he says about the mountain-climber:—

'What he loves, first and foremost, is to wander far and wide among mountains. He does not willingly sleep two consecutive nights in the same place. He detests black-coated tables d'hôte. He hates centres. He gets tired of a district and likes his holiday to be a tour. He loves a good and companionable guide. He always wants to see what is on the other side of any range of hills. He prefers passes to peaks, and hates not getting to the top of anything he starts for. He chooses the easiest and most normal route. He likes to know the names of all the peaks in a view. He cannot bear to see a group of peaks none of which he has climbed. He covers maps with red lines, marking his routes. He willingly explores side valleys. He has ascended the Basodine and other splendid points of view of easy access.'

When I first read that description I felt as if I had been sitting for my photograph; but I think I must have left off reading at that point, for on looking at it again the other day I found that Conway goes on to say, 'The future of Alpine literature depends on the climber, but the prosperity of climbing as a sport depends on the gymnast.'

Now my experience is that a man may wander for years among the mountains and remain very happy and entirely

* *Alpine Journal*, vol. xv. p. 108.

unconcerned about Alpine literature, but, once entangled in its meshes, he is slowly but surely transformed into an impassioned centrist, possessed with a restless desire to return to his district again and again, till he has ascended every mountain in it by all conceivable routes.

Alpine literature laid hold of me when I got home in the shape of Mr. Valentine Richards, who asked me to help with some of the routes in the Tödi section of the new edition of the 'Alpine Guide'; and, as I did not know then what it was going to be like, I consented with light-hearted alacrity.

I expect that when the literary microbe has once gained admittance one is bound to end by reading a paper sooner or later, but the immediate occasion of this one was that my earliest attempts to get up the subject resulted in the discovery of a remarkable gap in the 'Alpine Journal' which it seemed to be somebody's duty to fill. But to make this, and what follows it, clear, I must go into some topographical details.

Everybody knows in a general way the main geographical features of the district treated in the 'Climbers' Guide' and the 'Alpine Guide' under the name of the Range of the Tödi or the Tödi district.

The Vorder Rhein in the first part of its course runs, so to speak, side by side with the Reuss, but after a short distance they part company, and while the Reuss keeps straight on its way to the Lake of Lucerne the Rhine takes a great sweep to the east as far as Chur; after that it turns north again towards the Lake of Constance. In the angle between them lies the basin of the Linth, which roughly coincides with the Canton of Glarus.

At the peak called Catscharauls is the point where the watershed between the Rhine and the Reuss splits into two watersheds, that between the Reuss and the Linth, which runs over the Claridengrat and the Claridenstock down to the Klausen pass, and that between the Linth and the Rhine, which may be conveniently called the main chain. The first thing on the main chain is the Sandgrat; then come the Tödi itself and some minor summits, then Piz Urlaun, the little Bundner Tödi, and the Bifertenstock. Beyond the Bifertenstock lie the Kistenstöckli and the Kisten pass, and then the main chain turns N. and runs up as far as the Hausstock, enclosing the upper part of the Linth Thal. Beyond that point it does not lie within the scope of this paper. On the S. side of the main chain there are two considerable lateral ridges, one which starts from the base of Piz Urlaun,

and a much larger one starting from the western end of the Bifertenstock, consisting of Piz Frisal and the Brigelserhörner. These, in conjunction with the main chain, enclose three valleys—the well-known Val Rusein, and the Val Puntaiglas and the Val Frisal, which are not so well known. On the N. side there are two great projections—they cannot be called ridges. One is the Tödi itself, most of which lies to the north of the watershed, and forms the northern boundary of the Biferten glacier, and the other is the Selbsanft, an enormous mass of rock, very precipitous on all sides and roofed with glaciers, the largest of which, the Gries glacier, runs up to the face of the Bifertenstock.

The Selbsanft abuts on the Bifertenstock in a very curious way; it is not nearly so high as the Bifertenstock, and is rather like a two-storied addition to a three-storied house; only at the S.W. corner a steep tongue or slope of névé connects the Gries glacier with the ice on the summit ridge of the Bifertenstock. It has no particular top to it; the only well-marked summit is the Vorder Selbsanft, which is a good deal lower than the main mass, from which it projects very much in the same way as the Vorder Glärnisch from the Glärnisch.

At its northern end the Selbsanft once joined on to the Nuschenstock, but the Limmernbach has cut through them a very remarkable cañon, called the Limmerntobel. Above the cañon, enclosed between the main chain and the Selbsanft, lies a ravine scarcely less remarkable; along its floor, called the Limmernboden, the Limmernbach flows down from the glacier of the same name, which descends from the Gries glacier. The route to the Kisten pass is high above this ravine.

Now all the western part of these mountains—all, that is to say, which lies west of a line drawn from north to south just west of the Bundner Tödi—is familiar ground to readers of the 'Alpine Journal.' Most of it was within range of the activity of Placidus a Spescha, whose story has been told by Mr. Freshfield; * the rest was also the scene of much early Swiss mountaineering, notably on the part of Herr G. Hoffmann, who discovered the merits of the Maderaner Thal as early as 1840. Some of his exploits have been recorded by Mr. Sowerby, who himself minutely explored all the Maderaner Thal peaks and passes.† Mr. A. W. Moore wrote a charming

* *Alpine Journal*, vol. x. p. 289.

† *Ibid.* vol. vi. p. 321.

paper on the first English ascent of the Tödi,* and other parties visited the Biferten glacier† and Piz Urlaun,‡ but none of them crossed the line mentioned above.

I believe I am strictly accurate in saying that to the east of it the whole of the region I have described was entirely non-existent as far as the 'Alpine Journal' is concerned till as recently as 1895, when an article by Mr. Coolidge gave some account of the Brigelserhörner. The rest of it has remained a blank to this day, though the Hausstock has been described by Sir Martin Conway in the 10th chapter of 'The Alps from End to End.' §

It was but little known even to Swiss mountaineers before 1863, when the recently formed Swiss Alpine Club selected the Tödi-Clariden groups as the 'Clubgebiet' for the season, and assembled in considerable numbers in the Linth Thal. One division of them, under the command of Herr C. Hauser and the guides Heinrich Elmer and his son Rudolf, the leading pioneers in this region, started on August 15 to attack the Vorder Selbsanft.

It is not three-quarters of an hour's walk from Thierfeld to the base of the mountain, but between it and the traveller lies the cañon of the Limmerntobel. This cañon has been described in the 'Alpine Guide' by Mr. Ball, who writes, 'It is said that when the stream is frozen hard in winter it is possible to traverse this extraordinary cleft, utterly inaccessible at other seasons.' It is rash to say of any place that it is inaccessible, but that view was accepted then and for long afterwards, and accordingly Herr Hauser's party ascended by the Kisten pass route to the Nuschen Alp, went down to the Limmernboden, up to the further end of it, and all the way back along the icy roof of the Selbsanft. They slept at a chalet on the Nuschen Alp, were 5¾ hrs. going from there to the summit of the Vorder Selbsanft (not reckoning halts), and 5¾ hrs. getting back again to the Nuschen Alp chalet, where they slept a second time.||

A few days earlier another party had been on the Selbsanft, with the idea of trying the north face of the Bifertenstock from the Gries glacier, but not liking the look of it they turned towards the Vorder Selbsanft. Then bad weather

* *Alpine Journal*, vol. iii. p. 153. † *Ibid.* vol. ii. p. 363.

‡ *Ibid.* vol. ii. p. 134.

§ Mr. R. W. E. Forster's amusing paper on the 'The Baths of Stachelberg,' in the first volume of *Peaks, Passes, and Glaciers*, deals only with the sub-Alpine portions of this district.

|| *S.A.C. Jahrbuch*, i. 146.

came on, and they descended on the western side by the Scheibenrunse, a great gully which runs down towards the snout of the Biferten glacier. This was a very plucky performance, as it is a queer-looking place from above and was unknown ground to all the party.*

I confess that, so far, I do not feel as if I had presented the Vorder Selbsanft in a very attractive light; the view from it down into the Linth Thal is remarkable, but in other respects it is inferior to that obtained higher up, and the climbing interest of Herr Hauser's expedition does not seem to have amounted to much. I do not know that it has ever been repeated, and no one visited the Vorder Selbsanft again by any route till 1881, when Herr J. J. Schiesser ascended it from the north with the guide Albrecht Zweifel.

They too slept at the Nuschen Alp, and descended to the Limmernboden, then followed a hunter's track along the wall of the Limmerntobel, and climbed out to a little grassy patch, very conspicuous from Thierfehd (point 1,852 m. on the Siegfried map), after which the arête was followed to the top. There is no doubt about the climbing interest of this ascent; it commences almost at the water's edge, and for nearly 3,000 ft. from the grassy patch to the summit lasts continuously for 4 or 5 hours.†

Six years later Herr Carl Seelig conceived the bold idea of forcing a way direct from below, and started from Thierfehd with Herr Treichler and the guide Heinrich Schiesser. They got down from the Ueli Alp into the cañon, where they spent an hour, mostly in the bed of the stream, then climbed out and reached the grassy patch already mentioned. After that they followed the route of the first party. 'The Grat knows the way,' as Herr Seelig drily observes.

They passed a miserable night in their wet clothes somewhere on the Gries glacier, descended next morning to the Limmernboden, and went right down the Limmerntobel and out at the lower end. They were in the water this time for nearly three hours, and state very emphatically that the upper part can only be taken down stream.‡

Heinrich Schiesser was my guide last summer; he has repeated this expedition twice since, and had to spend at least one other night out. The last thing he said to me was that I must come back next year, late in the season, when the

* *Alpine Journal*, i. 37.

† *S.A.C. Jahrbuch*, xvii. 290, well worth reading.

‡ *Ibid.* xxiii. 515.

water would be low, and that he would take me up. I said it would be very nice, and I hoped I should do it some day.

When one parts with a guide after a successful season one is generally possessed by a certain ardour and enthusiasm, and I daresay my reply was not wholly insincere, but I do not like the idea of that 'Kalttes-Wasser-Wanderung.'

My own experience of the Selbsanft consisted of an ascent by the Scheibenrunse with Mr. Claud Schuster, Moritz Inderbinen, and a local man, on my second visit to the Linth Thal in 1904. It was the only item of our programme that the weather allowed us to accomplish. We slept at the Hintersand chalets (two hours' very easy going from Thierfeld) and reached the top of the couloir in 5 hrs. 5. min. from Hintersand, exclusive of halts. An hour and a half was spent in the couloir itself; we found the upper part of it almost entirely free from snow or ice, which I believe is very rarely the case.

The most remarkable feature of the climb was the extreme looseness and rottenness of the rocks. I waited for several minutes in one place while Inderbinen was trying to get on without endangering the rest of the party, feeling that I should dislodge my own weight in boulders if I moved an eyelid. The local guide did move an eyelid or some other portion of his person, and Schuster got a nasty bang on the head. It was a wretched day: a dense mist enveloped everything just as we reached the top, and through it sounded the rattle of a tremendous volley of falling stones; whether they fell anywhere near the line of ascent it was impossible to tell.

A porter had been instructed to take a fresh supply of provisions up to the Muttsee hut; we proposed to sleep there and cross the Ruchi and the Hausstock on the following day; beyond that our plans were rather indefinite, as it had been impossible to form any idea of the amount of time that would be required for the ascent of the Scheibenrunse. Had it been fine we might have been tempted—one never can tell—by the N. face of the Bifertenstock; at the least we had looked forward to wandering about the Selbsanft and enjoying the view, which can only be obtained from here and must be an exceedingly fine one, of the Biferten Glacier and the peaks surrounding it. But rain began to fall heavily, and there was nothing to be done but to get round to the Muttsee hut as quickly as circumstances permitted.

The local man went astray in the fog; he seemed to think that as long as progress was being made the direction was

immaterial; so we put Inderbinen in front, but much time had been wasted. I knew from the 'Clubführer der Glarner Alpen' (an invaluable little book which no one visiting this region should fail to provide himself with) that there was a way up from the left bank of the Limmern glacier to a point a little to the west of the Kistenstöckli, but the description sounded as though there was only one practicable line of ascent, and I had a momentary vision of failure to hit it off followed by a wet night out. However the rocks, when approached, did not prove formidable, and a competent party would always get up them somehow without serious trouble; we raced along the Kisten pass track and reached the Mutsee hut between a quarter and half-past five.

I emerged from it at 8 next morning, to find a blizzard raging and 2 ft. of snow on the ground, so that it was just as well that we had not spent the night on the rocks above the Limmern glacier.

The early history of the Bifertenstock was not unlike that of the Vorder Selbsanft. It was reached for the first time in the same year, 1863, a few weeks later.* The party, who were led by Heinrich Elmer, slept at the Nuschen Alp, went on from there to the Kisten pass, and ascended by means of the ledges on the S. face called the 'Bänder'; this route was again followed once or twice in the early 'seventies, and then, except on one occasion mentioned below, it appears to have been left severely alone for about twenty years.

In the meantime, in 1876, the ascent from the Gries Glacier was successfully accomplished by Herr Brunner and the Elmers. They started from the Hintersand chalets at 2, and reached the glacier by way of the Scheibenrunse, from which they got to the top of the ice slope previously described in 4 hrs. 25 min.; this included an hour's step-cutting by Rudolf Elmer, who went ahead alone for that purpose; the summit was attained in 20 min. more. The expedition was a long one, as more than six hours were occupied in getting to the top of the Scheibenrunse. The descent was made by the Bänder to the Kisten pass and Brigels, which was reached a little before 9 o'clock.†

In 1888 Herr Weber-Imhof, with two Zermatt guides, climbed the S. face from the Frisal glacier, apparently about half-way between the summit and the 'Vorgipfel' (pt. 3,371 m. on the Siegfried map).‡ The 'Clubführer' describes a variation of this route, practicable in exceptionally snowy seasons,

* *S.A.C. Jahrbuch*, i. 163. † *Ibid.* xiii. 3. ‡ *Ibid.* xxiv. 421.
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by way of a conspicuous patch of névé lying on the face a little to the west of the 'Vorgipfel.' In 1902 we found the mountain in the condition described (the snow on the Bänder was in some places up to our knees), and descended from the summit ridge nearly all the way on good snow, which extended to the very edge of the Frisal glacier.

How the mountain has fared since I am unable to say, but some light is thrown on this question by a remark made by the local porter who was with us on this occasion. I asked him if the Bifertenstock was often climbed. No, not very often. Had he been up it before? Yes, three or four times. Then, after a short pause, he mentioned in a casual way that he had only been as far as the top on one of these occasions. I passed this on to Inderbinen, who grinned a good deal and told me that the night before the porter had said, 'Oh, yes; let them start for the Bifertenstock if they want to, and go on as far as they like. They won't get to the top. Nobody ever gets to the top of the Bifertenstock.'

And it is true that the journey from Thierfeld to the Bänder *via* the Kisten pass is irritatingly long and circuitous, even now that the Muttsee hut provides a better placed and more comfortable half-way house than the Nuschen Alp chalets.

Therefore I was very much interested to learn that a way had been found from the Biferten glacier which brought the Bifertenstock comfortably within reach of the Grünhorn hut. This way goes up a couloir leading to the col between the Bundner Tödi and Piz Urlaun. It was discovered in 1898, and seems to have been used as a direct route from the top of the Bifertenstock to the Grünhorn for the first time in 1902, when another route was discovered down the N. face, straight from the summit to the Obere Frisal Lücke, the col lying between the Bifertenstock and Piz Frisal. The ascent by this route was the principal item on my programme in 1904, when I never was able to attempt it, and again last year.

But before coming to it I should like, in the interests of chronological sequence, to make a short digression, and to stray a little outside the limits indicated by the title of this paper. I came out last summer to Altdorf, where I met my friend Mr. A. E. Measures, who brought with him Johann Stoller, of Kandersteg, a most excellent guide, young, very competent both on rocks and ice, and full of zest for novelties. On August 19, the day after my arrival, there was a heavy storm of snow and rain, which heralded three weeks of almost

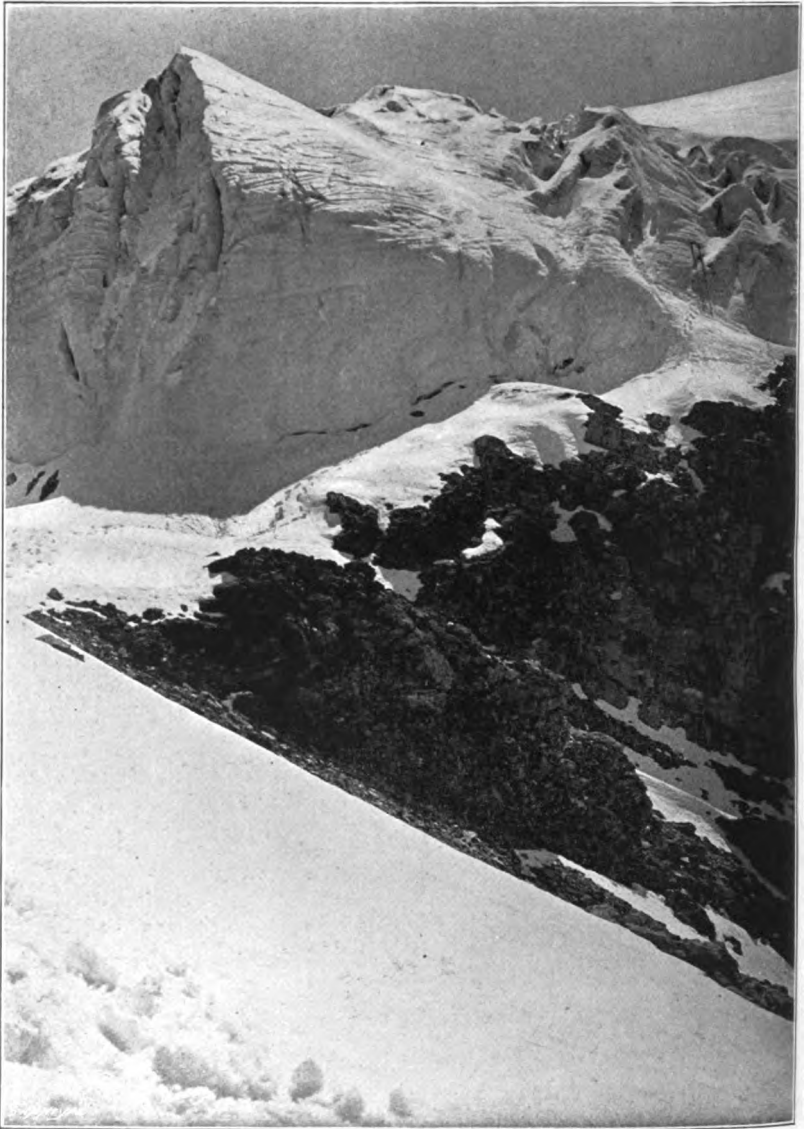


Photo. A. L. Mumm.

Swan Electric Engraving Co. Ltd.

THE CLARIDEN ICE WALL

perfect weather, but in the meantime left us nothing to do but to walk over the Klausen pass. Now there is a ridge which runs down to the Klausen pass to the depression between the Claridenstock and the Kammlistock, which looks as if it was intended to provide a way to the N.W. arête of the Claridenstock. One of the divisions of the invading army of 1863 started from the Urnerboden, in full confidence of success, to make this ascent, but were brought up short, at a point where the ridge narrows, 2-2½ hrs. above the Klausen pass, by a remarkable ice wall, from which they retired defeated after a not very resolute attack.* An English party, consisting of Messrs. L. Stephen, F. C. Grove, and R. S. Macdonald, with the two Andereggs, reached the same place, with the same object, in the following year, but 'finding themselves cut off by an impassable wall of glacier,' they descended to the W. to a glacier on the W., called the Gries glacier, and crossed the Scheer Joch to the Maderanerthal.† Herr Hauser and the Elmers had a similar experience a few days later.‡

We learned from the well-informed landlord of the Klausen Pass Hotel that this ice wall was now practicable, and that an iron ladder had been fixed in the ice to make it easier. On August 23, having picked up Heinrich Schiesser at Thierfeld, we crossed the Claridenstock from the Clariden hut and came down that way. It is a very curious place, but we did not find it very difficult, and only came upon the ladder when it was too late to make any use of it. I can, however, well believe that in some seasons it may be hopeless. The first party spent 4 hrs. cutting steps up it. We got down in about 35 min., some of which was spent in casting about for the right way down.

We reached the Klausen Pass Hotel at 2.30, in 8 hrs. from the Clariden hut, and drove down to Thierfeld, but undoubtedly the expedition is better taken the reverse way; it provides an excellent approach to the Linth Thal for any one coming to it from the valley of Reuss.

On the way to the Grünhorn next day I noted two interesting entries in the visitors' book at the Fridolin hut. One gave the names of V. A. Fynn and A. Bruderlin, and proceeded, with a conciseness recalling Captain Walton's report of the sea fight off Cape Passaro, '1^{ste} Besteigung des N.W. Bifer-

* *S.A.C. Jahrbuch*, i. p. 109 &c. † *Alpine Journal*, vol. i. p. 485.
‡ *S.A.C. Jahrbuch*, ii. 181-2.

tenwand. Abstieg über Scheibenrunse.' This was a remarkable climb; so far as we could judge, it must have been made up a very long and steep couloir, just at the junction of the Selbsanft and the Bifertenstock, and have ended on the slope by which Herr Brunner's ascent was made. Besides this I do not know of even an attempt having been made to scale the wall extending from the Bundner Tödi to the Vorder Selbsanft at any point except the Scheibenrunse.* The other was a short note of an attempt to climb the Bifertenstock by the rock arête above the Bänder, which was stopped by 'smooth towers' above the second Band, *i.e.* the one nearest the summit. The only other actual attempt on this ridge of which I have come across any trace was one made by Herr Weber-Imhof before his ascent from the Val Frisal; no details are given.

On August 25 we set out for the Bifertenstock, reached the upper plateau of the glacier by the Schneerunse, and crossed to the other side. There is no mistaking the couloir, which starts from the very edge of the plateau, just above the icefall. We started up some rocks to the right, but this did not answer very well, and a considerable time was spent over a not very easy traverse into the couloir; we ought to have gone straight for the bottom of it. Once in, it was plain sailing, and a steepish climb of 35 min. brought us to the top at 9.15, in 4 hrs.' actual going from the Grünhorn hut. I did not know what the traverse of the Bundner Tödi was going to be like, and was prepared for some step-cutting, but we walked over it with absolute ease to the Bifertenlücke, the gap between it and the Bifertenstock, in $\frac{1}{4}$ hr., stopping on the top to photograph the Bifertenstock, which soared majestically above our heads. After a few minutes' descent and a short horizontal traverse we scrambled up slopes of shaly scree for something under half an hour to the Obere Frisal Lücke, which was reached in less than $\frac{3}{4}$ hr. from the gap without difficulty of any kind.

It is a very simple matter to get down from the gap to the Puntaiglas glacier; the direct descent from the Obere Frisal-lücke involves some climbing, but not, I believe, of formidable character.

The ascent of the Bifertenstock from the Lücke took exactly 2 hrs. At starting we went down a short distance

* There is a good view of this wall in the *S.A.C. Jahrbuch*, xxxvii. p. 240. See also two other views at pp. 72 and 80 of the same volume.

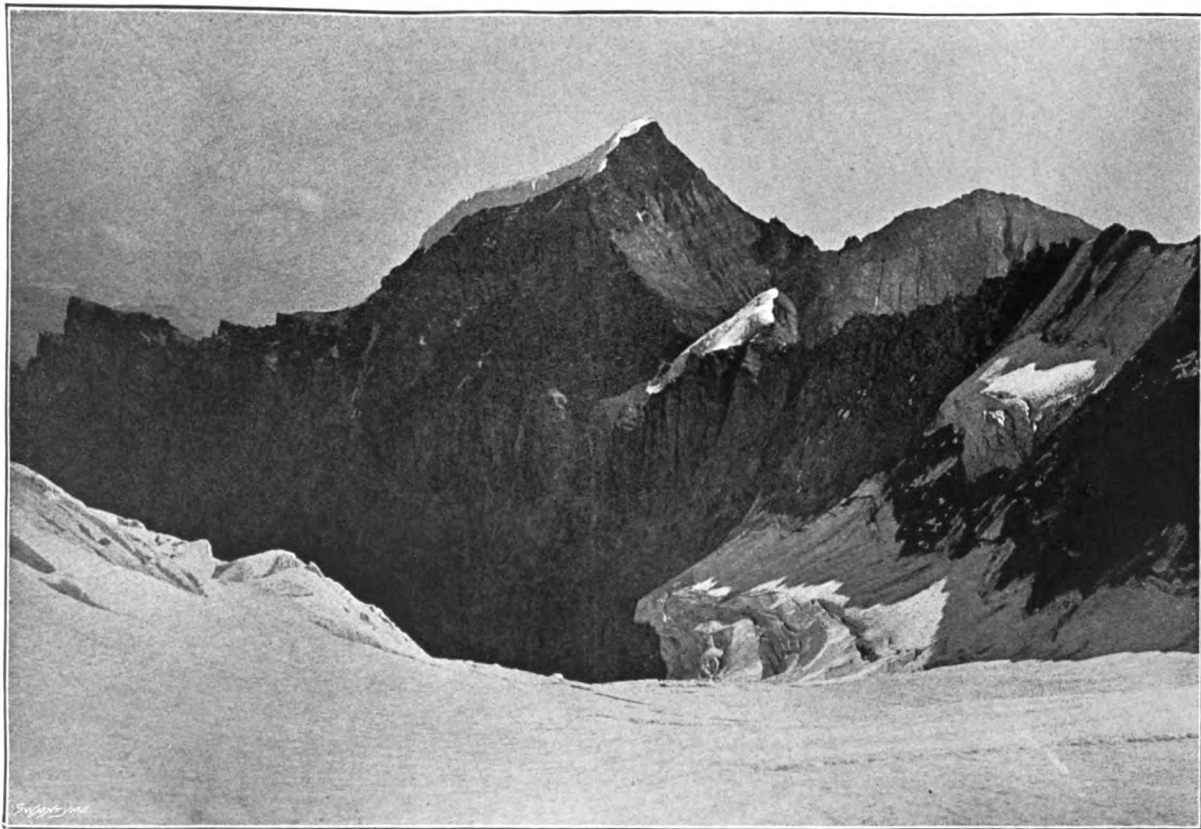


Photo. A. L. Mumm.

Swan Electric Engraving Co. Ltd.

THE BIFERTENSTOCK, BÜNDNER TÖDI, & PIZ FRISAL
FROM THE UPPER PLATEAU OF THE BIFERTEN GLACIER.



below the col ; afterwards we were on the arête once or twice for a few minutes, but practically the whole climb is by the face. Everything sloped the wrong way, but the rocks were not slabby, and there was no great difficulty about it.

My only *contretemps* was just below the top, where the other three, whose legs were considerably longer than mine, got up a place involving a big stride upwards and sideways, which I did not see my way to accomplishing. They were not straight above me by any means, and I looked at the place and did not like it. As always happens on such occasions the others sat in a row and cheerfully advised me to come along ; it was quite safe. So at last I made my effort, and promptly swung out into space, a thing I particularly dislike. However no harm was done, and a very few minutes later we were on the top.

On the descent we reached the beginning of the Bänder in 55 min., crossed the first one in 25 min. and the second in 18 min. From the end of the second Band the Kisten pass route was reached in 1 hr., and Brigels in 2 hrs. more. These may be taken as fair average times. Being bound for Brigels we passed to the right (S.) of the Kistenstöckli, but it is worth making the circuit round to the N., if time is no object, for the sake of the view down the ravine of the Limmern, which is one of the weirdest and strangest I have ever seen.

We spent a lazy Sunday at Brigels, where we were fortunate enough to make the acquaintance of Dr. Franz Weber, a member of the Akademischer Alpenclub of Zürich, and one of the party who first ascended the Clariden ice-wall. He was working on the Geological Survey, and gave us much interesting information about the climbing, geology, and nomenclature of the Tödi district. When he heard that we wished to see something of the Puntaiglas glacier he said that he had a tent at the foot of the glacier, which he would not want for the next few days, and if we cared to use it it was at our disposal. We accepted this most kind and considerate offer in the spirit in which it was made, and had the satisfaction of turning it to account in the fullest measure.

We slept out next day about 2 hrs. above Brigels. Our intention was to ascend the Brigelserhörner from the eastern end, beginning with Piz Tumbif, and following the ridge to Kavestrau grond, and then to try the descent of the western face of the ridge by a route described to us by Dr. Weber, whom we hoped to meet in the afternoon on the Puntaiglas glacier. For once the weather was unfavourable. I think,

however, that it was a blessing in disguise, and resulted in our eventually making a better expedition on the Brigelserhörner than we should otherwise have done.

The storm did not last very late, and we had a delightful walk on the morning of the 28th down to Truns; but there we had to wait for some final tidings with regard to the tent, till it was too late to start again that day.

Truns, as every one ought to know, is the place where the peasant deputies took the oath of fidelity to the Graue Bund in 1424. We swore no oaths at Truns; the weather was mending rapidly, the cook at the Hotel Tödi had a touch of genius, and I resigned myself to a lazy afternoon with considerable cheerfulness.

In the evening we heard some chaff directed against the landlord with reference to the long-talked-of Club hut in the Puntaiglas valley; but he declared that officials representing one of the sections of the S.A.C. had been up there with the president of the commune a short time before to discuss the question of a site, so perhaps they really mean business this time.

Next day we set off for the Val Puntaiglas, and I here take the opportunity of warning every one whom it may concern that if, in reliance on the 'Climbers' Guide,' they reckon on getting to the foot of the glacier in 2½ hrs., they had better make a very early start. That was the time taken by Mr. Tuckett's party when they went up Piz Urlaun in 1865; we started at a few minutes past 9, and took 4 hrs., and found it a grind at that; the sun gets on to the valley very early, and stays there relentlessly nearly all day.

About half-way up one reaches a great combe, filled at the head by worn, slabby precipices, over which the Puntaiglas glacier once poured. We could just see above them a small patch of white against the sky; I thought it was a bit of glacier, but I believe now that it was really the top of Piz Urlaun. The glacier ends about 300 to 400 yards short of the edge of the precipice, and about 50 yards from the edge we found the tent. It was a tight fit for four persons, but with the weather we were having it served us well, and we spent three nights in it very snugly.

I had long been looking forward to seeing the Puntaiglas basin; now the cirque which surrounded it was in full view, and I was not disappointed. Above the mass of rather dirty ice in front of us rose the smooth grey walls of Piz Urlaun and the Bundner Tödi, partially sheathed in glacier. On our left the circle was not complete; and a jagged rock ridge



KAVESTRAU GROND
FROM PIZ PUNTAIGLAS.

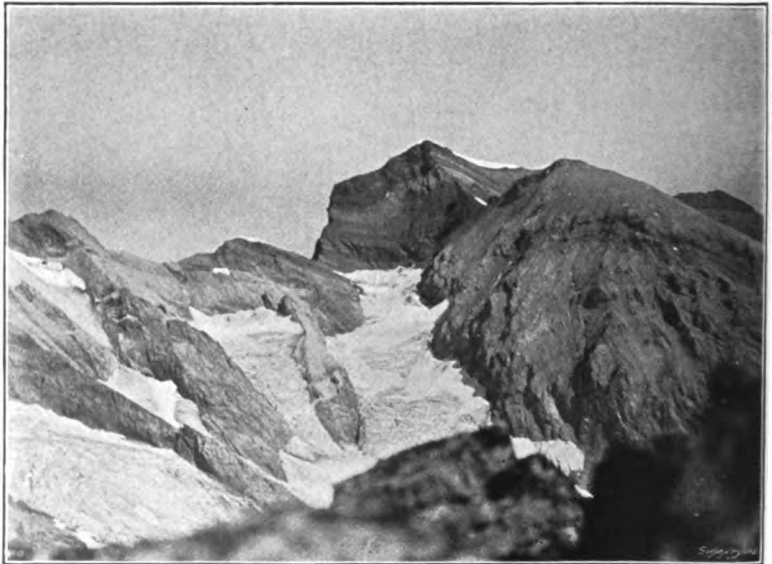


Photo. A. L. Mumm.

Swan Electric Engraving Co. Ltd.

THE BIFERTENSTOCK AND PIZ FRISAL
FROM PIZ PUNTAIGLAS.

which had towered finely above the Alp Puntaiglas as we were ascending had sunk into comparative insignificance; but on the right Piz Frisal and the Brigelserhörner stretched in an apparently continuous line of precipices, seamed with deep gullies, and broken by scree-covered terraces from which queer little rock towers rose like fungi.

Our hot walk up from Truns would have been amply rewarded even if we contemplated nothing further.

On August 30 we started for the Brigelserhörner; the evening before we had weighed the merits of Dr. Weber's route, which attacks the face of the ridge at the extreme top left-hand corner of the great slope of screes lying to the north of the arête which descends from Crap grond, and of another which appeared to be practicable, partly up the lower part of this arête and partly to the south of it beyond Crap grond. We learned later from Dr. Weber that the summit of the ridge had been reached by the latter route also, but eventually we followed neither of them, but made for the bottom of a couloir between the two, about half-way across the great scree-slope and nearly straight in front of us as we faced the ridge from the tent. This couloir seemed to offer a more promising line, but there was one bit just above, where the couloir came to an end, which we could not quite make out.

The couloir was climbed without much trouble, but the doubtful appearance of things at the top was found to be due to the fact that a huge cleft, some hundreds of feet deep, ran right into the mountain there and completely barred all progress in that direction. I thought we were done for, but Stoller rose to the occasion and led us up chimneys and rock-ribs away to the right without a check, except what was due to the necessity of clearing out the loose stones with which the chimneys abounded, until we were high enough to accomplish a traverse—which required care—beyond and well above the chasm which had stopped us. About 1½ hour after leaving the top of the first couloir our difficulties were at an end, and rough scree-covered slopes led us to the top of the ridge in a little over 4 hrs. from the tent. (Dr. Weber's route lies well to the north of the chasm.)

We were now near the northern foot of Crap grond, which scarcely seems to me to be entitled to a separate name, or to recognition as a separate mountain; the steep northern side of it took about half an hour; on the S. it hardly rises above the ridge, and we walked from it in 5 min. to the foot of Kavestrau grond, a beautiful rock tower which gave us

about 50 minutes' climbing. Returning to the foot of Crap grond, we descended by the glacier on the N. side into the Val Frisal and so back to Brigels once more. This route has been described by Herr Dübi* and Mr. Coolidge,† both of whom reached the main ridge by it, though at widely different points, from the Val Frisal. The glacier is very steep and much crevassed, and gave Stoller an opportunity of showing his resourcefulness.

We returned to the tent next day, attempting a short cut from Brigels direct to the Puntaiglas Alp with the amount of success that usually attends such efforts. On September 1 we went up Piz Puntaiglas: a lateral glacier led to the foot of the peak in a little over 2 hrs., and from there a climb of $\frac{3}{4}$ hr. up some very rotten rocks brought us to the top of a long shattered ridge with a stone-man at each end.

The northern one was selected as better adapted than the other for photographic purposes. It turned out to be slightly the lower of the two, but a perfect standpoint for studying the more lofty peaks around it.

The next day we regretfully bade adieu to our tent, crossed the col between Piz Puntaiglas and Piz Urlaun, descended to the Gliems glacier, and reached the top of the Tödi in $5\frac{1}{2}$ hrs. from the tent, *via* the Gliemspforte. I think this quite the best way of getting to the Gliemspforte, and I believe it is also the best and shortest way for any one wishing to descend from the Tödi to the Rhine valley.

A lazy day at Thierfehld followed, and we finished up by traversing the Ruchi and Hausstock from the Muttsee hut to Elm.

The moral of my last year's experiences is that a hut near the foot of the Puntaiglas is very much needed; all the peaks on the main chain, except the Hausstock, would be within reach of it, as well as the lateral ridges which enclose the glacier. It could be worked conveniently in connection with Brigels, and all ordinary requirements in the way of supplies can be obtained at Truns.

I hope some members will also have drawn the conclusion that these mountains are worth a visit. Though not very high above the sea level, they are quite on the grand scale (the Tödi and Bifertenstock rise higher above Thierfehld than

* *S.A.C. Jahrbuch*, xxix. p. 315, where there is a good view of the Brigelserhörner from the N.E.

† *Ibid.* xxxi. p. 375, and (more briefly) *Alpine Journal*, vol. xvii. p. 589.

the Dent Blanche and Rothhorn above Zermatt); much of their scenery is beautiful, and all of it has a very distinct character of its own. The climbing is for the most part of the kind indicated at the outset, not too formidable (though I should not call our Kavestrau grond expedition an easy one); but there are plenty of other things to be done, some among them probably of greater difficulty than anything I have described, and I cannot conclude better than by giving a list of expeditions still undescribed in the 'Alpine Journal' and unaccomplished, so far as I am aware, by members of the Club.

On the N. side there are the Bifertenstock from the Gries glacier, and the Vorder Selbsanft, from the N., probably the finest climb in the whole district. And I should like to mention, though it is going a little outside my beat, the Bocktschangel and the Teufelsstöcke, which are only $1\frac{1}{2}$ hour's walk from the Clariden hut, and must provide some good, though short, rock-climbs.

From the Puntaiglas hut (when it comes into being) there are the eastern arête of Piz Urlaun, also accessible from the Grünhorn hut by means of the couloir, which I have described already in connection with the Bifertenstock:—

Piz Frisal, which I have had no opportunity of mentioning hitherto, was another of the spoils of Herr Hauser and the Elmers, who climbed it from the Upper Frisal Glacier.* On the Val Frisal side it is a fine, symmetrical rock pyramid. From the Puntaiglas glacier it is not a thing of beauty; but it has not yet been climbed on that side, and would be worth trying.

and the Untere Frisal Lücke, reached by a mysterious-looking couloir, which I have not seen except from a distance; but I was much impressed by the respect with which Heinrich Schiesser spoke of the climb. Any one crossing the col might well spend a little time in examining the northern end of the ridge of the Brigelserhörner ridge, to see whether it can be reached from the Lower Frisal Glacier. This may be quite impracticable, but it is worth looking into.

Another attempt also ought to be made on the main ridge of the Bifertenstock above the Bänder.

One last word about the Bifertenstock. I should advise any one ascending it by one of the other available ways not to miss the descent by the Bänder.† There is no difficulty

* *S.A.C. Jahrbuch*, vi. p. 17.

† There are good views of the Bänder in the *S.A.C. Jahrbuch*, xxxv. pp. 826-29.

about this route ; but it is a very interesting and remarkable one, and if it was within easy reach of a frequented 'centre' would be very popular and much talked about. Indeed, considering the indignities which are being heaped on mountains elsewhere, the Bänder would run considerable risk of being fitted up with a handrail.

A HIMALAYAN BARRIER.

THE following correspondence is taken from the 'Times' of March 18, 1907 :—

To the Editor of the 'Times.'

SIR,—On returning to England I have found so much dissatisfaction in various scientific circles at the ultimate refusal of the Home Government to permit the ascent of Mount Everest that I shall be grateful if you can find space for the only three official letters, within my cognisance, on the subject. Mr. Morley telegraphs that he has no objection whatever to their publication.

The conception of this important scientific expedition was due to Lord Curzon ; and, as I am neither an original promoter of the scheme nor an Indian expert, I leave it to others to comment on the regrettable interposition by a Liberal Government of a Himalayan barrier to the advance of knowledge in this direction.

I am, Sir, your obedient servant,

GEORGE TAUBMAN GOLDIE,

President R.G.S.

1 Savile Row : March 16.

Memorandum.

1 Savile Row, Burlington Gardens, London, W. :
January 23, 1907.

SCIENTIFIC EXPEDITION TO MOUNT EVEREST.

1. *Finance and Authority.*—The funds are found by members of the Alpine Club ; but the expedition is also under the auspices of the Royal Geographical Society.

2. *Leaders.*—The expedition will be commanded, if the Government of India permit, by Major the Hon. Charles Bruce, M.V.O., of the 5th Gurkha Rifles, and son of the late Lord Aberdare. Every one in India or in geographical circles at home will know that Major Bruce is exceptionally qualified for this work. Next to him is Dr. Tom G. Longstaff, M.A. of Oxford (Christ Church), and who has also taken there a medical degree—M.D. In 1905, with the sanction of the Government of India, Dr. Longstaff accom-

panied Mr. Sherring, I.C.S., in his extensive journey through Western Tibet and attained a height of about 28,000 ft. Next to him is Mr. Arnold Mumm, late hon. secretary of the Alpine Club, who travelled last year in Uganda with Mr. Douglas Freshfield. Mr. Mumm is the partner of Mr. Edward Arnold, publisher to the India Office.

3. *Composition of Party.*—The above three gentlemen, with three Alpine guides, two of whom were in Tibet in 1905 with Mr. Sherring, I.C.S., and showed great tact and consideration in all dealings with the inhabitants, while the third guide displayed conspicuously the same qualities in 1905 with Mr. Douglas Freshfield in Uganda. There will also be half a dozen Gurkhas from the 5th Rifles or other regiments ; but these will go without their arms, so as to avoid the possibility of trouble. For the same reason no down-country native servants will be taken. Porters and baggage animals will be obtained, as usual, in concert with the local authorities.

4. *Nepaul.*—Nepaul territory would be avoided. The party would travel from Darjeeling north to Kambajong, just on the Tibetan side of the Indian frontier. There it would turn sharply and nearly due west to Kharta, from near which point it would commence the ascent and scientific observations. Whether successful or not, it would return by the same route, so that the Nepaul territory would nowhere be violated ; moreover there would be no appreciable inducement to pass through Nepaul if the ascent is to be tried from the north, although it might be a convenience if the monthly supplies of provisions, sent to restock the party and in charge of natives, were allowed to cut the corner of Nepaul territory ; but this is in no way essential.

5. *Tibet.*—As the expedition would turn its back on Lhasa directly it left Indian territory, and as the regions through which it would pass are very sparsely populated, there can be no question of Tibetan timidity or anxiety being aroused or of any friction or trouble occurring during the journey. It would not resemble Mr. Sherring's mission in 1905, which penetrated into the heart of Western Tibet, and which, nevertheless, encountered no opposition whatever.

6. *General.*—The party undertake that all monetary transactions with the natives shall be directly dealt with by the English leaders, and that no precaution shall be omitted to avoid any cause of friction.

GEORGE TAUBMAN GOLDIE,

President R.G.S.

To the Right Hon. John Morley, M.P., &c.,
Foreign Office, S.W.

India Office : February 8, 1907.

DEAR SIR GEORGE GOLDIE,—I have given full consideration to the proposal in your memorandum of January 23 that a British party should be given facilities by the Government of India to attempt the ascent of Mount Everest from the Tibetan side, avoiding Nepalese territory ; and I am sorry to be obliged to refuse

the present request for the same reasons which, as stated in the official letter from the Under-Secretary of State to the Royal Geographical Society of March 28 last, made it necessary for me, to my great regret, to decide that it was not possible, consistently with the interests of the policy of his Majesty's Government, for the Government of India to give encouragement or help to exploration in Tibet. There has been no change in the political situation since the letter of March 28 from this office to modify the considerations of high Imperial policy which led his Majesty's Government to decide that it was inexpedient to raise the question of facilities for travellers in Tibet with the authorities of Lhasa; and there can be no doubt that a British expedition proceeding by the route proposed through Tibetan territory, furtively as is suggested, and without previous notice to the Lhasa Government, would raise the question which his Majesty's Government wish to avoid in a more embarrassing form than if an application were made to the Tibetan Government for their consent.

I would add that this decision is based solely on considerations of public policy, and personally I am very sorry for the disappointment which it will cause to Major Bruce and Mr. Longstaff.

Yours sincerely,

JOHN MORLEY.

1 Savile Row, Burlington Gardens, London, W. :-

February 9, 1907.

DEAR MR. MORLEY,—I am grieved at the decision announced in your official letter of the 8th inst., less on account of the public-spirited men who were prepared to risk their lives or spend their money on a scientific object than of the cause of knowledge itself, which would have been promoted by the observations of various kinds made during the ascent of Mount Everest. I desire to disclaim very clearly and positively two assumptions on which your official letters appear largely to rest.

First, it never occurred to me that the expedition would be in any way 'furtive.' I assumed that the Government of India would notify the Lhasa Government that a purely scientific party desired to move from the British frontier along the sparsely populated inside edge of Tibetan territory to the summit of Everest, keeping its back turned on Lhasa for the whole of that journey. I do not believe in 'furtive' policy except in war, when deceiving the enemy is recognised as fair.

Secondly, I submit that such a journey has nothing substantial in common with an exploration, such as was refused in your letter of March 28, 1906, which would have penetrated a considerable distance into a populous part of Tibet and largely in the direction of Lhasa.

I am yours faithfully,

GEORGE TAUBMAN GOLDIE,

President R.G.S.

To the Right Hon. John Morley, M.P., &c.

MOUNTAIN EXPLORATION IN BOKHARA.

In March last our member Mr. Rickmer Rickmers read two papers—one before the Research Committee and one at a general meeting of the Royal Geographical Society—on his recent travels in Central Asia in the range enclosed between the sources of the Oxus and Jaxartes. Both papers were amply illustrated with excellent photographs. In these journeys Mr. Rickmers was accompanied by two ladies and a Tyrolese guide. The party explored the great Zarafshan Glacier, reaching the gap at its extreme head, and subsequently climbed a peak of 20,000 ft. The snow was in good condition and the climb with crampons easy. Nobody suffered from the rarity of the air. Mr. Rickmers corrected in some respects Monsieur Mushketoff's description of the Zarafshan Glacier * and gave many curious particulars as to the action of torrents and rain on the dry soil of this treeless region. Mr. Rickmers's paper will be published in the June number of the 'Geographical Journal.'

In introducing the lecturer at the general meeting Mr. Douglas Freshfield, who as a Vice-President of the Society was in the chair, made the following remarks :—

' I am glad to have this opportunity formally to acknowledge on my own part and on that of the Society and the Alpine Club the unfailing courtesy and substantial privileges extended by the Imperial Russian Government to all accredited scientific travellers, of whatever nationality. I have myself profited by these privileges three times in the Caucasus. Not only has every help been given to my party by local officials; government surveys—even when in progress, and sometimes when still in manuscript—have been put at my disposal. It was through such help that I was able eleven years ago to produce the first accurate map of the physical features of the Central Caucasus published in this country. At an earlier date, when one of your Honorary Secretaries, I had frequent occasion to observe the ready aid granted to our travellers who were seeking the further parts of Asia by the Russian authorities. To take only one instance, it was from Russian territory that Mr. and Mrs. Littledale started on the adventurous journey that brought them almost to the gates of Lhasa.

' We geographers and men of science are indebted to the

* See *Supplementary Papers of the R.G.S.* vol. i. pp. 246–268.

Russian Government for having recognised that it is not to the advantage of a great and civilised State to put obstacles in the way of the pursuit and progress of geographical knowledge; that, on the contrary, such a policy would be unworthy of a wise and philosophical and liberal-minded statesman.'

A DAY AND NIGHT ON THE NESTHORN.

BY WM. T. KIRKPATRICK.

WE—that is, R. P. Hope and myself—usually begin our mountain season by making straight for some fairly comfortable hut, with provisions for about a week, so as to do two or three days' training in good air and fine surroundings, and if possible get in one or two longer expeditions during the latter part of the time.

In 1905 we selected the Ober Aletsch hut, and reached the Bel Alp at 11 P.M. on a beautiful moonlight night. The walk thither was very different from one I remember in the early morning, and we came to the conclusion that moonlight is very preferable to sun on that toilsome path. We spent a lazy forenoon chatting on the terrace, and mentioned the fact that we had intentions on the Nesthorn. To our surprise this seemed to create quite a stir, and we learnt that though this mountain vies with the Aletschhorn as the best snow-climb in the district, besides affording one of the finest views in the Alps, only about two ascents are made from the Bel Alp each season.

Clementz Ruppen heard of our intentions. 'They won't get up,' he said to a common friend. 'We should not have got up the bergschrund two days ago but that we had a six-foot man in the party; only don't tell them.' Our friend of course promptly told us, and although we both fell short of the required stature by several inches we only smiled and said nothing, as we had no notion of trying to construct a living bridge over that particular bergschrund.

The previous year Hope had been at the Ober Aletsch hut, and strolling about on the glacier had been struck by the fine buttress which forms the N.W. arête of the Nesthorn. In prospecting it he crossed the bergschrund and climbed up some few hundred feet, till thirst, prudence, and slabs together counselled a retreat to *glacies firma*. On returning to the Bel Alp he did not give a very accurate account of what he had been doing, but reserved it for me; and our principal object in visiting the Ober Aletsch hut in 1905 was to try

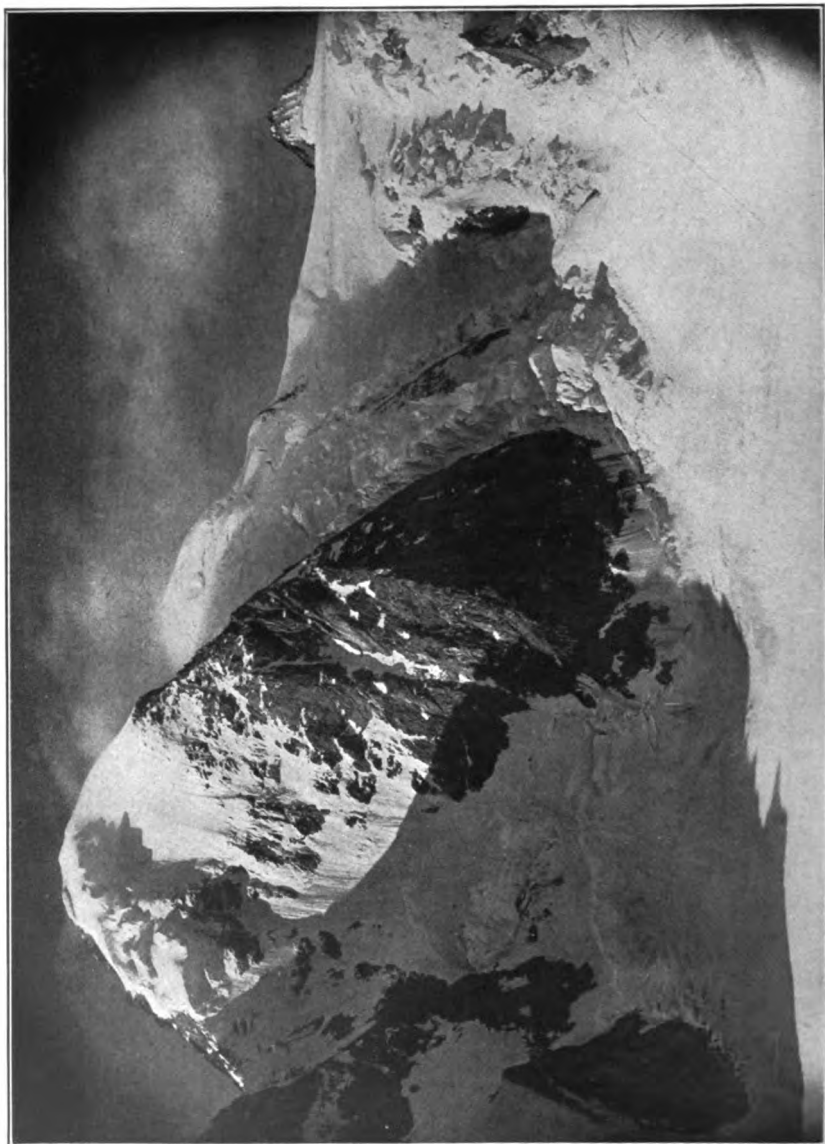


Photo by E. Courvoisier Gallet.

NESTHORN, FROM THE NORTH.

Swiss Electric Engineering Co. Ltd.

to make a new route up the mountain by what he thought would be a fairly short (!) but interesting rock-climb.

After a hearty lunch we loaded up two porters and started for the hut, burdened only with our axes and almost regretting that we had not added them to the porters' packs. Descending the corkscrew path we saw a long black line on the Aletsch glacier, and our telescope revealed the fact that it represented the energetic ones of the Bel Alp returning from their daily promenade to five o'clock tea. On reaching the hut we sent the porters back, and, as there were no other occupants, I should probably have slept the clock round, after the through journey from London, if Hope's appetite had not become aggressively troublesome at about 8 A.M., when he awoke me with the question, 'Will you have eggs and bacon or fish for breakfast?'

Each season usually sees some new addition to our *menu*. The previous year it consisted of plum pudding, sausages, and shortbread, all of which obtained a place on our permanent list. This year we tried a large tin of Wiltshire bacon, and I need hardly say the good old dish of eggs and bacon proved no less acceptable in a hut than it does on the daily breakfast table at home. We also tried a small packet of compressed onions, which, on being soaked, expanded to an enormous extent. They were added to various dishes and pronounced excellent, but—well, I am not quite sure that they were sufficiently cooked, or possibly the expanding process had not been quite completed when we ate them. After breakfast we considered the respective attractions of the Fusshörner and of a walk on the glacier, but lazily decided in favour of the latter. Our steps naturally turned in the direction of the Nesthorn, and after lunching at a glacier table we carefully examined our arête.

The N.W. arête, as may be seen in the photograph, is rock, except for the last 400 ft. or so, and at its base consists of a broad face of rock, the westerly edge of which is overhung by séracs. The northerly edge, leading down to the lowest rocks, was the only possible line of attack, and we endeavoured to trace a route over or round the slabs which had frightened Hope the year before. We thought we could negotiate them, but above these slabs the arête consisted of others ten times worse, and we decided to try a gully,* which seemed likely to go, hoping that any loose stones in the snow patches higher up

* This gully was not the well-marked one, full of snow, but another seen more to the right in the photograph.

would stay where they were. Above the gully we thought we should be able to regain the arête and follow it without much difficulty. As we were out for a short day we had brought extra provisions with us, which we deposited under a rock for future use either on the Nesthorn or on the Beichgrat.

Shortly before we left the hut in the morning two innocent-looking country maidens, almost children, arrived with a picnic basket, having adopted this unusual method of keeping the Feast of the Assumption. Oddly enough their attempt at lighting a wood fire was hopeless. We therefore lit it for them (with our wood), for which they expressed their gratitude, and we left them apparently enjoying their simple holiday. When we returned to the hut the girls had departed to the valley; so had our store of butter, milk, and cream. This was too much. . . . Our careful catering was ruined at one fell blow. No more scrambled eggs! Dry bread and jam for breakfast! Cocoa without milk! Stewed prunes without whipped cream! Starvation stared us in the face; gloom and despair reigned in the hut.

When we had partially recovered our composure we discussed the situation, and Hope suggested that if the next day were fine we should climb one of the Fusshörner; that if it were very wet we should stay where we were; and that if it were betwixt and between he should go down to the Bel Alp and replace our missing stores. Unluckily for him the fates proved adverse, but he kept to his bargain and in a drizzling mist went down to the Bel Alp, where, though he failed to trace the culprits, he made good our loss. That night it rained harder than ever, and not till the following afternoon did it clear sufficiently for us to take some exercise by making a much needed path down the steep moraine to the glacier. The path served our turn, but no doubt, as we were told by a guide would be the case, the first heavy rain completely obliterated it. The next day, August 18, we were at last rewarded by a clear sky, and though a thick mist rolled up from the valley, and surrounded the hut, we thought fine weather was assured. After so much rain it occurred to us that the first fine day would very likely attract some of our friends from the Bel Alp, and, lest they should consider our provisions as treasure-trove, we left a note to say that we were going for the Nesthorn and returning to the hut, and started at 4.30 A.M. On reaching our *cache* we found that the rain of the two preceding days, instead of descending vertically, as all well-conducted rain should do, had driven under the stone and considerably damaged our bread and

biscuits. Surveying our arête once more we concluded that there was no real difficulty, and attacked it by crossing the bergschrund to the lowest rocks. The easy way up these rocks could only be reached by a long ice traverse, but we shirked the step-cutting and had a troublesome little bit of rock-climbing in consequence. Then came some easy rocks, and we found ourselves really on the crest of the arête, which we followed till we came to the first slabs. Hope had not found them hard, but we thought it would probably save time if we took to the gully on our left at once instead of higher up, as we had intended. Before turning into it we stopped for second breakfast, and started again at 9.45.

The gully was decidedly steep, while the rocks were loose and rotten and thickly plastered with fresh snow. For the first pitch we managed to get up the right wall of the gully, keeping out of the actual trough, and though an occasional clatter made us take such cover as we could nothing worse than a few bits of ice came down. The next pitch we regarded with some anxiety, as it seemed the only possible way through the bad slabs. The gully at this point becomes very narrow and steep, and is composed of several V-shaped grooves, while the apparently good holds were without exception rotten and descended one after the other to the glacier. At first there was nothing for it but to struggle up with a knee in each groove. Then the wall of the gully gave some help and the difficulty was surmounted. Owing to the quantity of fresh snow the climbing continued to be difficult, and finally the gully ended in a great slab. Here we traversed to our left, climbed up a rib, and followed it for about 200 ft. Difficulties, however, in the shape of further slabs appeared, and for the first and only time during the day we retraced our steps and descended for about 100 ft. This brought us to the upper edge of the big slab, and, walking delicately, we managed to get across. We then had ten minutes' easy going, and regained the arête, which we kept till the next *mauvais pas*.

This was a vast slab, just at the apex of the terminal face, buried in snow, which was sufficiently firm to give us a footing; but the idea that we might have to descend it when the snow was soft, and search for holds which might not exist, was by no means pleasant. We were horrified to find that it was now 2 o'clock, and, as there was a good resting-place in a notch on the arête, we halted an hour for lunch and deliberation. With the aid of our telescope we examined the couloirs which form the ordinary way up and down the mountain, and were relieved at being able to trace a route through one

of them, for the descent of which, at any rate, a six-foot man was not indispensable. The hour was late, but we thought we should soon be able to avoid all further difficulties by traversing on the north side of the arête. Anything seemed better than descending by the way we had come up, and we were also anxious to finish the climb; so we decided to go on. We followed the arête, and soon reached a difficult little chimney, not very steep, however, and quite safe, as a slip would only have brought us to the starting point; but holds there were none. Immediately above it came a small split in the arête. Standing on the lower edge of this gash we stepped across, and, obtaining a painful handhold by putting one's hand into a crack and clenching it, we reached, not, as we expected, the top of a little tower, but a small platform just below it, and separated from it by another slab. This it was possible to climb, but the leader shirked it and got round by a minute ledge only large enough for his toes, handholds being again absent. This was one of several places where we had to increase our length of rope from 40 to 80 ft., and send up the rucksacs one by one, and then the axes—an operation which, being repeated at intervals during the day, accounted for considerable loss of time. Having thus reached the first knob on the arête, we saw what was ahead—a prospect by no means encouraging. The easy arête which we had expected was not there, but instead a horrid tower, evidently the first of a series, while the slabs on our right were only equalled by those on our left. Again a council of war took place, and again we decided to go on.

The climbing continued difficult, but it is beyond me to describe every pitch in detail. Indeed, I am often amazed at the power of memory (? aided by imagination) which enables many rock-climbers to recall almost every foot- and handhold on a peak. At last the traverse on the north side which we had seen from below became possible, and we descended on that face; but what from the glacier below appeared a nice snow slope was merely a coating of soft fresh snow on a smooth, unbroken slab. By scraping a little the leader discovered a crack, and followed it on and up for about 15 ft., when it came to an end. Further scraping on all sides as far as he could reach showed no break in the smooth surface, and he had to retreat. Another cast revealed a crack some 6 ft. lower down, and this led horizontally across the slab for about 20 ft., when it also ended. A small vertical crack, however, ran upwards, and for the first 8 or 9 ft. all went well, when the leader, with bleeding fingers, discovered that

the crack terminated. With his hands spread over the smooth and frozen slab he moved upwards till his right foot occupied the highest available hold in the crack, but the good handhold at the top of the slab was still just out of reach. Then, after a pause, he happily found a small knob for the left foot a little higher up, and a short struggle landed him safely above the slab, whither, with a lightened heart, the second man quickly followed. We were soon on the arête again and reached the foot of the next tower without difficulty. A traverse on our left was possible, but the tower seemed climbable, and, feeling sure that it was the last, the leader went up a short steep pitch and disappeared to the full length of the rope, returning in a moment to announce that we were clear of rocks and had only snow between us and the summit. This joyful intelligence came none too soon, as the sun had long since set and it was getting dark. In fact by the time we had finished a hasty biscuit and a bit of chocolate, to which we felt we were entitled now that we had left all difficulties behind us, there was barely light enough to show the crest of the snow arête disappearing into the darkness above. Putting on our crampons we climbed doggedly up the crest, and as soon as the slope eased off on our right we took to it, and in a moment the crest of the arête had vanished in the darkness. A few minutes more and we had reached a place where the lie of the ground led us to think we were just below the top. We struck upwards, and the leader, after fumbling about for some time in the dark, declared that he had found it. The second man followed, and, as the ground fell away in all directions, he confirmed this good report. Time, 9.10 P.M. About two minutes exhausted the view—stars above, the lights of Brigue below—but, best of all, signs of the rising moon on the horizon. Turning our backs on it we started down, keeping the west arête, as we imagined, on our left. Suddenly we discovered that the snow ended sharply on our right. Being rather puzzled, and fearing a cornice, we decided to wait for the moon and utilise the time for a hot supper, which we sorely needed, and never did we more thoroughly appreciate the advantage of carrying the necessary apparatus. As a gentle breeze was blowing from the north we dug a hole in the snow for shelter; and when we sat down we found that our clothes, wet from the snowy rocks, were frozen stiff about the knees; but a jorum of steaming chocolate, made with melted snow, put new life into us.

By 10.30 the moon was well up and showed a series of

magnificent peaks glistening in its brilliant light, while the valleys below were still wrapped in darkness. Putting out our lantern we moved on. We now saw that the ridge on our right was the true snow arête, while that on our left was a line of flat-topped rocks jutting out below it. We followed them and, with their assistance, made good progress, traversing the tops of occasional couloirs which cut across our route, and there the snow, which covered ice, just held. We considered that here, as well as on the path to the Bel Alp, moonlight was better than sun, as, if our descent had been at the ordinary time of day we should have had to cut innumerable steps through soft snow. Then a deeper gully than usual appeared through the rocks, but unfortunately it was in shadow. It might have been easier to ascend to the snow arête and follow it down, but we suspected that there might be a steep pitch, which proved to be the case. A few steps in the shadow showed that the sides of the gully were steeper and the snow more rotten than we had yet found them. So the rope was let out to its full length of 80 ft. and the leader disappeared in the darkness, kicking his way down, face to the slope, with hands and axe well driven in. The first rope's length brought him to fairly sound snow, the next to a rock island, and the third to the other side of the gully, and without further event we gained the Gredetsch Joch about midnight and felt that another stage was done.

The way was now clear, as we had seen it all from our luncheon place. 'From the col descend to the first crevasse. Turn it by going left and the next by going right; then left, and a long traverse to the head of the most northerly couloir.' Such were our notes, and we duly followed them, though the long traverse was very wearisome, as it was all on a steepish slope, and the crust broke through at almost every step. By daylight we should have followed an easier but more intricate route; but we knew the one we had chosen would lead us to the head of the couloir below a big crevasse which stretched across it. As soon as we were well in the great couloir we plunged straight down, often up to our knees in the fresh snow, and only hoping that the slight crust on top would be sufficient to keep the slope together. The first obstacle was a vast chasm stretching right across our route. Guided by our reconnaissance we went to our extreme right, where we knew the only bridge lay, close under the séracs. Step by step we felt for firm footing in the soft snow which covered the narrow bridge, and, safely over, again plunged down the centre of the couloir. Five minutes

more and another huge chasm drove us again to the extreme right, and we knew that the crossing of the next crevasse, far away to our left, would be the crux of the descent. The route lay along a tongue of ice, which crossed in a slanting direction to the opposite side. At first it was broad and sound, but as it approached the further bank it gradually deteriorated, and the last ten feet appeared broken up and to consist of little more than soft snow, and for the first time during the descent we thought we might have to wait till daylight. As a last resort the leader advanced as far as he dared, and measured with his eye the distance across to the further bank of the crevasse.

It is one thing to spring lightly over a crevasse in bright sunshine, with hard ice on each side, but to face the same leap after nearly twenty-four hours' continuous work, with a bad take-off and only the doubtful light of a waning moon, was a very different matter. However it seemed safer than trusting to the snow. The leader cut a step, gathered up the slack rope, took a jump, and landed safely amid feeble cheers. A few seconds later we stood together and congratulated each other that our troubles were now ended. Only four more crevasses remained to be turned, on the right and left alternately. Soon the last was behind us, and we bore to our right, rejoicing that no more formidable obstacle than glacier streams lay between us and the hut.

There was nothing to vary the monotony of the final trudge home but an occasional splash into a hole and muttered exclamation, till, a short distance from the hut, we heard the sound of voices coming from the other side of a pile of boulders, and realised that the end of our expedition coincided with the starting of another. A few minutes later we met a member of the Club and his guides on the crest of the moraine, and were much distressed to find that he had diverged from his intended ascent of the Aletschhorn to look for us. It had never occurred to us that the note we had left at the hut might lead to a search expedition, as we fully expected that the climb would be a short one and that we should be back early. Even when night came and found us near the top of the mountain we had not thought of our absence causing any worry, as we had so often been benighted before that we considered a twenty-four hours' expedition a not unusual incident in an Alpine season. Happily the party had not lost much time and were able to resume their intended ascent.

We reached the hut at 5 A.M., 24½ hours after our start and refreshed ourselves, one with cold water externally,

the other with hot bovril internally. We then turned in for a long sleep; but before ten o'clock the occupant of the upper berth found himself wide awake, and wondering how he was to satisfy the pangs of hunger without disturbing his tired friend below; but a slight movement revealed the fact that the tired friend was trying to solve the same problem, and we were soon busily engaged over our morning meal.

A night out in the Alps is always a doubtful pleasure, but we both of us felt that we were repaid on this occasion by the novel experience of climbing continuously from sunrise to sunset, and then during the twilight and moonlight till the sun appeared again. There was a strange fascination in tramping almost mechanically throughout the night over snow-fields shining in bright moonlight, with the surrounding peaks standing up almost as clearly as by day; but above all we felt that we were repaid by having planned and completed a really good expedition. Our times were of course abnormally long, and ever since we have been haunted by the fear that some enterprising party, like the unknown one which descended from the Col du Géant to Courmayeur in fifty-six minutes,* may complete our expedition in perhaps eight or nine hours. If so, I would beg them of their charity to remember that there is always some uncertainty about a new route, and that being our first climb of the season, our condition, like that of the rocks, could hardly have been worse.

SOME BYWAYS IN SOUTH TYROL.

By A. J. BUTLER.

ON Wednesday, July 18 of last year, my son and I found ourselves at Unsere Liebe Frau, in the Schnalser Thal (I entirely refuse to write Tal, in the parsimonious modern fashion). For three days, save for a short digression to the Weisskugel (the summit of which, alas! only the younger member of the party reached, while the elder, overdone by a long and hot valley walk on the previous day, sat about among rocks and snow and reflected what a much less fine day he had had on that peak some twenty years before), we had been tossed about on the surging flood of North German tourists who nowadays seem to be let loose on what once was 'the sacred land Tyrol.' Every school-marm from the Elbe to the Oder, all the *petite bourgeoisie* of every town in Stettin, Pomerania, and the rest of those favoured regions seemed to be there. Armed with 7-foot poles they flowed in a steady stream over the Hoch Joch; they fed every two or three hours; while feeding they talked

* See *Climbers' Guide*, "Chain of Mont Blanc," p. 77.



ZUFRITT SPITZE FROM SOY JOCH.



W. M. Butler, photo.

Swan Electric Engraving Co. Ltd.

ST. GERTRAUD IN ULTEN
WEISSBRUNNER RANGE IN DISTANCE.

incessantly, and their talk was diluted Baedeker, punctuated by occasional calls of 'Erwoll'n' to the much-enduring *Kellnerin*. At Unsere Frau we found some of them installed in the room which Josef Spechtenhauser, at my request, had bespoken for us; and I doubt if anything but his personal influence would have emboldened the *Wirthsleute* to dislodge them. Next day, in conversation with him, I tried to excuse them on the ground of misunderstanding. He replied severely, 'Es war nicht Missverständniss; es war Nachlässigkeit.' I may perhaps mention that on the bill of fare at Unsere Frau the first place is always held by 'Ham und Eggs.' An old reminiscence made me enquire into the reason for the prominence given to this English viand. I was told that they had learnt it many years ago from an Englishman. I think I rose in their estimation when I revealed myself as the forgotten benefactor.

Knowing that the torrent followed only the most frequented route—in this case going straight down the valley to Naturns—we decided to turn aside and make our way to the Vintschgau by the seldom-trodden route over the Mastaun Scharte. The way is not difficult to find with due attention to the map. The great thing to remember is that on reaching the foot of the Mastaun Spitze, which dominates the valley of the same name, you must turn at a right angle to the right, or N.W., and proceed in this direction about half an hour before bearing round towards the W. The pass (2,927 m. = 9,618 ft.) is the *second* depression to the N. of the Mastaun Spitze. It ought to command a good view of the Ortler; but clouds had gathered and we saw little. There is a dilapidated shrine at the top. The descent to the Kortscher Alp, in the Schlandernaun Thal, is simple enough. Thence it is a trudge down the straight valley, which can be monotonous. In our case it was diversified by the fact that Schlanders is improving its water supply, whereby we had to walk for some distance along an artificial *Grat*, about a foot wide, with the torrent roaring a short way below us on the left, and on the right a yawning chasm, at the bottom of which iron pipes were dimly visible. Finally we made a sporting, though perilous, descent upon Schlanders by one of the steepest and roughest stone staircases I ever saw, going down some three hundred feet between orchards of pear and apple, terraced up, or rather plastered on to, the almost precipitous hill-side. We landed in somebody's back garden, passed through it into the beautiful old arcaded courtyard of the building once occupied by the knights of the Teutonic Order, now the local law court, no man forbidding us, and so to the good quarters of the Post.

Next day we walked across the Vintschgau and up to Gand, in the Martell Thal, where we struck the tourist swarm once more, this time on its way to cross the Madritsch Joch ('with eventual ascent of the Schöntauf Spitze') to Sulden. We had a touching illustration here of Tyrolese courtesy. Our landlord, Eberhofer, had warned us that we must expect to have a third person put into our room, if need were. I had a vivid recollection of a similar occurrence there once before, when my companion and I were roused in the middle

of the night by the entrance of a heavy-footed Teuton. So I broke out, 'Have you not learned yet at Gand that some travellers prefer to have a room to themselves? You served me the same way sixteen years ago.' At once landlord and landlady exclaimed, 'Have you been here before?' 'Yes,' I said, 'once in this house, once in the old one that was washed away.' They instantly assured me that an old guest should not be incommoded, and put us into their own apartment, along with the sewing-machine and the linen-press, where we slept undisturbed. Our object was to cross by one of the little-used passes into the Ulten Thal, the most easterly valley that can be said in any way to belong to the Ortler group. The Soy Joch was recommended, and we started betimes on July 20, with a friendly native to show us the way to the pass and carry one sack. Every regular guide was engaged in the task of escorting the long-poled division by the well-trodden track over to Sulden.

Our friend, we found, had only once been over the Soy Joch; and that was with a *Geistlicher* some years before. But he knew the right point at which to leave the main valley-road, which is apt to be the crux of these expeditions. Once you are through the forest, and out in the upper Alps, an unglaciated pass, given decent weather, is seldom difficult to hit off. The recognised way to the Soy Joch takes a wide sweep round to the left or N.E. side of the stony *Kar*, once no doubt a glacier bed, which leads up to the pass on this side; but it seemed to me that it would be shorter, if more of a grind, to attack it directly. No two authorities seem to agree about the height of the Soy Joch. It may be taken to lie somewhere between 3,000 m. and 10,000 ft. The situation is beautiful, overlooking the Soy Ferner, which flows N.E. from the Zufritt Spitze, and commanding a good view of that pretty peak. To E. and S.E., as there is no higher ground for a long way, the view ought to be very fine; but, as usual, last July clouds had gathered over the distant ranges. The descent upon the Ulten Thal is at first over steepish snow-beds, then over the usual pastures, where flowers were abundant. We passed a patch of *Aster alpinus* more than a square yard in extent, with several white specimens among the more common purple. The so-called *Speik* (*Primula glutinosa*), beloved of Tyrolese youth, was also abundant, tinting whole acres with its rich violet colour. From the edge of the pastures the solid little church of St. Gertraud is visible, and the descent lies through a fine larch forest. There is no proper village, the parish consisting of scattered farm-houses; but church, parsonage, and inn (Zum goldenen Stern) form the nucleus. The position of these is as picturesque as one often finds. They stand on the last spur of the ridge dividing the two principal branches of the valley, at a height of 5,000 ft. above the sea. There is an uninterrupted view down the valley and to the mountains behind Meran. It would form an excellent *Sommerfrisch* for a climber who can still do a little light work and does not mind roughish quarters. All the ordinary products—milk, wine, bread, butter, eggs—are plentiful, and as good as any one need want. Twice we got trout, captured by local talent. Meat was the only lack;

but our stay coincided with the local feast, and they killed a pig, of which we got some 'obscure corners,' like the hero of 'Great Expectations.' However one does not need much meat in the mountains. We stayed there five days, but, except on the Sunday of the feast, the weather was sultry and thundery. The summit of the Hasenohr winked at us every day, but always from under an unpropitious helmet of threatening cloud. This peak, which has rarely been ascended by a tourist, must command a wonderful view, considering how one sees it from everywhere. One day we went up the Falschauer Thal, the more westerly of the two branches into which the Ulten Thal divides at St. Gertraud (much as Borrowdale does at Rosthwaite), and proceeded to the head of it, meeting on the way another member of the Club, who had chosen this way home from the Adamello region. Three Englishmen, surely, never till then foregathered in Ulten! Then we turned S.E., and crossed the ridge dividing us from the Kirchberg Thal (the Langstrath, say, of Ulten). The end of this ridge, where it abuts on the Val di Rabbi, is formed by a peak called the Gleck (2,955 m.), again said to be a good view-point. That day it was wrapped in cloud, and a rumble of thunder hurried us off the ridge—we were at a height of about 9,350 ft.—and down with a little scrambling into what, as Schaubach has noted, is orographically the head of the Kirchberg Thal, though the waters of the many tarns which it contains flow over a breach in the bounding wall into Val di Rabbi. A pass, much used by the natives, leads this way to the well-known baths, and a little caution is needed, especially in dull weather, by the traveller coming from above to ensure that he does not go with the water.

The Ulteners have a good deal of Italian blood in them, and a good deal of Italian quickness. They are a handsome race, and artistic. On the feast day much wine was drunk, but I hardly saw more than a man or two the worse for it; and those showed it chiefly by the soundness of their slumbers on the grass outside. There was some quite good part-singing now and again in the afternoon. A new road is being made in the lower part of the valley, from Lana to St. Walburg, which will make access easier—let us hope, not too easy.

THE ALPINE CLUB LIBRARY.

The following additions have been made to the Library since January:—

New Books and New Editions.

- Alpiner Wintersport.** Illustriertes officielles Organ des Ski-Club Bern.
4to, pp. 114; ill. Thun, Hopf, 1903-4
- II. Jahrgang. Zeitschrift für den gesamten Wintersport.
4to, and 8vo, pp. 246; ill. Basel, Tanner, 1904-5
- III. Jahrgang. Beilage zum "Ski."
8vo, pp. 544. Basel, Tanner, 1905-6

- Alpiner Wintersport.** IV. Jahrgang. *Alpinismus & Wintersport.* Illustrierte Allgemeine Alpenzeitung. Erweiterte Folge des "Ski und Alpiner Wintersport."
8vo, pp. 124 ; 418 ; ill. Basel, Tanner, 1906-7
- **Ski.** Offizielles Organ des Schweizerischen Ski-Verbandes.
8vo, pp. 246 ; ill. Basel, Tanner, 1904-5
- II. Jahrgang. Offizielles Organ des Mittel Europäischen Ski-Verbandes.
8vo, pp. 270 ; ill. Basel, Tanner, 1905-6
- III. Jahrgang. Amtliche Zeitschrift des Mittel-Europäischen Ski-Verbandes. Beilage zu "Alpinismus und Wintersport."
8vo, ill. pp. 281. Basel, Tanner, 1906-7
- Allgemeines Korrespondenzblatt. Beilage des "Ski."
8vo, pp. 152. Basel, Tanner, 1904-5
- II. Jahrgang. 1905-6
- IV. [i.e. III.] Jahrgang. 1906-7
- 8vo, pp. 250.
- This is Vol. IV., as it is now a Beilage z. "Alpinismus u. Wintersport."
The vol. of "Alpinismus u. Wintersport" for 1906-7 contains the following, among other articles ;—
- V. A. Fynn, Die Nordostwand d. Finsteraarhorns.
C. Egger, Wie unsere Künstler den Schnee malen.
R. Martin, Traversierung von Luette, Mt. Pleureur u. Salle.
L'Hiver en Norvège.
Dr. Adam, Über Ernährung.
O. Nonnenbruch, Zwei Ortler-Ueberschreitungen.
Die neue Schweizerhütten des Jahres 1906.
Fr. Berger, Das Kiental.
- And the latest vol. of "Ski" contains ;—
- H. Hoek, Skifahrt z. Snehaetta.
W. Paulcke, Die Geschichte d. Ski-Club Schwarzwald.
R. Hebling, Von Grindelwald nach Andermatt.
W. Liefmann, Ueber den Stil d. Skifahrens in Deutschland u. in Norwegen.
A. Martin, Skiterrain auf d. Südseite d. Hohen Tatna.
R. Tissot, Concours de Ski du C.A.F.
- Alpinismus u. Wintersport ; see** *Alpiner Wintersport*, 1906-7.
- Baedeker, K.** *Southern France including Corsica.* 5th edition.
Leipsic, Baedeker ; London, Dulau ; etc., 1907
8vo, pp. xxviii, 578 ; maps.
- Baring-Gould, S.** *A book of the Pyrenees.* London, Methuen [1907]. 6/-
8vo, pp. 309 ; plates.
This deals chiefly with the lower hills of the north side of the Pyrenees, and the history of that part of France. A readable book, pleasantly illustrated.
- Biese, Alfred.** *The Development of the Feeling for Nature in the Middle Ages and Modern Times.*
8vo, pp. vii, 376. London, Routledge ; New York, Dutton, 1905
This book deals largely, of course, with the growth of feeling for mountain scenery.
- Crolard, F.** *Au pays du Mont-Blanc. Un Beau Voyage dans les Alpes Françaises.*
8vo, pp. 47. Annécý, Hérissón, 1906
A lantern-slide lecture.
- Deutsche Alpenzeitung.** *Natur und Kunst.* VI. Jahrgang (1906-7). II. Halb-band (October 1906-März 1907). Schriftleitung : Eduard Lanke.
Folio, pp. 311 ; plates. München, G. Lammer, 1907
This paper is as excellent as ever. A varied text and very good illustrations.

Among the articles in this volume are ;—

A. Steinitzer, Alpine Wanderungen in den nordl. Apenninen.

A. Dessauer, Die Ostwand d. Lamsenspitze.

C. Täuber, Grindelwald u. Eiger im Winter.

W. A. Besserdich, Der Nordgrat d. Grossvenedigers.

F. Hohenleitner, Auf Skiern d. d. Glocknergruppe.

Deutsche Alpenzeitung. Beilage. Verkehr und Sport. II. Jahrgang. 1906-7 Folio, pp. 400 ; ill.

This contains many items of information on the proceedings of Alpine Clubs, on Club huts, etc., etc.

Eichert, W. Touristen-Führer für die Berggebiete von Fischau der Neuen Welt und Hohen Wand bei Wiener-Neustadt. 3. Aufl.

8vo, pp. 52 ; map, ill.

Wiener-Neustadt, Ü.T.C. (1906)

Gobat, Marguerite. En Norvège. Impressions de voyage.

Sm. 8vo, pp. 66 ; plates.

Berne, Office Polytechn. d'Édition, 1902

Jardine, Mrs. E. ; see Rook, C.

Javelle, Emile. Souvenirs d'un Alpiniste. 4me édition.

8vo.

Lausanne, Payot, 1906. Fr. 3.50

This charming work appears to retain its popularity, as it has now reached its fourth edition in the original, besides having been several times translated. The contents describe ascents of the Matterhorn, the Weisshorn and the Dent d'Hérens. There is a delightful chapter on Salvan, detailing the hard year's life of a Swiss peasant. Other essays deal with the gorges of Sallanche, the 'massif du Trient,' etc. Those who do not already know these pleasant chapters should obtain and read the work.

Lampugnani's Reise-Führer.

Mailand [1906]

8vo, maps, ill.

12. Les Lacs Italiens et la Vallée d'Intelvi. pp. 86.

L. 1.50

37. Venezianer und Tridentiner Voralpen. Trient - Vicenza - Padua.

L. 2

61. Chemin de fer du Simplon-Oberland Bernois. pp. 200.

L. 3.50

Lucat, Sylvain. La Vallée d'Aoste. Assoc. Valdôtaine pour le Mouvement d. Etrangers.

Turin, Roux et Viarengo, 1906

8vo, pp. 76 ; panoramas and ill.

Mason, A. E. W. Running water. 2nd edition.

8vo, pp. 355.

London, Hodder and Stoughton, 1907. 6/-

See review on page 497.

Oberland. Souvenir de l'Oberland Bernois.

Obl. 8vo, 26 col. plates.

Interlaken, Prell & Eberle [1906]

Palmer, Wm. T. The English Lakes painted by A. Heaton Cooper. Described by Wm. T. Palmer.

London, Black, 1905. 20/ net

8vo, pp. ix, 230 ; col. plates.

Many charming mountain views.

Pollack, Vincenz. Über Erfahrungen im Lawinerverbau in Österreich.

Leipzig u. Wien, Deuticke, 1906

4to, pp. 90 ; plates. Reprinted from Zeitsch. d. Öst. Ingen.- u. Arch.-Vereines, 1906, No. 10-12.

An interesting paper on various devices for protection from avalanche damage : fully illustrated.

Rabot, C. Les débâcles glaciaires.

Paris, Imprim. Nationale, 1905

8vo, pp. 57. Reprinted from Bull. géogr. hist. no. 3, 1905, pp. 413-465.

An interesting account by a competent writer.

Rivas, Capitaine. Petit Manuel du Skieur.

8vo, pp. 33 ; plates.

Briançon, Vollaire, 1906. Fr. 1

A good little handbook by an enthusiastic sportsman.

Rook, C. Switzerland. The country and its people. Written by Clarence Rook ; painted by Effie Jardine. London, Chatto & Windus, 1907. 20/-

Fscp. 4to, pp. x, 270 ; coloured plates.

Ski ; see Alpiner Wintersport.

- Switzerland.** Illustrierter Führer auf die Gipfel der Schweizeralpen.
 II. Band, 52 Nummern. Luzern, Speck-Jost, 1906. Fr. 3
 This guide, published by the "Verlag d. Schneehuhn," contains views of
 52 mountains, with the routes marked, and short letterpress description
 of the route.
- Zachokke, F.** Studentenfahrten. Zur Erinnerung an sonnige Wandertage.
 8vo, pp. 212; ill. Basel, Lendorff, 1907. M. 6
 A pleasantly written, prettily illustrated diary. The contents are:—
 Wandertage in Tirol; Buin, Ortler, Weisskugel; Grenzfahrten;
 Frühling; Partnun. The first three have already appeared in the
 'S.A.C. Jahrbuch' or in 'Alpina.'

Older Books.

- Ball's Alpine Guides.** A new edition.
 Pennine Alps. 1878
 Styrian, Carnic and Julian Alps. 1878
 Central Tyrol. 1878
- Cooke, G. A.** Topographical and statistical description of the County of
 Cumberland. . . . To which is prefixed, a copious travelling guide: . . .
 Sm. 8vo, pp. 158. London, Cooke [c. 1824]
 This is part 27 of Cooke's Topography of Great Britain.
- Coxe, William.** Travels in Switzerland. . . . To which are added the
 Notes . . . of Mr. Ramond . . . A new edition embellished with a large new
 map, and six views drawn by Birman . . .
 3 vols, 8vo; plates. Basil, Decker; Paris, Levrault, 1802
- Crosfield, George.** An excursion from Warrington to the English Lakes in
 1795. Warrington, 'Examiner' Office, 1873
 8vo, pp. 16. Reprinted from the 'Warrington Examiner.'
- Dusaulx, Jean.** Voyage à Barège et dans les Hautes Pyrénées, fait en 1788.
 2 vols, 8vo. Paris, Didot, 1796
- Finsterwalder, F.** Gletscherverstoss; see Verhand. d. d. Geographentages,
 1901.
- Ford, Rev. Wm.** A description of the scenery in the Lake District, intended
 as a guide to strangers. 2nd edition. Carlisle, Thurnam; London, Tilt, etc., 1840
 8vo, pp. xi, 190; maps, plates.
- Geddie, John.** Beyond the Himalayas. A story of travel and adventure in
 the wilds of Thibet. London, etc., Nelson, 1882
 8vo, pp. viii, 256; ill.
 This is a story for boys. It was reprinted in 1884.
- Günther, S.** Glacial Erosion; see Verhand. d. d. Geographentages, 1901.
- Jacobi, Georg Arnold.** Beschreibung einer Reise an den Fuss des Mont
 Blanc, 1791. In Taschenbuch von J. G. Jacobi u. seinen Freunden für
 1795. Königsberg u. Leipzig, Nicolovius, 1795
 8vo, pp. 125-170.
 Presented by H. F. Montagnier, Esq.
- Joanne, A.** Nouvel Ebel. Manuel du voyageur en Suisse et dans la Vallée de
 Chamonix. 11me édition. Paris, Maison, 1853
 8vo, pp. xxxvi, 544; plates, maps.
- Kapff, S. C.** Eine Schweizer-Reise. Stuttgart, Steinkopf, 1843
 8vo, pp. 254; plates.
 Gemmi, Grimsel, St. Gothard, Rigi, Engelberg, Rosenlaur, Grindelwald;
 in 1829.
- [v. Kützw] Thérèse.** Paris und die Alpenwelt. Leipzig, Brockhaus, 1846
 8vo, pp. 306.
 pp. 1-134; Die Alpenwelt—Eastern Alps.
- Leigh's Guide to the Lakes and Mountains of Cumberland, Westmorland,
 and Lancashire.** 3rd edition. London, Leigh, 1835
 8vo, pp. viii, 160; maps.

- Mackay, Charles.** The Scenery and Poetry of the English Lakes. A summer ramble. London, Longmans, 1846
8vo, pp. xvi, 234; ill.
- de Mairan, Dortous.** Dissertation sur la glace, ou explication physique de la formation de la glace, et de ses divers phénomènes. Paris, Imprim. Royale, 1749
8vo, pp. xxix, 384; plates.
First published at Bordeaux in 1716: reprinted at Béziers 1717: and in Paris 1730, in vol. 2 of 'Les vertus médicinales de l'eau commune.'
This is interesting for views as to freezing, etc. It contains nothing on glaciers beyond a doubtful supposition that they exist because mountain tops are removed from the earth's central heat. It is curious to notice that in experiments conducted by Mairan, and others about the same time, to test the breaking strain of ice, no one used a fine wire across the ice to hang weights to. Thus all failed to obtain regelation.
Presented by H. F. Montagnier, Esq.
- Martineau, Harriet.** A complete guide to the English Lakes. . . . Third edition. Edited and enlarged by Maria Martineau. Windermere, Garnett; London, Whittaker, etc. [c. 1865]
8vo, pp. 286; maps, plates.
- Mehwald, Fr.** Nach Norwegen. Lorck's Eisenbahnbücher, 28. Leipzig, Lorck, 1858
8vo, pp. 184.
- Meister, L.** Kleine Reisen durch einige Schweizer-Cantone. Ein Auszug aus zerstreuten Briefen und Tagregistern. Basel, Schweighäuser, 1782
8vo, pp. 220.
Uri, Bern, and Zurich.
- Meyer, H.,** Gletscherkunde d. Tropfen; see Verhand. d. d. Geographentages, 1901.
- Mont Blanc.** Ueber die neuesten Ersteigungen des Mont-Blanc. Aus dem Tagebuche eines Schweizer-Reisenden, von 1803. In Göttingisches' Taschen-Kalender f. d. Jahr 1805. Göttingen, Dieterich, 1805
Sm. 8vo, pp. 113-228.
The ascent of Dorthorn and Forneret in 1803 and attempt by Col. Pollen.
Presented by H. F. Montagnier, Esq.
- Ersteigung der höchsten Berge. In Berlin. Damen-Kalender a. d. Gemein. Jahr 1810. Berlin, 1810.
Sm. 8vo, pp. 153-264.
Notes on ascents—nothing new.
This volume contains, pp. 286-290, description of two copper-plates of Mont Blanc; but these are lacking in this copy of the work.
Presented by H. F. Montagnier, Esq.
- Neugebauer, Dr.** Neuestes Gemälde der Schweiz. Schütz's Allgemeine Erkunde, Band 21. Wien, Doll, 1831
8vo, pp. 498; plates.
- Notovitch, Nicolas.** The Unknown Life of Christ. Translated . . . London, Hutchinson, 1895
8vo, pp. lii, 257; maps, ill.
pp. 1-131; Journey to Thibet.
- Penck, A.,** Eiszeitforschung in d. Alpen; see Verhand. d. d. Geographentages, 1901.
- R., W. v.** Reise eines Norddeutschen durch die Hochpyrenäen in den Jahren 1841 und 1842. Leipzig u. Paris, Brockhaus u. Avenarius, 1843
2 vols. 8vo.
- Richard, J. B.** Merveilles et beautés de la nature en Suisse, ou description de tout ce que la Suisse offre de curieux et d'intéressant . . . 2 tomes. Paris, Audin, 1824
8vo; plates.
- de Saussure, H. B.** Le Montblanc et sa première ascension. Aus Voyages dans les Alpes. Für die Schule bearbeitet. Schulbibliothek, Ableitung 1. Bändchen 11. Berlin, Gaertner, 1895
8vo, pp. 155; map.

- Scenes of Modern Travel and Adventure.** Edinburgh, Nelson, 1844
8vo.
This contains *inter alia* ;—
Lieut. Taylor's ascent of Peter Botte.
Parrot's ascent of Ararat.
Mackenzie's ascent of Hecla.
Pass of the Simplon.
This was reprinted in 1848.
- Schopenhauer, Johanna.** Reise von Paris durch das südliche Frankreich bis Chamouny. 2te Aufl. Leipzig, Brockhaus, 1824
2 vols, 8vo.
Vol. 2, pp. 261-320; Reise nach Chamouny. First edition, 1816.
Travelled in 1804.
- Simond, C. F.** A Pedaller Abroad. Being an illustrated narrative of the adventures and experiences of a Cycling Twain during a 1,000 kilomètre ride in and around Switzerland. London, Causton, 1897
8vo, pp. 189; ill.
- Simplon, 1812; see Wissenberg.**
- Stein, C. G. D.** Reise durch Baiern, Salzburg, Tirol, die Schweiz, und Württemberg. Leipzig, Hinrich, 1829
8vo, pp. 275; frontispiece.
- Stöber, Adolf.** Neue Reisebilder aus der Schweiz. St. Gallen, Scheitlein, 1857
Sm. 8vo, pp. 139.
Poetry. Das Chamounythal, Der Montblanc, Montblancaussicht, Das Saanenthal, Stockhornsbesteigung, Via Mala, Der Tödi im Hochsommer, etc.
- Thérèse; see [v. Kützw].**
- Verhandlungen d. dreizehnten deutschen Geographentages zu Breslau, 1901.** Berlin, Reimer, 1901
8vo, plates.
This contains the following papers on glaciers ;—
pp. 180-183, F. Finsterwalder, Die Erscheinungen welche einem Gletscherverstoss vorausgehen.
183-188, H. Meyer, Ein Beitrag z. Gletscherkunde d. Tropfen.
188-205, S. Günther, Der gegenwärtige Standpunkt der Lehre v. d. Glacial-Erosion.
205-213, A. Penck, Einige neuere Ergebnisse d. Eiszeitforschung in d. Alpen.
- [Wissenberg].** La route du Simplon. Extrait d'un journal de voyage de l'an 1811. 1812
8vo, pp. 37.

Club Publications.

- Austrian Tourist Club. Wiener-Neustadt. XXVIII. Jahresbericht, 1906.** 1907
8vo, pp. 24; plate of the Wiener-Neustädter-Hütte im Österr. Schneekar d. Zugspitze.
- — — *see* Eichert, W., *under* 'New Books.'
- C.A.F. Section Vosgienne.** Bulletin 25. Nancy, 1906
8vo, pp. 166.
The chief articles are ;—
Trazelle, Les Vosges.
Helbronner, La cartographie.
Mougenot, A travers la chaîne du Mont-Blanc.
- D.u.Oe.A.-V. Akad. Section 'Wien.'** Mitteilungen. VII.-XI. Jahrgänge. 1902-1906
5 vols, 8vo.
- **Austria.** Nachrichten der Sektion. XIII., XIV., XV. Jahrgänge. 1904-1906
vols, 8vo.

- D.u.Oe.A.-V. Bamberg.** 6. Bericht des Vereines zum Schutze der Alpenpflanzen. 8vo, pp. 103; plates. Bamberg 1906
 This contains reports on the Alpine gardens at the Lindauer Hut, the Neureuth garden, on the Rax Alp, and the Schachten garden.
 Also articles;
 K. Fritsch, Die Artemisia-Arten d. Alpen.
 G. Hegi, Die Vegetationsverhältnisse d. Schachtengebietes.
- **Sektion Bayerland in München.** XI. Jahresbericht. 1907
 8vo, pp. 80.
 Nearly all the climbs by members of this Section are guideless.
 Among the first ascents are :—Thaneller ü. d. Nordwand; Säuling ü. d. Südostwand; Gr. Kirchturm, Ueberschreitung v. Süd nach Nord; Leutascher Dreitorspitze ü. d. Südwestgrat; Östl. Plattspitze ü. d. Ostgrat; Zugspitze ü. d. Nordgrat; Kaiserkopf (Karwendel) d. d. Ostwand; Petersköpfl v. Norden; Fünffingerspitze v. d. Fünffingerscharte aus; Sorapis v. Westen; Mte. Castello, führerloser Aufstieg; Colle alto, S.-Turm; Cima Cadin d'Arade v. Norden.
- **Berlin.** Mitteilungen der Sektion. 6. u. 7. Jahrgänge, Nr. 47-64. 1905-6
 2 vols. 8vo, ill.
- **Chemnitz.** Im Bannkreis der Chemnitzerhütte. Jubiläumsschrift der Sektion Chemnitz 1882-1907. 1907
 Roy. 8vo, pp. 79; plates.
 A finely illustrated number; containing the following articles;—
 T. Kellerbauer, Die Sektion 1882-1907.
 G. Frauenstein, Unsere Hütte.
 E. Ruppelt, Zugänge z. Chemnitzerhütte.
 G. A. Barthel, Am Südgrate d. Thurnerkamp.
 P. Domsch, Vom Weisszint z. Hochfeiler.
 H. Mützelstädt, Eine Wintertour z. Chemnitzerhütte.
- **Gera.** Jahresbericht, 27. 1907
 8vo, pp. 24.
- **Hannover.** XXII. Jahresbericht. 1906
 8vo, pp. 23.
- **Heidelberg.** Jahresbericht für 1906. 1907
 8vo, pp. 14.
- **Kreuzberg.** Jahresbericht, 10. 1906
 8vo, pp. 8.
- **Prag.** Jahres-Bericht über das Vereinsjahr 1906. 1906
 8vo, pp. 30.
- Innsbruck.** Turnverein. 41. u. 42. Jahresberichte. 1904 u. 1905
 8vo, pp. 31, 30.
 Anhang; Bericht d. Bergsteiger-Riege.
- Munich.** Akad. Alpenverein München. XIV. Jahresbericht 1905/1906. 1906
 8vo, pp. 88.
 This contains, along with records of first ascents in the Eastern Alps, the following first ascents;—
 Corsica: 1. Begehung der Cresta Pozzolo von Dr. Th. Herzog.
 Picos de Europa: Tiro Tirso, 1. Erst. üb. d. S.-Wand vor Dr. Gustav Schulze.
 Naranjo de Bulnes, I. Üb. v. O. n. S., Variante in der O.-Wand;
 I. Abst. üb. d. S.-Wand: von Dr. G. Schulze.
- **Alpenkränzchen 'Berggeist.'** Bericht f. d. Vereinsjahr. 1906
 8vo, pp. 14.
- Soc. d. Alpinisti Tridentini.** Bollettino dell' Alpinista, anno 2. 1905-1906
 8vo, pp. 230; ill.
 Among the articles are;—
 M. Scotoni, Val Danerba.
 T. Taramelli, Bibliografia d. pubblicazioni di.

- Lorenzoni, G., *Efficacia educativa dell' alpinismo.*
 — Un tentativo al Campanile Basso, Gruppo di Brenta.
 U. Bonapace, *Di refugion in refugio.*
 M. Scotoni, *Cima Tosa, Campanile Basso, Fravort, Filadonna.*
 V. Ronchetti, *Al Monte Rosa da Macugnaga.*
 S. Valenti, *Regesto cronologico di documenti riguardanti i monti Nambino, Zeledria e Malghette nella Valle di Rendena.*
- Turin.** *Unione excursionisti. Itinerari-programma delle Gite Sociali pel 1907.* 1907
 Sm. 8vo, pp. 42.
- Pamphlets and Magazine Articles.*
- Bistram, A. v.** *Das Dolomitgebiet der Luganer Alpen. Geolog.-paläontol. Studien in den Comasker Alpen, II.* November, 1903
 8vo, pp. 1-84; map, plates; reprinted from *Ber. Naturfors. Ges. Freiburg i. Br.* vol. 14.
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ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 3s., can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C.

CENTRAL AMERICAN VOLCANOES.—Dr. Tempest Anderson has just returned from a nine months' journey among the Volcanoes of Mexico, Guatemala and the West Indies, during which (amongst others) Cerro Quemado, Agua, Atitlan, Mont Pelée, and the Soufrière of St. Vincent were ascended, and many photographs taken.

MR. BIRD'S ATTEMPT ON MONTE ROSA AND ASCENT OF THE CIMA DI JAZZI IN 1854.—In Mr. E. S. Kennedy's addition to the second edition of 'Where There's a Will There's a Way,' p. 122, the following allusion to this expedition occurs:—

'No further attempt to reach the highest point was, I believe, made until July, 1854, when Mr. S. D. Bird ascended to a point within 100 ft. from the summit.'

Now the whole of this addition of Mr. Kennedy's first appeared (with a few trifling differences) in 1854 in the 'Illustrated London News,' vol. xxv. p. 399 *sqq.* His narrative naturally attracted the attention of Mr. Bird, who, at p. 422 of the same volume of the same periodical, addressed the following letter to the editor. It seems worth while to reprint it, as it is interesting in itself, and seems to settle *finally* the question of the exact point (the Silbersattel) reached by him on his attempt.* His ascent (1854) of the Cima di Jazzi seems to be the earliest recorded, for Herr Gottlieb Studer only went up in 1855,† and Mr. Hinchliff in 1856,‡ while Mr. Bird's notes seem to have formed the basis of the account of the ascent of this peak which first appeared in the 7th or 1856 edition of 'Murray's Handbook for Travellers in Switzerland,' p. 306 (it does *not* appear in the previous or 1854 edition, p. 297).

* See *Alpine Journal*, xv. p. 496, xvi. p. 47.

† New edition of Studer's *Ueber Eis und Schnee*, i. p. 13.

‡ *Summer Months*, p. 155.

‘To the Editor of the “Illustrated London News.”

‘SIR,—Seeing my name mentioned in your last Number as having been the first traveller, since the ascent of M. Studer, to explore the northern side of Monte Rosa, permit me to add a few observations to the interesting narrative of Mr. Kennedy. The name of the guide who first attained the summit of the Höchste Spitze is neither Turgwald nor Durchwald, but Tauchwald. He is the best guide I have ever known in the Alps; having a strength and endurance truly marvellous. He carried, without apparent effort, the whole provisions of my expedition—the two other guides being quite exhausted by the rarity of the air, and the fatigue of walking through snow up to the hips, on a very steep incline. He also enjoys the reputation of being the best cobbler in the valley.

‘I may mention, for the advantage of future ascenders, the reasons that prevented my attaining the highest point. Contrary to my suggestions, the guides all asserted that 2 o'clock would be soon enough to leave the Ryffelberg, though the full moon rose two hours earlier. The consequence was that, when we arrived at the steepest part of the ascent, the sun had surmounted the crest of the mountain, and soon rendered the snow so soft that we sunk up to the knees, or even hips, at every step, which made our progress excessively laborious. Mr. Kennedy, being a month later than myself, avoided this inconvenience. We were also delayed for an hour or more in attempting a short cut up a slope of ice, where every step had to be cut with the hatchet, and which proved so steep that further progress was out of the question, and we had to retrace our steps and try another route. This was, no doubt, avoided in subsequent ascents. The heat, after the sun rose, was most oppressive, though it froze hard in the shade—the snow getting softer; so, on our arrival at the plateau, Tauchwald strongly advised me not to attempt the ascent of the cone, as this would delay us $1\frac{1}{2}$ –2 hrs., and that, by that time, the state of the snow on the glacier lower down would be such as to render the return highly dangerous. The last climb, at the time of my visit, would have been very hazardous, as the great heat of the sun, during the days of fine weather, had melted the snow in the crevices of the rock, causing the water to trickle over its surface, which the mighty frosts thus converted into an almost continuous sheet of polished ice, so that no foothold was perceptible on it.

‘On our return, I found Tauchwald’s advice was wise; as we had a good deal of difficulty in passing the snow-bridges over the crevasses, which frequently gave way with one or other of the party, whose fall into the chasm was only prevented by the rope with which we were tied together.

‘Let me advise future travellers, if they attempt the ascent in July or August (which is considered the best season for the High Alps), to profit by my experience, and start from the Ryffelberg at midnight, at the latest, so that they may reach the plateau while the snow is yet hard, and fatigues of the climb will be thus diminished by one-half.

'I may mention to those who wish to explore the snowy solitudes of these mountains, that to the N.W. of that mountain is a peak 13,000 ft. in height, called the Curia [obvious misprint for Cima] di Jazzi, to the right of the redoubtable pass of the Weisssthor, which may be easily reached in 4 hrs. from the Ryffelberg, the whole ascent being on a gentle slope. There is no mountain, to my knowledge, in the Alps, that may be so easily attained. The view is much the same as that from Monte Rosa, except the part shut out by the mass of that mountain, comprising the icy sea of Swiss, Savoyard, and Tyrolese pinnacles to the N. and E.; to the S., the valleys and lakes of Italy, bounded by the Maritime Alps, whose dim blue outline alone prevents a glimpse of the Mediterranean.

S. D. BIRD,
King's College, London.'

It would be interesting to know more of the climbs of this early English mountaineer.

W. A. B. COOLIDGE.

BREITHORN (ZERMATT) (S. 4,771 m. = 13,685 ft.). **THE EASTERN NORTH RIDGE.**—On August 18, 1906, Messrs. Mayor, C. D. Robertson, and G. Winthrop Young, with Joseph Knubel and Moritz Rappen, after an attempt on the previous day, which had terminated in a snow storm rather below the great gendarme, left the Gandegg hut at 8.30 A.M., and traversed the glacier to the conspicuous col on the Triftje at the foot of the western north ridge. Descending by an easy chimney, and profiting by previous experience, they crossed the rifted plateau that connects the two ridges close under the face of the peak, and, using the descending steps of the day before, struck the edge of the eastern north ridge not far below the lowest rocks visible from this side at 6.30 A.M. (On the preceding attempt the ridge had been joined much lower down, almost at the level of the plateau above the Klein Triftje.) The ridge, of hard snow and occasional ice, sharp and set at a high angle, called for continuous and careful step-cutting, pleasantly varied by small gendarmes and exacting little traverses. The actual rocks of the great forbidding-looking tower gave delightful climbing, equal to that on the main E. ridge of the Breithorn,—and therefore to anything in the district,—but all too short. The final snow arête proved remarkably steep. Where it abutted on the precipitous face of the peak a short ice-traverse to the W. and a very awkward little corner, that only went at the third attempt, gave access to an open ice-glazed couloir, by which the corniced main E. ridge was reached, just W. of the peak, at 1.20 P.M. The all too seldom visited E. arête, with its admirable rocks and exquisitely delicate snow-crests, was traversed to the final summit of the Breithorn at 4.40. The ridges had exacted a rather excessive allowance of step-cutting, and the 'highroad' of the descent afforded a placid change. By this the Gandegg hut was reached at 6.10, and the Riffelberg, after an hour's halt for tea, at 8 p.m. The ridge is deserving of more attention; it is not exposed to the same risks as its more popular western neigh-

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hour, from which a huge avalanche was observed to fall during the ascent just described, and though it is not easy to get at and somewhat long, yet the climbing is continuously fine and legitimate. Most of the difficulties after the main ridge has been joined can, if necessary, be avoided, and there is always the comfortable prospect, however late the hour, of a 'cart-track' descent from the summit.

G. WINTHROP YOUNG.

REVIEWS AND NOTICES.

The Life and Letters of Leslie Stephen. By F. W. Maitland.
(London: Duckworth & Co., 1906.)

It is impossible to take up this volume without a double sense of regret. The biographer has too soon followed his subject, the nephew his uncle. To praise either here would be superfluous. Lovers of English literature have gained as much as friends of Leslie Stephen by the time granted to Mr. Maitland to complete his pious work. Its best praise is that many readers—both men and women—who did not know Stephen and are far from sharing some of his views or tastes, have laid it down with a sense that they have made a new friend. Maitland has succeeded in being intimate and appreciative without being uncritically admiring. His portrait may be a little softened; in certain aspects Stephen seemed more formidable, especially to younger men, than he is here represented. There were times and moods in which Stephen did not 'suffer gladly' any social duty or interruption that might befall him. His neighbour at a dinner, such as that humorously described by Mr. Gosse, may sometimes have wished that the flashes of speech would come more frequently between the silences. He hardly appreciated the occasional effect on others of an 'inward groan' that was not meant to be taken too seriously. He could groan, as his biographer proves, even in a love letter! But the portrait given to the public is undoubtedly that of the real Stephen as he was best known to his intimates, to those whom he frequently joined in that modest company the 'A.D.C.,' which occupies in some sort the Club the position 'the Apostles' do to Cambridge. At those little dinners, held at first in an hotel in Leicester Square, which became too notorious by a murder, but more recently, under episcopal guidance, in the less romantic region of a Regent Street restaurant, Stephen and Moore, Grove and Macdonald, W. E. Hall and C. E. Mathews were among the most constant of the early attendants.

Of Stephen as a critic and a man of letters I wrote elsewhere at the time of his death ('The Author,' April 1, 1904). I may venture to repeat here to a different public something of what I then said with regard to his love of the Alps and his influence on Alpine literature.

Stephen was happy not only in his literary profession, but also in a

hobby which satisfied all his requirements, physical and intellectual—mountaineering. His love of mountains was, as he has himself explained, complex. Climbing was to him primarily a sport, undertaken for the sake of adventure and enjoyment, a recreation in which he could give play to the muscular energy of the primitive man and the holiday humours of the genial Don, who in Stephen underlay the critic and the philosopher. But he found the scenery of the High Alps sympathetic to his intellect, and that in more ways than one. 'Its charm,' he writes, 'lies in its vigorous originality.' And again, 'The mountains represent the indomitable force of nature to which we are forced to adapt ourselves; they speak to a man of his littleness and his ephemeral nature, and therefore they should suggest that sense of awestruck humility which best befits such petty creatures as ourselves.' The Alps were for Stephen a playground, but they were also alternately a cathedral in which to worship and a row of idols to fall down before. 'If I were to invent a new idolatry,' he says, 'I should prostrate myself not before beast, or ocean, or sun, but before one of these gigantic masses to which, in spite of all reason, it is impossible not to attribute some shadowy personality. Their voice is mystic, and has found discordant interpreters; but to me at least it speaks in tones at once more tender and more awe-inspiring than that of any mortal teacher. The loftiest and sweetest strains of Milton or Wordsworth may be more articulate, but do not lay so forcible a grasp on my imagination.'

Yet to give the scale, and to point the moral he drew from the High Places of the Earth, Stephen required, if not an inn, at least some trace of pastoral life, 'a weather-stained chalet' in the foreground. 'Scenery,' he says, 'even the wildest that is really enjoyable, derives half its charm from the occult sense of the human life and social forms moulded upon it. The Alps would be unbearably stern but for the picturesque society preserved among their folds.'

Yet surely in the recesses of remoter ranges, in the folds of primeval forests, there is a sublimity like that of the starry heavens, or the ocean, that would have appealed to his mind. I cannot help suspecting that, since such scenery never came within his reach, Stephen invented a reason why he might not have cared for it. The human interests that linked him to the Alps were hardly connected with the influence of the mountains on social institutions!

Towards the end of his life the Alps had gathered round them many deep and tender associations. In earlier years they recalled happy holidays with congenial companions and guides, one of whom at least became a lifelong and devoted friend.

In Stephen's climbing days guides were comparatively rare and good. Few amateurs had been trained from youth in the details and practice of the craft. Things have changed, and the distinction Stephen insisted on between the two classes has been greatly diminished. But the implicit faith, generally well founded, of the pioneers in their guides, the personal devotion of the best guides to

their constant employers, were among the most attractive qualities of early mountaineering.

I was only once in the Alps, and that in winter, with Stephen. M. Loppé and Melchior Anderegg completed the party. On our last day Stephen and I supped with Melchior in his chalet, high on a shelf above the Vale of Meiringen. The descent to Brienz in the moonlight, down a path that was a sheet of ice, was the most dangerous adventure of our little tour. But the entertainment we received, the affectionate courtesies of our host, the reciprocal warmth of two men who, far apart in many things, knew and appreciated and trusted each other, made the evening memorable and more than worth all the bruises of that perilous descent.

Stephen, it may be added, was a pure climber; there was nothing in him of the ordinary traveller. In this he differed from his friend Bryce, by whom he was once seduced into going to the Carpathians. This was his first and last infidelity to the Alpine snows. He was consistent to the end. In a note thanking me for a copy of 'Round Kangchenjunga,' written in pencil shortly before his death, he says, 'I admire the unnameable mountains, specially one beginning with S (Siniolchum); but I shall not go to see them till you have laid out roads and built comfortable inns.'

One of the reasons why Stephen preferred the Alps was, perhaps, that the mountaineering he enjoyed was not a thing to be made a business of; it was for pleasure and relaxation he sought his playground. He had, like every intelligent man, a proper respect for real research. But he resented the assumption that a scientific aim was required to justify Alpine climbing, and he scoffed at amateur scientists, his friends, who handicapped themselves with 'instruments' in order, as he put it, to ascertain 'how nearly their observations might approximate to those of a Government survey.' In one instance, in an after-dinner speech, he gave offence to a too sensitive man of science, but the breach was after an interval most substantially repaired, and nowhere were Stephen's Tramps more cordially welcomed than by Professor Tyndall on Hind Head. These 'Sunday Tramps' were a visible sign both of Stephen's love of walking and of his sociability. He took minute pains in their organisation, looking out the trains, planning the route, and noting carefully who came. He propounded unwritten laws, one of which was against asking the way; luxury at lunch was as a rule discountenanced, but there were allowed exceptions, when he landed us on the lawn of a distinguished host, or we fell unawares on an old-fashioned inn. And there was one occasion, I remember, when a large party split and tried different local publicans, and the luckier detachment, while feasting on roast goose and apple tart, saw the hungry faces of Stephen and his band gazing through the window, and heard a groan from our leader, 'We've only found bad cheese; what have you fellows left?' It was, if I remember right, on the same day that somewhere in the neighbourhood of Colney Hatch a rustic, after staring at the philosophic band, turned to his fellows with the comment, 'I say, Jim, who let 'em out?'

Stephen's first appearance in Alpine literature was in the humble part of the translator of a now somewhat old-fashioned work, Berlepsch's 'Life in the Alps.' Mr. Coolidge objects to its being called 'mediocre.' Perhaps he is right, though, judging from the pungent footnotes Stephen inserted on many pages, I fancy he would have shared my view. But the information it contains is poured forth in periods distasteful to the English reader, which the translator has been at no pains to modify. Having, after forty years, looked into the volume once more, I confess that I more than doubt, I disbelieve, in Stephen being the prime author of the translation. Could he, even when translating, have described the travellers who perished in 1860 on the Col du Géant as slipping 'five kilomètres down the slope,' or penned such sentences as the following: 'The Staubbach is not made great by an irrestrainable wild stream . . . which shakes the air by the thunder of its fall and compels exclamation of astonishment' (p. 136), or, 'In those villages in which no inns exist it is often the man of spiritual consolations, the parson or chaplain, who also takes charge of the hungry and thirsty needs of travellers; in the Valais, in Canton Unterwalden, and in other districts the wine bottle and the slice of cheese are an accidental trade of the spiritual class' (p. 400)? I suspect he read through and annotated some hack's work. His footnotes are in a very different style, concise and contradictory. In one of them his view about 'scientific mountaineering' is very pithily put. 'The difficulty and danger of making high mountain ascents, and consequently the impropriety of making them "without some scientific object," are considerably exaggerated in this chapter. If the truth were known I suspect that many of the so-called scientific ascents have had pleasure and excitement for their object much more than science' (p. 226).

It was in writing about the Alps on his own account that Stephen first made a mark in literature. The character of many of the chapters in the first edition of 'The Playground of Europe' was influenced by the purpose for which they were written. They were to be 'read before the Alpine Club.' Between that body and Stephen there was always perfect sympathy. His enthusiasm for the mountains was strong and deep, but in papers for such an audience it could be taken for granted. Descriptions of scenery were condensed, topography was dealt with lightly, while the adventures and misadventures of an Alpine climb were dwelt on with a lively appreciation which delighted his hearers. Stephen 'in a holiday humour' did not even despise 'chaff.' His early writings revelled in paradox, and no doubt had a considerable influence on Alpine literature. Climbers are not born humourists, and some of his followers may have at times forgotten that certain forms of wit lose their flavour below the snow level. Our Club has been accused of a lack of serious purpose and a tendency to feeble jocosity. But there is enough seriousness in the world, and pedantry is nowhere more out of place than in sport.

In his later articles, written for the magazines, Stephen's style

alters. The old fun flashes out from time to time ; but he gives more rein to his powers of description and his sentimental appreciation of mountain scenery. In 'The Alps in Winter' and 'A Sunset on Mont Blanc' he breaks through his habitual reserve and reveals to his readers some of his deeper feelings. 'To me,' he writes, 'the Wengern Alp is a sacred place, the Holy of Holies of the Mountain Sanctuary.' It can never be so to our successors. The money-changers are in full possession, and the temple and the 'Holy of Holies' is a noisy restaurant and railway station.

In 1869 Stephen succeeded Mr. George as Editor of this 'Journal.' He only held the post for three years, and when in 1872 he handed it over to the present writer the 'Journal' was apparently in a moribund condition. The summer number had failed to appear! The causes of this temporary depression were not far to seek. Stephen had just taken up the editorship of the 'Cornhill,' and was overburdened by the double task, while the Club had a country Honorary Secretary, who was not active in providing fresh papers and material for his colleague. When Charles Packe was followed in the Secretaryship by A. W. Moore the Editor's task became a comparatively light one. Now, after thirty-five years, the 'Journal' is, like other veterans, growing stout. The old spirit, Stephen's spirit, survives in it, though it has found many new playgrounds. It has served and still serves its purpose in bringing back to many and revealing to some the pleasures of the heights, in forming a link between successive generations of mountain lovers and keeping alive the memory of our founders and forerunners.

I may note a few apparent 'errata' in the 'Life': 'third-rate guide' (p. 96) should read 'second-rate'; on p. 492 Maitland has it right. Stephen did not 'cross,' he only discovered the Alphubel Joch (p. 83). To the list of ascents given on p. 33 I can add from a manuscript of Stephen's, supplied me by Mr. Coolidge: 1858. Glärnisch, failure on Tödi, Bristenstock, Oberaarjoch, Adler Pass, Zwischbergen Pass, Geisspfad Pass, Wildstrubel, Strahlegg, Galenstock, and Gauli Pass. In 1859 the Tschingel, Lötschenlücke, Petersgrat, Lötschen Pass, Weissmies, Breithorn. In 1860 the Weissthor, tried Dent Blanche, Zumsteinspitze, Oberaar Joch and Horn, Altels. Stephen assisted in the original editions of Ball's 'Western' and 'Central Alps.' The list of his Alpine articles given in the general index to the first fourteen volumes of the 'Alpine Journal' might be alluded to.

In writing of Stephen's after-dinner speeches, that he once made, in returning thanks for Literature at the Royal Academy banquet, is not alluded to. Stephen did not feel at home with his audience, and regretted afterwards that he had 'left out all his best things.' It was at the Alpine Club dinners that he was heard at his best.

Finally, while it is true—the passage is a quotation from Mr. Dent—that 'the germs of suggestion' of subsequent researches into the origins of Alpine literature may be traced in the historical chapter of 'The Playground of Europe' it needs also to be stated

that Stephen's treatment of the subject was relatively superficial. The germs have been developed in the brains of ardent specialists, who have brought to light much new material, which may in some respects modify our views as to the respective influences which gave rise to the modern love of the Alps. D. W. F.

Running Water. By A. E. W. Mason. (London: Hodder & Stoughton. 1907.)

The ingenious author of 'The Four Feathers' has given the public a story which is a mixture of climbing and crime. Never before surely has a heroine been introduced reading a back volume of the 'Alpine Journal.' Never before, we think, has a 'first-class climb' been made the mainspring of a romance—although 'imaginary climbs' may have been a conspicuous feature in some recent works of travel. Mr. Mason knows something of the business, and writes as we should expect of peaks and passes, of rock-faces and ice-slopes. He writes also as a true lover of the glories of the heights, and his vivid descriptions will attract many readers who do not care much for the nefarious schemes of the low society from which he draws his heroine, only in order to raise her on an Alpine pedestal. Her father is described as a climber who, in the late sixties, some twenty years before the date of the events described, had made sixteen attacks on one of the Chamonix Aiguilles, and at last got to the top, whose favourite work was 'The Alps in 1864,' whose own writing was 'very funny,' and one of whose characteristics was neat-handedness. We confess—since he turns out to be also an ex-convict and a would-be murderer—to some feeling of relief on finding that in other respects he is distinguishable from an ex-President of the Alpine Club. Some of the minor characters may also suggest that Mr. Mason has made studies, or at least drawn sketches, for them on the spot—for instance, the guides, the brothers Revalloud, François and Michel, who live at a hamlet a short walk across the meadows from the Hôtel Couttet. But it would be difficult to reproduce the wit and wisdom of the real François some of us knew and loved, and Mr. Mason has not attempted it, though the human sympathy which exists between the best guides and their employers is finely suggested in his pages.

We are not going to give away the story. It is enough to say that there is a fatal accident on the Col des Nantillons, an admirably described ascent of the Aiguille d'Argentière, which decides the fate of the hero and heroine, and an ineffectual but thrilling attempt at homicide on the Brenva side of Mont Blanc. What can the reader ask for more?

Mr. Mason is so accurate in his technical details that it is a pity he should have allowed his printers to print in places 'châlet,' 'arrête,' and 'rucksack;' and surely he must know that a crevasse is only a 'Bergschrund' when it marks the breaking away of the moving ice from plastered snow or névé. There can be no 'Bergschrund' between the middle portion of the Argentière glacier and the rocky slopes on its right bank under the Aiguille du Chardonnet (p. 80).

Zeitschrift des Deutschen und Österreichischen Alpenvereins.
Vol. xxxvii. 1906.

This volume opens with a paper by Dr. G. Steinmann on Geological Problems of the Alps, in which he reviews some of the most remarkable instances of displacement and folding over an area extending from the Jura to the Eastern Alps. The author is of opinion that some of the complicated disturbances of the strata in the Swiss and Western Alps have been caused by the operation of two successive foldings which have occurred with a long interval of time elapsing between the first and second movements. The sectional diagrams are numerous and instructive; two of these indicate the sequence of rocks expected and that actually encountered in boring the Simplon Tunnel.

Herr E. W. Bredt has undertaken the task of tracing the history of the pictorial representation of mountains. The first part of the article, beginning with the primitive symbols of the thirteenth century, deals with the progress made in turn by Cimabue, Giotto, Dürer, Altdorfer, and by later painters of the Italian, Dutch, and Flemish schools. The illustrations—nearly forty in number—are selected mainly from originals in German and Italian collections and churches; but two of the paintings represented (Mantegna and Garofalo) may be seen in our National Gallery.

Those who have not read Dr. G. Merzbacher's latest book (reviewed in the 'A. J.,' Feb. 1906) will find in his very interesting paper on the Tian Shan mountains a condensed general description of the central portion of the range, of the conditions of travel, and of the extraordinary difficulties encountered before it was possible to ascertain even the position of the highest peak, Khan Tengri. The author emphasises the wonderfully varied features of the country—ice-clad summits of unsurpassed grandeur, enormous snow-fields, glaciers 20 to 45 miles long, ranges of bold rocky peaks stocked with steinbock and other game, splendid forests, valleys bright with flowers, and, in contrast, vast steppes and endless sandy wastes. The flora also of this region is described as most interesting and peculiar; many Alpine plants, such as vacciniums, rhododendrons, saxifrages, &c., are wanting; on the other hand there are whole kilometres of edelweiss.

The work of the expedition was very much hindered by the lack of capable porters and by the great distances—in one case over 150 miles—from which supplies had to be brought; but the crowning obstacle, which effectually prevented ascents of the greater peaks, was encountered at a height of 5,000 m. and upwards in the form of excessively deep, powdery, and dangerously unstable snow. Dr. Merzbacher sees no prospect of any privately organised expedition being able to climb Khan Tengri.

The illustrations reproduced from photographs taken by the author and his companion, Herr H. Pfann, are remarkably good.

The South American Cordilleras provide material for two separate articles. Dr. H. Hoek, continuing his lively and enter-

taining paper on the country S.E. of Illimani, describes in vigorous and graphic language the discomforts and trials of Bolivian travel during the rainy season. In December 1903 the author made, in company with Dr. G. Steinmann, the first ascent of Cerro Tunari, a peak of 5,200 m., situated N.W. of Cochabamba.

Dr. F. Reichert's contribution deals with a district much further south, his journeys leading through the high mountains which encompass the desert plateau of Atacama.

In the course of his expedition the author without any companion ascended (May 1905) the Cerro Socompa, a volcanic peak of 6,080 m. on the boundary line between Chile and Argentina. The ascent of 1,680 m. from a high bivouac occupied twelve hours, the difficulties of the route being increased by a high wind. A small intermittent geyser, giving out boiling water and steam, was found at the summit.

Amongst the articles on European mountains welcome variety is introduced in the form of an account by Dr. H. Bertram of a climbing tour in the Central Pyrenees. Even an ardent lover of the Eastern Alps waxes enthusiastic over the fascinating solitudes of this western range, where the tourist throng has not yet penetrated and whose rocks are still innocent of 'Wegmarkierungen' and chocolate advertisements. May they long remain so.

Pleasant reading is also afforded by Herr H. Pfann's accounts of two guideless expeditions in the Mont Blanc Group—the traverse of the Great and Little Dru in 1899 and that of Les Droites in 1904. Favoured by a full moon the author, with Dr. G. Leuchs, left the Montanvert at 11 p.m., and after a short rest at the bivouac place gained the summit of the Great Dru at 12.30 p.m. next day. In spite of an insufficient length of rope the descent to the ridge of the Little Dru was safely accomplished; but after leaving the latter summit the right route was missed and the party were benighted on the rocks high above the Charpoua Glacier which was not gained till the following morning.

On the second climb the author with Herr L. Distel traversed the exceedingly narrow and jagged ridge from the W. peak (4,020 m.) to the summit of Les Droites, seven hours being occupied in the arduous work of crossing or turning the numerous rock teeth between the two points. On this occasion also the party were benighted, but under much more unpleasant conditions than on the Dru, as they were overtaken by thoroughly bad weather.

Amongst the most important of the remaining articles, all of which deal with the Eastern Alps, are the somewhat belated continuation of Herr R. Schucht's paper on the Pitztal (commenced in the 'Zeitschrift' for 1900), the second instalment of Dr. E. Niepmann's treatise on the Ortler district, and the first part of a monograph on the Brenta Group. The Pitztal, in spite of its fine scenery and attractions to climbers, seems not to have received much attention before 1892, in which year the Brunswick Section opened their hut. In the present paper Herr Schucht gives a description of the chief peaks and passes of the Pitztalerkamm, which bounds the

valley on the E., separating it from the Ötztal, and also of the extensive glacier region at the head of the valley, accessible from the picturesquely placed and now greatly enlarged Braunschweigerhütte, and culminating in the lofty Wildspitze. The article is effectively illustrated by reproductions of Herr M. Z. Diemer's drawings.

Dr. Niepmann deals this year with the N.W. section of the Ortler Group, extending from the Cevedale Pass to the Stelvio, and containing the Königsspitze, Ortler, and Thurwieserspitze. This justly popular district has now been so long one of the most favourite resorts of the 'Hochtourist' that it is hardly surprising to find that not many new routes have been recorded since 1894, when Herr L. Friedmann's exhaustive treatise appeared in the 'Erschließung der Ostalpen.'

Herren H. Barth and A. von Radio-Radiis begin their monograph on the Brenta Dolomites with a detailed description of that portion of the range bounded by the Grostè Pass on the N. and by the Bocca di Brenta on the S. The paper contains an interesting account of the first ascents of the various summits of the Fulminstock, extending from the Bocca di Brenta to the Bocca dei Massodi. As this section contains, besides the Cima Brenta Alta and the Torre di Brenta, the sensational and inaccessible-looking Campanile and Guglia di Brenta and the Croda dei Fulmini it appeals more to experts of the strenuous school than to lovers of the picturesque. As the author suggests, one does not climb such rock-needles for the sake of the views they command. The formidable Guglia withstood all assaults till August 1899, and three of the Fulmini towers are probably still unclimbed. Some admirable photographs taken by Herr von R.-Radiis greatly facilitate the study of the subject.

In the 'Zeitschrift' for 1905 Herr K. Doménigg and Dr. G. Freiherr von Saar wrote the first part of a treatise on the very remarkable but little frequented Dolomite region lying E. of the Piave valley and occupying a somewhat debatable position between the Venetian and Carnic Alps. They now describe a number of ascents of the Cime Cadin and other peaks of the Monfalcone Group, and two of Mr. E. T. Compton's sketches bear witness to the singular wealth and variety of fantastic yet picturesque rock sculpture which nature has lavished on this district.

The 'Vereinskarte' issued with this volume is the western sheet of Herr L. Aegerter's map (1 : 25000) of the Allgäu and Lechtal Alps.

The Climbers' Note-book. By Dr. Claude Wilson. London: T. Fisher Unwin. 1906. 1s. net.

THIS is a small waistcoat-pocket note-book in a durable cover, such as Dr. Wilson himself has been accustomed to use for many years. It contains a full Packing List, an Expedition List, and a Hut and Camp List; Notes on Railway Time, Money, Map Scales, and Measures—to which is appended 'The Alpine Distress Signal.' The rest of the little book consists of pages for notes. It will be found distinctly useful.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall on the evening of Tuesday, February 5, at 8.30, the Bishop of Bristol, *President*, in the chair.

Messrs. W. I. Beaumont, F. Cassel, E. Chubb, T. Collin, J. C. Gait, A. S. Jenkins, H. V. Knox, J. W. Schofield, and A. E. Western were balloted for and elected members of the Club.

The PRESIDENT said that the Committee proposed, in response to a wish expressed by some of the members, and subject to their proposal being favourably received at that meeting, to try the experiment of holding an informal social meeting of the Club, at which no business would be transacted, in each month, except December, in which a General Meeting was held.

This suggestion was agreed to by show of hands, and the PRESIDENT announced that the first meeting would be held on February 19.

The PRESIDENT also stated that a letter expressing his regret at his temporary severance from the Club had been received from Mr. Bryce, who would carry with him to his new duties in America the best wishes of members.

Mr. A. D. GODLEY read a short paper entitled 'The Alps.' On the motion of the PRESIDENT a hearty vote of thanks to Mr. Godley for his clever paper was unanimously passed.

Mr. FRESHFIELD then exhibited slides of some of the photographs taken by Signor Sella while with the expedition of H.R.H. the Duke of the Abruzzi to Ruwenzori.

On the motion of Mr. WALLROTH, seconded by Dr. SAVAGE, a hearty vote of thanks was accorded to the Duke and to Signor Sella for their kindness in sending the slides for exhibition. Photographic enlargements of some of the views and panoramas were hung on the walls of the Hall.

On February 11, at the request of the Committee, Mr. Freshfield again showed Signor Sella's slides at a special meeting, for which every member received a guest ticket. The Hall was full, about 300 persons attending.

The first informal meeting of the Club was held in the Club Rooms on the evening of February 19, when some sixty members were present.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, March 5, Captain Farrar in the chair.

Messrs. O. Lecher and H. A. Millington were balloted for and elected members of the Club.

Mr. A. L. MUMM read a paper entitled 'The Bifertenstock and its Neighbours,' which was illustrated by lantern slides.

Mr. D. W. FRESHFIELD said that he had listened with great interest to the paper, as it reminded him of his early visits to that region, more than forty years ago. In 1866 he and Mr. Tucker went up the ice fall of the Biferten Glacier for the first time.

The Tödi was a classic scene in the history of mountaineering, for Placidus à Spescha had struggled for years to get to the top. It was a very evasive mountain. The ascent was tried in vain by Leslie Stephen and Tuckett, both of whom were foiled by bad weather coming on, as he had been himself. His party in the descent thought that they had got to one of the known gaps, but soon found themselves in one of the worst places they had ever been in. Any climber going to Eastern Switzerland might do much worse than give a few days to the Tödi group. Its lower parts and the surrounding valleys were most picturesque. It offered good rock-climbing, fine ice falls and steep couloirs. The distant views were beautiful, extending from Piz Bernina round by the Lake of Constance and the Bavarian plains to Mont Blanc.

Mr. C. PILKINGTON thought the Tödi ought to be better known. He had only once been there himself, and only as far as the Sandalp, when the weather turned bad; but he hoped to return this summer.

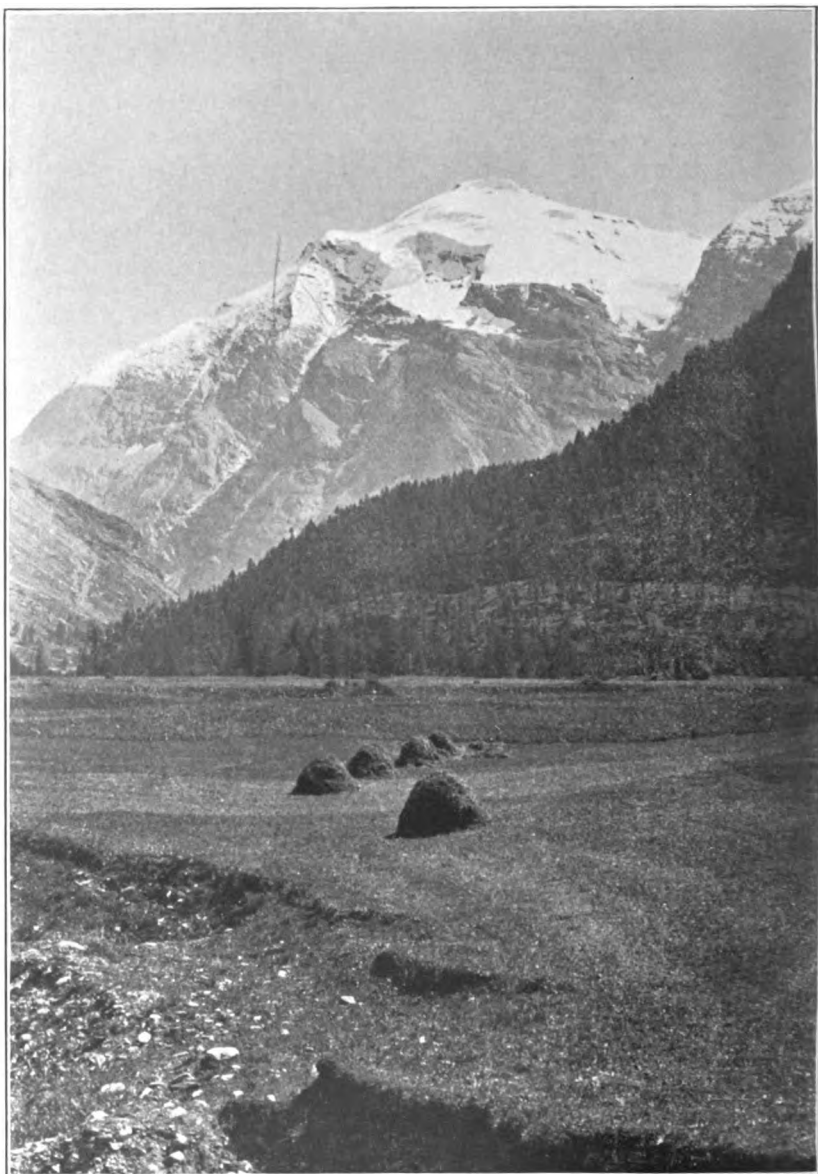
Mr. WITHERS asked what were the best huts and the best centres to start from.

Sir MARTIN CONWAY described an avalanche of sheep that he had seen on one occasion near the Muttssee Hut.

Mr. MUMM, in reply, said that a hut was required at the Puntaiglas Glacier. When it was built it would be much the best centre and would be within reach of almost all the climbs. It was a long way to the Muttssee Hut, and far from there to the Bifertenstock Bänder, but that route was so remarkable that he hoped it would receive more attention than hitherto.

A hearty vote of thanks to Mr. Mumm brought the meeting to a close.

An informal meeting of the Club was held in the Club Rooms on the evening of March 19, which was well attended.



Sydney Spencer, photo.

Swan Electric Engraving Co. Ltd.

THE POINTE DE CHARBONEL
FROM THE AVEROLE VALLEY.

THE
ALPINE JOURNAL.

AUGUST 1907.

(No. 177.)

THROUGH THE GRAIANS.

By A. E. FIELD.

THE complaint is now often heard that the Alps are crowded, and that even remote mountain villages are hopelessly vulgarised by the hordes which are poured into them every summer by different tourist agencies. This is certainly true of many parts of Switzerland, but there are still regions, such as the Graian Alps, where the mountaineer can wander 'far from the madding crowd.' In August 1906 H. C. Bowen and I had a most enjoyable tour in the Graians, in the course of which we climbed fourteen peaks and crossed three glacier passes, besides indulging in various cross-country walks.

I travelled straight to the little village of Pralognan,* in the Tarentaise, which is charmingly situated at a height of 4,672 ft. above sea-level, in a beautiful green basin surrounded by pine forests, above which rises a fine amphitheatre of peaks. From the railway terminus at Moutiers-Salins an electric tram runs to Brides-les-Bains, whence a service of motor-cars now runs to Pralognan, which can be reached in just over twenty-four hours from London. The motor (seats for which ought to be booked at the railway station at Moutiers, as the accommodation is limited) does the 18 miles from Brides-les-Bains to Pralognan in 70 min., which is pretty good going, as there is a rise of nearly 3,000 ft.

Here I spent a pleasant ten days till Bowen arrived; sometimes I indulged in minor excursions, and sometimes I loafed about in the forest, which could be reached in 10 min. across the meadows. The hotel was full of French

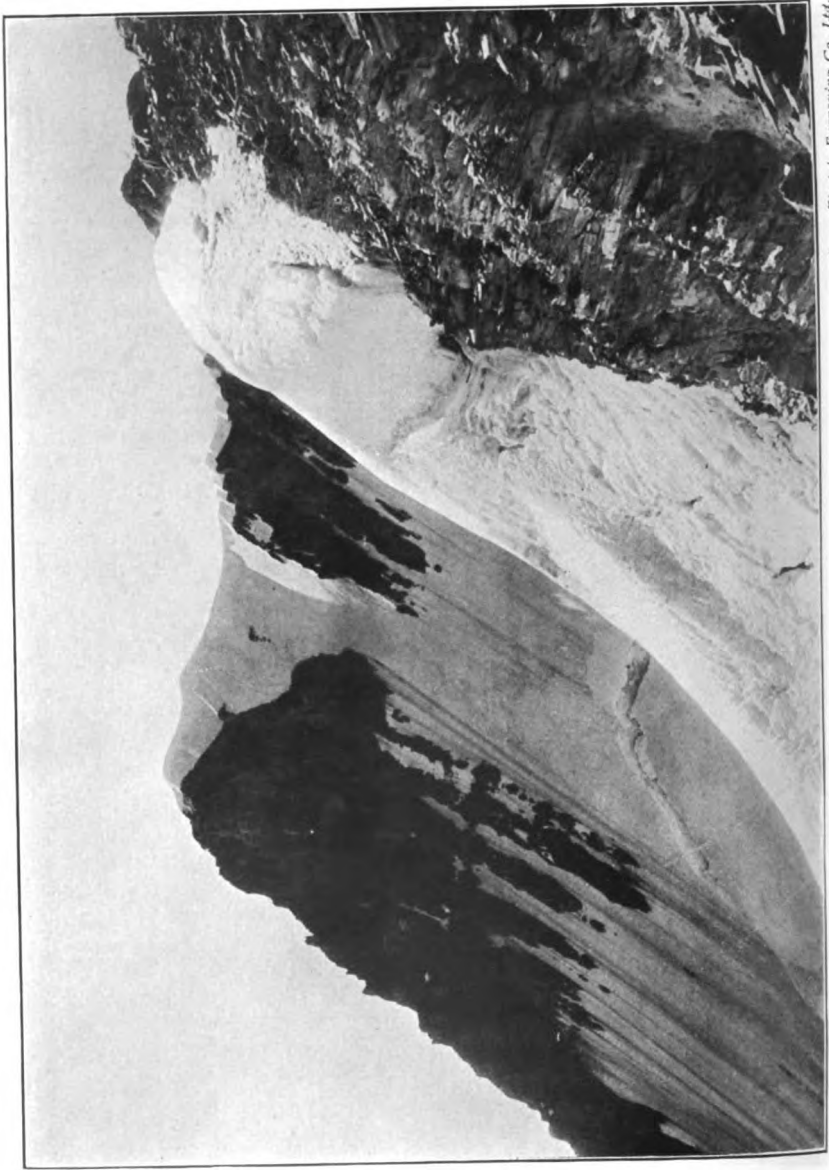
* *Alpine Journal*, vol. xxi. pp. 160, 219, 378, 521.

families enjoying the mountain air; Jean and Marie played 'le tennis' on the gravel court just behind, while 'monsieur, madame et bébé' sat in the shade of the forest beside the spring, which gushed forth from the rocks. One afternoon I visited the Rocher de Villeneuve, a fine view-point, and on another I walked up a little peak which rejoices in the rather grandiose title of the Petit Mont Blanc, although its height is only 8,810 ft. It appears to owe its name to two facts: it has crags of white marble, and from its summit the Grand Mont Blanc is visible. On the way I found a wonderful variety of Alpine flowers; I learnt afterwards that Pralognan is well known to botanists for the richness of its flora.

Another day I walked up to the Col de la Vanoise (8,290 ft.), the most frequented pass in the Tarentaise, on which stands a most comfortable little mountain inn named the Refuge Félix Faure, and carried on under the auspices of the French Alpine Club. I lunched at the Refuge, and then persuaded the landlord, an old Chamonix guide, to accompany me up the easy peak of the Pointe de la Réchasse (10,575 ft.). We went up grass interspersed with rock, crossed an easy glacier for 20 min., and then walked along a nearly level ridge to the summit, which we reached in 1 hr. 35 min. from the Refuge. We spent $\frac{1}{2}$ hr. on the top, enjoying the view of the great glaciers of the Vanoise, and then, after a halt for tea at the Refuge, I went down to Pralognan.

The day that Bowen arrived we set to work in earnest. We went up to the Refuge that evening with Jean Amiez, who is one of the best of the local guides. Then we climbed the Pointe de la Glière, the Grande Casse, and the Grande Motte on three consecutive days. We had intended to begin with the Grande Casse, but the weather was very uncertain in the early morning, and we did not get away till 6.40 a.m., when we started for the Pointe de la Glière (11,110 ft.). We went up a moraine and crossed the Glacier de la Grande Casse to the foot of some rock cliffs, which we ascended to the little Glacier de la Glière, which was reached at 8.25. In 1 hr. 10 min. more we were sitting on the top of our peak after an interesting rock scramble.

We returned by the same route, and next day we started at 2.30 a.m. in bright moonlight, skirted a little lake, scrambled up a loose and shifting moraine, and roped at 3.10. We climbed up some very smooth rocks till we could get on to the snow of the glacier. We went up the glacier for some distance, then turned to the left and climbed easy but rotten rocks for some 2 hrs. till we reached the arête. Near the top



*R. C. R. Nevill, photo.

THE SUMMIT OF THE MOUNTAIN

Swan Electric Engraving Co. Ltd.

the ridge steepened and became very narrow ; we found the snow much iced, so that a fair amount of step-cutting was necessary. However at 7.43 A.M. we reached the summit of the Grande Casse (12,668 ft.) and had a magnificent view, which included practically everything between Monte Rosa and the great Dauphiné peaks. We got back to the Refuge at 10.45, and took the opportunity of having an excellent wash in a secluded lake about 10 min. away.

On the following morning we started at 2.5 A.M., walked over the pastures for about $\frac{1}{2}$ hr., and then turned off across slopes of loose stones, which were very unpleasant. During the next 4 hrs. we had a more unpleasant time, for we spent them traversing the S. face of the Grande Casse. This was easy enough, but very laborious ; we crossed gully after gully by rotten ledges and shifting scree till we were heartily sick of walking on the left side of the boot. At last we reached the snow col on the long ridge connecting the Grande Casse with the Grande Motte ; here we roped at 7.44, cut steps up the snow on to the ridge, crossed more stones, and then climbed easy but rotten rocks to the foot of the graceful final snow cone of the Grande Motte. We found it much iced—in fact, the snow on the surface had in parts of the ridge become converted into hard ice—so that we were much delayed by having to cut many steps, and it was not until 10.3 A.M. that we reached the summit of the Grande Motte, having occupied 8 hrs. in the ascent.

We came back nearly to the snow col, where we had roped on the ascent, and then descended straight to the Vallon de la Leisse, first by a series of glissades and then down a long grassy buttress, which was a very pleasant contrast to our laborious ascent. We reached the bottom of the valley at 1.10 P.M., and trudged steadily down it till we could cross the torrent by a snow bridge and remount by a faint track to the Vanoise path. We got back to the Refuge at 3.30 P.M., somewhat tired, but after tea we shouldered our rucksacks and walked down to Pralognan, where we spent two days in placid idleness in beautiful weather.

The next afternoon we sent off our luggage by circuitous routes to Val d'Isère, and went up to the Refuge again, arriving there at 6.45 P.M., just in time for dinner. We were now alone, and next morning, at 6.30 A.M., we turned out into cold clouds, and followed the Vanoise track down to the chalets of Entre Deux Eaux, where we turned up the Valley of the Leisse, one of the wildest glens in the Alps. Three hours or so took us up it to the Col de la Leisse (9,110 ft.), at

its head. On the other side we crossed another col, the Col de Fresse, and descended beautiful pastures to the village of Val d'Isère (6,055 ft.), which we reached at 1.45 p.m. Here we found again a company of Chasseurs Alpains, the French Alpine troops, who had been at Pralognan. They enlivened the little village, and their band played each evening in the street. They were fine, sturdy fellows in a uniform which was loose-fitting, and made more for use than for show. We were informed that they were *en manœuvre*, from June 20 to September 8, and we can certify that their officers kept them well employed, as we frequently met them skirmishing on the mountains.

We stayed at the Hotel Moris, where we were most comfortable. The landlord claims descent from the clan MacMorris, who were exiled from Ireland in the time of Cromwell. The house is full of strange and rambling passages, and a beautiful odour of new-mown hay pervaded my bedroom, which was next door to a loft.

The evening of our arrival we engaged Frédéric Rond, one of the two guides of the place, and started at 2.35 a.m. with him for the ascent of the Grande Sassièrè (12,323 ft.), which we reached at 7.58. We went up by the west buttress, which we found exceedingly easy and extremely monotonous. We spent an hour on the summit, which is on the frontier and commands a fine view down the Italian valley of the Val Grisanche. We went down the S.E. ridge, which was much more interesting, and then turned off down the face, where we had some trouble in finding a way down at all. Some prospecting, however, brought us down at length to a path at 11.15, and we got back to Val d'Isère at 1.35 p.m.

The next day we spent in the valley, where we sat down to dinner with five other Englishmen, who were also exploring this district. On the morrow we set off with Frédéric Rond at 3.10 a.m., and traversed the Tsanteleina (11,830 ft.), which was one of the most enjoyable climbs we had.

We roped at 6.43 a.m., when we reached the Glacier de Quart, on the S. face of the peak, whence some step-cutting brought us at 7.28 to the Col Bobba, on the frontier. Here we found some hard ice, but were soon able to take to the rocks, by which the summit was reached at 8.6 a.m. We spent an hour on the top, which looks straight down a beautiful and little known Italian valley—the Val de Rhêmes. We descended by the W. ridge, which is very seldom climbed, and had some really good rock-climbing of the Cumberland variety before we could get down to the Glacier de Derrière

le Santet. We unroped at the foot of the ice, crossed the low pass of the Col de la Bailledda, had a refreshing swim in a little mountain tarn, and got down to Val d'Isère at 2.45 p.m.

After a day's rest we left our luggage at Val d'Isère, packed a few things into our rucksacks, and departed with them on our backs just after four o'clock on a cloudy morning. We had the pleasure of the company of Bergne and Bartlett, who were also going over into Italy. We followed the road up the valley for $\frac{1}{4}$ hr. till it ceased, and then went up the mule track, which led through a striking but rather gloomy gorge to the green pastures of Prarion, just below the glaciers which form the sources of the Isère. Thence a steep ascent up grass slopes and a moraine brought us to the Galise glacier. A few minutes on the ice took us to the Col de la Galise (9,836 ft.), on the frontier. We left the sacks there, climbed the easy rock peak of the Pointe de la Galise (10,975 ft.) in exactly 45 min., came back to the pass, and descended into Italy down a steep couloir, called the Grand Colouret, filled with crumbling rocks and débris. At the foot of this a little plain and another steep couloir, the Petit Colouret, led down to the pastures.

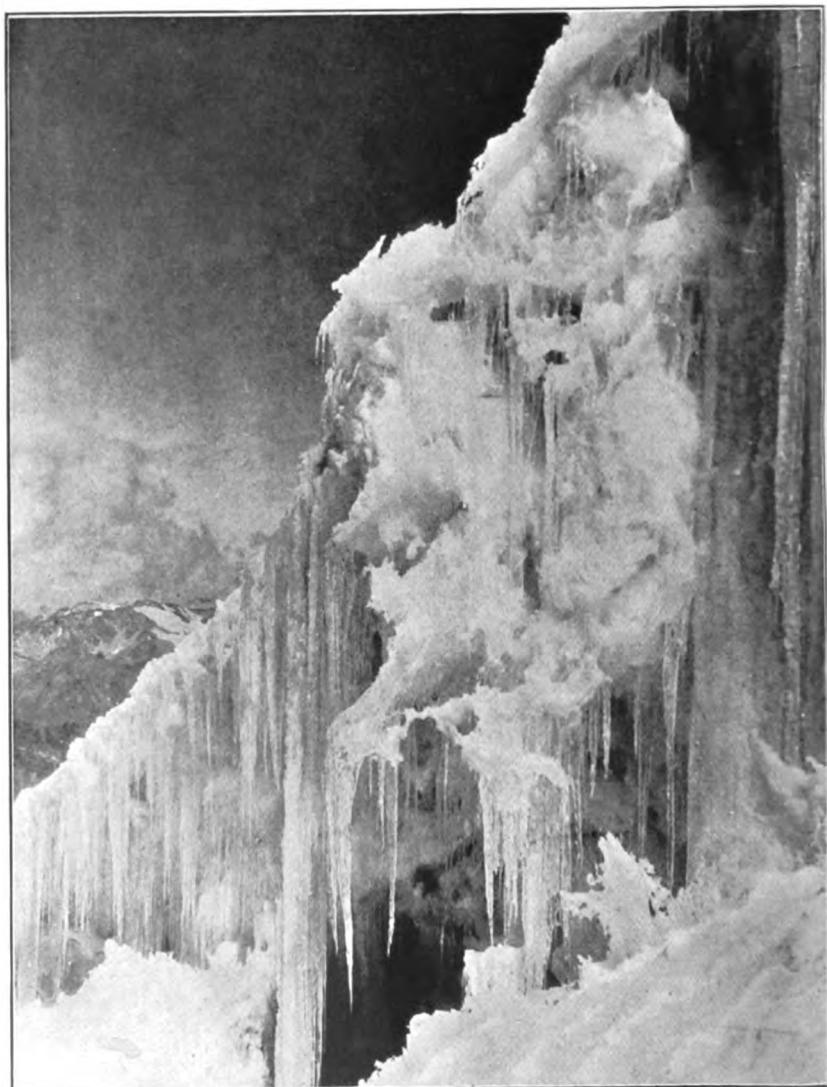
We slid down the couloir, and here we parted company with Bergne and Bartlett, who were bound for Ceresole. They went straight down, while we turned sharp to our left along a goat track, which brought us in 25 min. to some chalets, where we got some milk. We then followed another little track up steep slopes with the hot sun of an Italian noon on our backs, till we reached an upper plateau, through which a stream meandered with its banks gay with the white cotton-grass. Here we had no track and no means of asking the way, but our sense of topography caused us to turn off to the right and cross a low ridge, which brought us in 50 min. from the chalets on to the good mule track of the Col de Nivolet, a few minutes below the pass. We passed two or three lakes, and descended a gently sloping upland plateau for about six miles past one of the King of Italy's hunting lodges, which was a favourite retreat of Victor Emmanuel II., the grandfather of the present Sovereign. On the way we had a fine view of the great peak of the Grivola, and at the end of the plateau, where it suddenly descends to the Val Savaranche, we sat down for $\frac{1}{2}$ hr. at the brink of the crag, and enjoyed one of the finest views in the Alps. Opposite to us was the mass of the Grand Paradis, with its attendant peaks, and the jagged ridge extending thence to the Grivola, while more than 1,000 ft.

below us lay the green pastures of Pont, the little hamlet at the head of the Val Savaranche. In another $\frac{1}{2}$ hr. we had descended the well-engineered path which zigzags down the face of the cliff, and reached the little inn at Pont at 3.43 p.m., nearly 12 hrs. after we had started. It is charmingly situated, and climbers who are not too exacting in their requirements can be quite comfortable there. The only thing that surprised us was that we had the place to ourselves, for the accommodation is good of its kind and the prices are exceedingly reasonable.

Next day we went up to the excellent Victor Emmanuel hut (9,105 ft.) of the Italian Alpine Club. This was my second visit to the hut, for in 1905 I had reached it from Cogne over the Grand Paradis. On that occasion our party had a most improving conversation round the fire in the evening. Our guide discoursed on the horrors of war, with illustrations from his own experiences in Abyssinia; and the porter favoured us with his views on conscription. Then we discussed various subjects, ranging from wireless telegraphy to the methods of elementary education in the Val de Cogne. The woman in charge of the hut next contrasted life in the mountains with life at Aosta, and we all decided that the former was to be preferred. Incidentally we surprised the company considerably by revealing the fact that England contained neither vineyards nor glaciers, and I think they concluded at once that it was a vastly overrated country. But the astonishment was still greater when, after the good lady had remarked that it was the feast of St. Grat, and that therefore there would of course be great doings in England, we had to confess that the patron saint of all the Aostan valleys was unhonoured in our country.

On the present occasion we stayed the night there, made a glacier excursion to the Col de Moncorvé in the morning, and in the afternoon we walked up one ridge of the easy peak of the Tresenta (11,841 ft.), and down another to the Col de Moncorvé again. We spent $\frac{3}{4}$ hr. on the summit enjoying a magnificent view of the Piedmontese plain, with the windings of the Po and the Maritime Alps and the Apennines behind: we could see Turin plainly with the naked eye, and even made out the Superga with its monument.

After another night in the hut we set off just after 4 a.m. and climbed the Grand Paradis (13,924 ft.), the monarch of the Graian Alps, in a cold north wind, which chilled us to the bone and formed icicles in our bottle of cold tea. We made the ascent with a Swiss party, but they were going



R. C. Nevill, photo.

Swan Electric Engraving Co. Ltd.

THE BERGSCHRUND ON THE GRAND PARADIS
in August, 1906.

down the opposite face to Cogne, and so we parted company on the summit, and descended by our two selves. We had cut steps on the way up, but we found it necessary to cut a few more on the way down. The bergschrund was much wider this year than last, and could be crossed in one place only by a steep pillar of ice about 8 ft. high, down which we swarmed carefully one at a time, while small icicles rattled down from our feet into the depths of the great crevasse. After crossing this we moved along steadily, and in 1 hr. from the summit we unroped at the edge of the glacier, and went down the easy rocks, which brought us back to the hut at noon precisely. We went down to Pont, slept the night there, and next day started off down the valley at 4.26 A.M. by lantern light. We turned up one of the royal hunting paths in about 1 hr., and found our way over the easy but interesting glacier pass of the Col de l'Herbetet (10,686 ft.), whence we descended to the head of the Valnontey, and walked down the whole length of this charming valley to the village of Cogne, which was reached at 3.18 P.M.

We found Bergne and Bartlett there, and Bowen spent the next day with them in the ascent of the Grivola (13,022 ft.), which they traversed to Val Savaranche, while he returned to me. I felt no shame in taking a day off after the labours of the last three days, especially as I had been up the Grivola the year before.

Next day was spent by both of us in peaceful idleness, but on the morrow we left at 5.30 A.M. with my old friend Clément Gérard, of Cogne, as guide. We had also to take a porter, as we were bound for the Piantonetto hut with three days' provisions. The hut, which is situated at 9,141 ft. on a grassy shelf at the head of a wild valley, was reached at 2.53 P.M. over the interesting glacier pass of the Col de Monei (11,247 ft.). On the way we saw three bouquetins quite close to us. The King of Italy was at Cogne the week before, and his party shot thirty bouquetins and sixty chamois.

The next day we started at 4.35 A.M. with Clément, leaving the porter behind with instructions to go down to the highest chalets to buy milk and firewood. In 3½ hrs. we were sitting on the top of the Tour du Grand St. Pierre (12,113 ft.), after an interesting climb up the rocks of the S. face. In one place just below the summit we had a curious crawling traverse along a rock ledge, and close by a mass of rocks seemed poised in such a state of unstable equilibrium that we carefully avoided touching them, lest the greater part of the summit should descend suddenly upon us.

We remained on the top for $1\frac{1}{2}$ hr. enjoying a splendid view which extended from Mont Blanc and the Grand Combin right past Monte Rosa to the Bernina group in the far distance. Over a gap in this frontier chain we even descried the Bernese Alps, and could clearly identify the Jungfrau. In the other direction were spread before us all the peaks of the Graians with the great mountains of the Dauphiné behind. We climbed down the rocks of a great couloir, in some danger of falling stones, to the glacier pass of the Col de Teleccio, whence we cut steps down the steep ice of the Glacier de Teleccio right to its foot. This descent was exciting in places—in fact, in most places, as the glacier was in bad condition this year. However, care and caution, combined with the knowledge that even a single slip would be inadvisable, brought us safely down, and we got back to the hut at 12.37 P.M. In the afternoon we basked on the grass in the sun, and after our evening meal, which was rather scanty, as our supply of bread was nearly exhausted, we retired to bed, if a layer of insect-infested straw can be so called.

Next morning we said farewell to the hut at 4.18 A.M., and reached the Roccia Viva glacier over many stones in about an hour. We crossed the glacier and turned up some old snow, whence $\frac{1}{4}$ hr. on easy rocks brought us to the Colle Baretti. Here we took 20 min. rest, and after an easy climb reached the summit of the Roccia Viva (11,976 ft.) at 7.27 A.M.

The top of this peak affords a spectacle which is, I believe, unique, for in a kind of dip at the very summit is a small frozen lake, which is invisible from any other point. In accordance with our usual custom we went down another way, descending the great couloir in the S.E. flank to the Roccia Viva glacier, which we found much crevassed. We unroped at 9.9, scrambled up loose slopes to a pass known as the Bochetta della Losa and down the other side to the spot where a royal hunting-path began. For the next 6 hrs. we tramped along this path, which took us up hill and down dale, crossing spur after spur, and visiting valley after valley. We fortunately procured some milk at some chalets, where we rejoined our porter, who had come by a simpler route and was awaiting our arrival. Finally, after much toil in hot sun, varied by a smart thunder shower, which was quite refreshing, we arrived at the little village of Ceresole Reale at 4.40 P.M., all much exhausted.

We paid off our guide and porter, dined in company with some very noisy Italians, while a heavy thunderstorm was in

progress, and slept in a bed again, which was quite a treat. Next day we saw the sights of Ceresole Reale—the waterfall and the mineral spring, which has converted the picturesque valley into a fashionable Italian watering-place. It is 4,907 ft. above the sea, but we had not been so low for more than three weeks, and we found it hot and enervating there. The weather was *tempo opprimente*, and if we had stayed there long, we should probably have succumbed, and become like the Italian visitors *qui ne bougent pas*, as we were told.

Even when we fled away at 3.38 A.M. next morning a hot wind smote us in the face, and the sacks on our backs felt exceedingly heavy as we toiled up paths through beautiful forest with Bartolomeo Rolando, one of the two guides of the place. We felt revived when we got on to a glacier again, about 7.30. We crossed it, and went up an easy couloir to the S.E. ridge of the Eastern Levanna, which we followed more or less till we reached the summit (11,693 ft.) at 9.38 A.M. The last 10 min. along a narrow rock ridge were quite interesting, and redeemed the monotony of the earlier parts of the ascent. We spent nearly 1 hr. on the top, till we were very cold, for a keen wind was blowing, and then said farewell to Italy and descended the north ridge to the Colle Perduto in $\frac{1}{4}$ hr. Here we roped for the first time that day, made our way down the Glacier des Sources de l'Arc, and followed that stream down to the little village of Bonneval (6,021 ft.), which was reached at 3.49 P.M. by Italian time, or nearly 1 hr. earlier by French time.

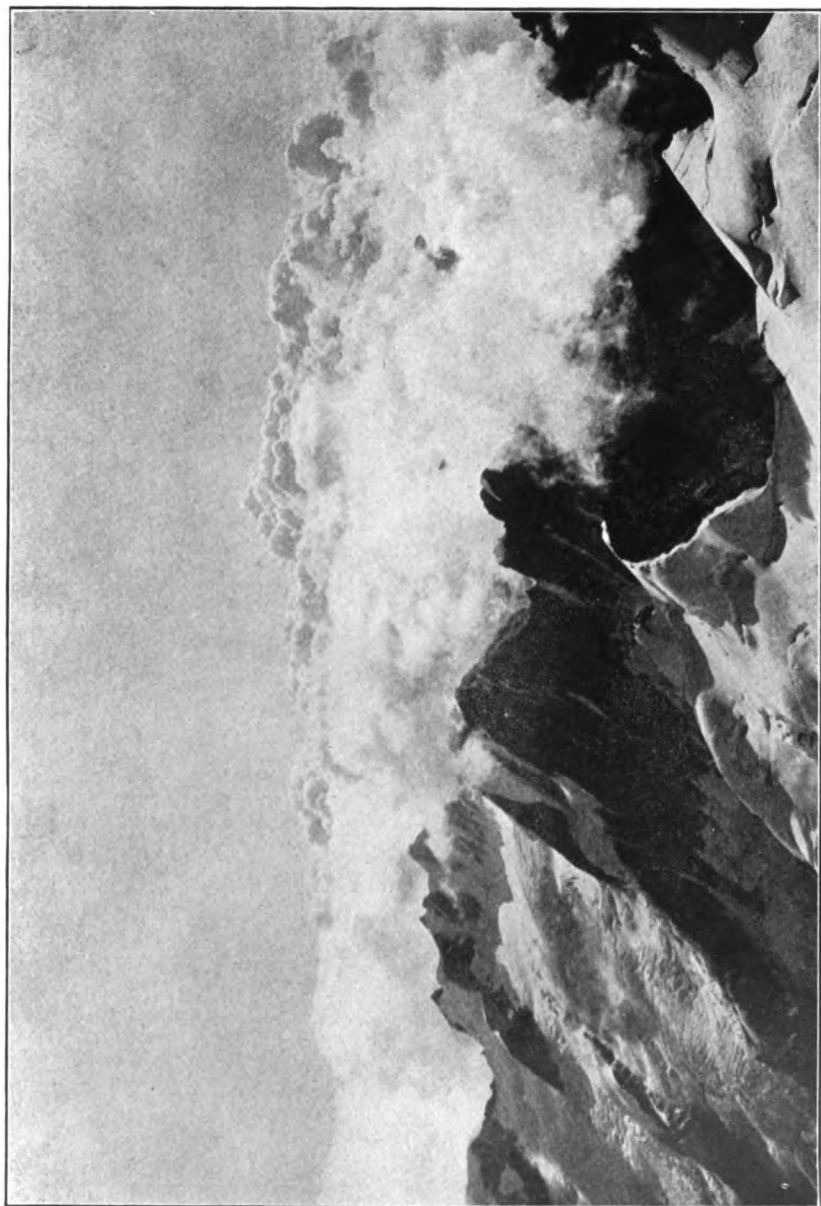
After a day's rest at Bonneval, which is the highest village in the Maurienne, we started at 3.15 A.M. with young Justin Blanc, and walked about 5 miles down the road to Bessans. We left our sacks here, passed two *douaniers* who were sleeping out on camp bedsteads on the watch for smugglers, turned up the Val de Ribon, and went up steep grass slopes and a very tedious moraine till we struck the glacier. We got some step-cutting here, as there was much ice among the snow, and a pretty little rock-climb of about 80 ft. brought us to the summit of the Pointe de Charbonel (12,336 ft.) at 11.8 A.M. We basked in the sun for 1 hr., and then descended by the same route to Bessans at 3.58 P.M.

This is a large village, where the women wear a quaint costume and all ride about on donkeys, not using side saddles. I do not know what is the present fate of the old donkeys, but a very few years ago they were killed, salted down, and eaten in the winter, which lasts for a long time in this valley, where the snow lies on the high road till June. The mural

decorations in the room of the inn where we fed must be seen to be appreciated; they are certainly beyond my powers of description, but I may say that one depicts a railway viaduct in which every brick is carefully and indeed painfully drawn in detail, while another contains a fountain, of which the perspective has gone hopelessly astray. Here we enjoyed an excellent dinner, lit up by a tallow dip stuck into an empty winebottle.

Next day we left our sacks to be forwarded to Bonneval by the diligence, and set forth in a thick ground mist at 4.10 A.M. As we ascended we soon rose above the mist, and had an exceedingly pleasant walk across beautiful rich pastures and a large easy glacier to the S.W. face of the Albaron. Here we had $\frac{3}{4}$ hr. of really interesting work, as we crossed a series of small bergschrunds and worked up a narrow snow arête to the summit (12,015 ft.), which was reached at 9.30 A.M. We stayed there nearly $1\frac{1}{2}$ hr., rejoicing in the view of a beautiful sea of cloud, from which the Italian peaks close by rose like islands in a stormy ocean. Then we followed the easy S.E. ridge and turned down to the great glacier which stretches like a shelf along the N.E. face of the Albaron. We found it very much broken up and had very great trouble in finding a way through the intricate network of crevasses. We jumped several small ones, which had no bridge, but some enormous ones in the same condition necessitated considerable détours. After 2 hrs. of extreme uncertainty as to whether we might not have to climb back to the summit we got off the glacier at 1 P.M. and traversed some steep rocks for a considerable distance, till we could get down the scree to the Col des Evettes, whence a good path led down to the valley. We saw a fine eagle on the way, and reached Bonneval at 4.18 P.M.

Next day we crossed the easy mule pass of the Col d'Iseran (9,085 ft.) to Val d'Isère, where we had left our luggage. The following afternoon we spent 5 hrs. in the diligence, which took us 20 miles down the beautiful Tarentaise to the little town of Bourg St. Maurice. We slept there and took another diligence to Moutiers-Salins, whence the night train conveyed us to Paris *en route* for home.



•R. C. R. Nevill, photo.

THE TOUR DU GRAND ST. PIERRE, &C.
FROM THE GRAND PARADIS.

Swiss Electric Engraving Co. Ltd.

THE ICE-AXE IN TROLDHEIM.

By W. CECIL SLINGSBY.

THE district of Trolldheim—the home of the Trollds—has long been known by English salmon-fishers in Norway to possess high mountains and considerable snowfields and glaciers, though probably the name Trolldheim was unknown to them.

Early travellers in Norway, who almost invariably carried over the Dovrefjeld, and who followed for several miles the course of the merry and foaming river Driva, knew much more of this region than the luxurious deck-tied yachting tourist of to-day; but though Dr. Yngvar Nielsen and a few other mountain enthusiasts traversed its alpine valleys and wrote in high terms of praise about their grandeur and beauty some years ago, it is only quite recently that the tourist world of the neighbouring city of Trondhjem and towns of Christiansund and Molde have recognised that they possess, close at hand, in Trolldheim a romantic and—so far as mountaineering is concerned—almost an unknown land. The outcome of this recognition is the erection of a few tourist huts, some bridges, and the building of ‘varder,’ or cairns, to indicate the routes over the mountains. So far, but few Englishmen have availed themselves of these advantages.

Trolldheim must not be confounded with Jotunheim, the region which possesses the highest mountains in Scandinavia. Indeed, both names are of comparatively recent origin. The Trolldheim, with which alone I have now to deal, is in the northern part of the province of Romsdal, and is a portion of the ancient and historically interesting kingdom of Nordmøre. It lies S.W. from Trondhjem, N. of the Dovrefjeld, N.E. from the tourists’ Romsdal and Eikisdal, and due E. from Christiansund. Reducing its limits still further, it is bounded by the grand valley of Sundal, the picturesque Surendal and the woody Orkedal, whose rivers, the Driva, the Surna, and the Orkla, are well known to many fishermen.

A score of years ago I closely examined the Amt’s kart of this region and then felt the fascination of one corner, some of which had been painted green on the map by my old friend Emanuel Mohn. This colour indicated glaciers, and it was easy to see that within a few miles, as the crow flies, of Sundalsören, or the mouth of the river Driva, and the head of the Sundalsfjord, there existed an extremely interesting and complex glacier tract of country. I corresponded with Dr. Nielsen, who gave me much valuable information and from

whom I gathered that the glaciers were then untouched. I laid my plans and almost went there ; but the claims of the Alps, Arctic Norway, and Söndmöre, and the genial companionship associated with campaigns in those regions and which was not available for Trolldheim, were too powerful to be resisted, and I left Nordmöre alone, with the exception of enjoying, at rare intervals, a distant view of the mountain from Christiansund.

Last year, 1906, my brother-in-law, William Farrer, renewed an invitation to me to pay him a visit to his fishing lodge in Sundal, where he has the lowest and best beat on the river Driva. This invitation, which was extended to a friend, I accepted. My companion, A. H. Ramsay, a Scotch-Canadian Cambridge undergraduate, had also graduated at Zermatt and more or less on Ben Nevis, and was a keen climber.

When steaming up the last reach of the Sundalsfjord late one Sunday evening, and seeing the snows on the heights blushing faintly in the clear June skies, we felt certain that the maps had at least not exaggerated the grandeur of the Sundal mountains.

At the head of the fjord are two most impressive gates of the hills, the gate of Sundal and the gate of Lilledal. The northern gatepost of Sundal, the Hofsnemma, a landmark well known to fishermen when in the open sea 50 miles away, rises shoreless out of deep waters, with huge precipices, and a jagged crest to a height of 5,000 ft. The central gatepost, the giant Kalken, which is common to both valleys, rises to the height of over 6,000 ft. out of a sandbank consisting of sand and pebbles brought down from Snehættan and many another distant mountain during many centuries. The third gatepost is less high, but what it lacks in height it gains in breadth and strength.

The warm English welcome, the dinner in the cosy quarters of Sjöland, and a glance at the river Driva flowing with all too clear water just below the house, have resolved themselves into happy memories which we shall long cherish.

During the next few days Farrer and his fishing companion, W. T. Smith, taught us much about the manner in which the fishing of a great river is conducted, and we were fortunate enough to see some sport. Unfortunately, though the net fishermen on the fjord had an exceptionally good season and sent tons of salmon to England, the river fishers throughout the whole 50 miles of salmon-fishing waters on the Driva had but a poor season last year.

One day Farrer took us into the wild Lilledal.* The precipices of Kalken, which rise to such an enormous height out of this grim cañon, are of a sort rarely seen in this planet. In Norway there are but few real mountain walls over a mile in vertical height; in the Alps there are none. About a couple of miles up the valley, there is an awful crack on the face of Kalken, a chimney nearly 6,000 ft. in height. Fired with the enthusiasm of youth, Ramsay proposed that we should try to climb it. The rest of us were not keen, but sat down instead in bright sunshine watching Ramsay climb up the fan of detritus to the actual foot of the chimney; in fact, he climbed some 30 or 40 ft. above this and then returned. Had we been able to divide the height by 20, it would still have been a remarkable chimney, and could we have reduced that terrible angle by 20 degrees, it would still have been steep and formidable. I only know one other gorge so wild as this, though it is more than 2,000 ft. lower, that on the W. side of Hermandalstind in the Lofotens, down which we thundered rocks into the Arctic Sea.†

I.—*A Vain Attempt to Climb Furuveiten. Ascent of
the Peaks of Hofsnabba.*

I am sorely tempted to let my pen linger over the description of the beauty and general interests of Sundal, as I lingered in the flesh, but must not forget that I sat down to write about mountain climbing, and, what is more, I say at the outset that the mountain sport proved to be first-rate and much exceeded my expectations.

One evening, before fishing time, when the four of us were having a walk, without any warning one of Ramsay's knees went 'click.' It was a tobogganing knee damaged on a toboggan run in Switzerland the previous winter. We all know excellent mountaineers who have 'football knees' which give trouble when climbing. Here, for the first time, I met a toboggan knee. Next, I must expect the 'housemaid's knee' to trouble some climber. Ramsay is a philosopher, and knew there was no more climbing for him that summer, but did not grumble.

* Apparently the name Lilledal is now generally recognised, though only a few years ago Norsemen have called and written of it in prose and verse as Liltaldal, Litldal, and Litledal. To wit, it is what we Yorkshiremen would call a lile dale, the littleness only having reference to its exceptional narrowness.

† *Alpine Journal*, vol. xxii. p. 5.

Farrer, who some years ago did some good climbing which is duly recorded in the pages of the 'Alpine Journal,' had found for me a local guide, by name Johann Sjölsvik Furu, a bright, cheery, strong-limbed young farmer, an excellent rock climber, fond of adventure, and one who does not know what fear is. His climbing for the most part, however, had been for strictly utilitarian purposes, rescuing his own and other farmers' crag-fast sheep from narrow and almost inaccessible ledges on Hofsnébba and elsewhere.

Farrer's boatmen took almost as much interest in Johann's mountaineering equipment as he himself. His boots were soon armed with four-pointed screws and shielded with clinkers. Ramsay lent him his ice-axe and puttees; goggles and a rucksack completed his outfit.

The fishermen quite naturally wished us to climb Kalken first; but it failed to appeal to me, and I could not help feeling that it is a mountain which looks best from below, though I must say that the bird's-eye view of Lilledal from the brink of the mural precipice—over 6,000 ft. in height—cannot fail to be weirdly attractive and uncanny. From the first, however, I felt that the claims of the hidden glacier region on the N. side were irresistible. Hofsnébba screens this mysterious corner of Trolldheim from the dalesmen of Sundal, but for all that it is felt to exist. Moreover, we could see, some 5,000 ft. above the river, the icy tongue of an unknown glacier, which coils serpent-like round the Furu-nébba. Where are the head and the body of which this tiny white serpent is merely the tongue? We must go and see. The tongue heads a terrific gorge deeply cut in the mountain-wall, and in which we see here and there snow patches which suggest an icy staircase to the heights above. This gorge is called Furuveiten or Furugjæl, i.e. the ghyll above the farm Furu.

'Johannes, have you been up that ghyll?'

'Furuveiten? No.'

'Would you like to try to go up?'

'Yes, if you like; but no one has been there, and it is impossible to get through.'

'How do you know?'

'The rocks and snow are too steep. I've looked down into the ghyll from both sides.'

'From there?'

'Yes, from that overhanging rock.'

'Have you been into the ghyll?'

'Only at the bottom; but I can take you up to the gap by two routes.'

Looking up at Hofsnabba from Sjöland it is difficult to realise that its rugged crest is 5,000 ft. above you, so foreshortened is the view. Still more difficult is it to believe that those two hardly distinguishable and roughly parallel marks, running gently and diagonally upwards from right to left, are terraces or ledges which lead to green pasturage some 3,000 ft. above the valley, where sheep are grazing happily and put on flesh daily. From this pasturage there is another terrace, above and below huge rock escarpments, which inclines gently in the contrary direction, viz. from left to right, and so on to the gap at the head of the ghyll. A few hundred feet above the valley there is yet another irregular terrace, two miles long, which sheep use frequently and human beings as little as possible. The lower of the two parallel terraces is called the Kjgvsti or Tyvsti—the Thieves' Path—because in the days of long ago a party of raiders who had looted some of the farms in Sundal escaped by means of this wild ledge to safer regions. In one place on this route the danger from falling stones is very considerable, and there are several places where it is by no means easy to follow and where a slip must not be thought of. The other terrace has no name and is but rarely used. I have traversed all of these terraces and like not one of them. The rock escarpments on this face of the Hofsnabba are grand and clean-cut. Stones, and ice too, may frequently be seen falling over them. It is true, however, that this magnificent rock-face has a strange fascination for all who have traversed and ascended it.

Even on the 68rd parallel, the approximate latitude of Sundal, there is but little difference between day and night in the middle of summer; but still, as there is no sunshine between the hours of 10 p.m. and 2.30 a.m., that intervening time was precious to the salmon-fishers, and a supper at 2 or 2.30 a.m. often proved to be a jolly and a welcome meal. This did not conduce to early breakfasts. But what of that? If fishing in the daytime was a dead letter, that could hardly be said of mountaineering by night, as I will endeavour to prove.

After being provided by my host with a liberal supply of ordinary provisions, crystallised fruits, and other delicacies to last us for two or three days, Johann and I set off on July 5, at 12 noon in broiling sunshine, for the great Furugjæl. Thirsting for adventure, Farrer accompanied us to the first snow. It was a wild place. On the W. side were comparatively easy rocks, but on the E. a rock wall rose out of the snow to a height

of several hundred feet. The coping of this wall rose quickly towards the main mountain mass, and at the same time overhung the ghyll by at least 150 ft. This we could see from the water-drops which fell on the snow. Ahead, the ghyll looked magnificent—a Cumberland ghyll multiplied by 10.

After parting with much regret from Farrer, Johann and I started up the snow, where, for several hundred feet, we made quick progress. Narrower and narrower, steeper and steeper grew the ghyll. Higher and more savage were the rocks on each side as we advanced, but good was our snow highway. Ahead, we saw a high rock pitch where the snow connection failed. An icy tunnel helped us, and a series of rock ledges, very narrow and very steep, took us unexpectedly above the pitch and on to snow once more. Here was the opportunity longed for by Johann—need for the axe. He was very soon initiated into the science of step-cutting, and proved to be an apt and a willing pupil. The ghyll divided into two—the eastern arm was apparently a *cul de sac*; the other narrowed to small dimensions, and the snow probably hid many rock pitches. We had plenty of fun, and of real hard work too. We swarmed up steep edges, cut our way down into holes and out again on the other side. We needed care to avoid falling through the snow roof into water-formed tunnels below us. It was most enjoyable. There was hardly a trace of falling stones; but it would never be safe to ascend a place like this in the Alps.

For a long time we had seen ahead of us a high rock pitch, from the top of which, as is so often the case in Norway, and notably in that terrible central gully between E. and W. Rulten in Lofoten, there arose a vertical wall of snow, the termination of an exceptionally steep and deep snow slope. Johann was sure that we were beaten; but though I did not like the look of things, I thought there was a remote possibility of climbing the rocks on the left hand to a crevice between the rock wall above the pitch and the snow slope, a gap formed by melting and shrinkage of the snow. The ghyll here reminded me of the Sham Rock gully on the Pillar Rock above the bridge, but was broader and steeper. We climbed fairly easily up to a wide crack in the pitch, on the top of which was a large chock stone which formed the usual cave. Here was a wall, some 16 ft. high, fortunately dry, from the top of which a little ledge apparently led behind the chock stone to the crevice above. The middle part of the wall bulged outwards a few inches beyond the lower portion. There was one poor foothold about 7 ft. from the bottom, but

no handholds for some 12 ft. Johann had no faith in success here, but, like his Viking ancestors, was ready to try anything.

We built a more or less insecure platform, about 2 ft. high, on sloping scree. I got on to the perch. Then Johann, with many apologies, stood in turn on my knee, my shoulder, and lastly on my well-capped head. He could nicely reach the wall of the crack behind him with one foot, but did not like the sort of locomotion which was suggested by that manœuvre, so turned his attention to the more legitimate form of wall-face climbing. The one foothold was outwards. He reached it, and I held him in by my axe. For the next few feet his elbows did him good service, and after some brilliant and careful climbing he reached the crevice. Here, as luck would have it, he found an excellent hitch, and thus secured our safe retreat in case of need. Now came my turn. How I wished that I was a gymnast! How I mentally reproached myself for not having turned an all too great amount of adipose into muscular tissue! Well, there was the work before me, and it must be done. The first 6 or 8 ft. were the worst, then I managed to stride across the crack, and wished for longer legs. Still, I made several feet in this manner, and all the time Johann was pulling like a derrick crane, and I got up. Other mountaineers have been in similar places before and will again, and they generally succeed in their task, little though they may have enjoyed it at the time. I must confess, however, that Johann and I felt mightily proud of ourselves, as it certainly was difficult and my companion had never before climbed such a place.

We were now in the crevice between the rock and the snow wall. After roping together, Johann cut up this wall, and we found ourselves on hard snow, the steepness of which rivals that of the upper portion of the snow gullies on the N. face of Ben Nevis. Though Johann had never been in so nerve-trying a place before, he went excellently, and, at my suggestion, made large steps. Now and then we made holes for safe anchorage, and only one moved at a time. We scored several hundred feet in this manner, and noticed that the ghyll was widening out—a hopeful sign. Then we arrived at a broad cross-road, so to speak. In the main ghyll was a waterfall ahead, only some 30 ft. high, but with unclimbable rocks on each side. Above the fall the snow continued, as far as we could see, very steep; but still no steeper than where we had been. There was a long lateral tongue of snow which went to a point as high as the top of the waterfall. Could a traverse be made from that point to the

upper snow slope? We cut our way up the snow tongue. Neither of us liked the look of it. A huge crag of the Furunebba rose, without making any apologies for so doing, straight out of what we had faintly imagined might be a feasible and flat traverse. It was my first day out, and possibly I might have looked more kindly upon the place a few days later; but it is true enough that I was very glad when Johann told me he did not like the place. 'Like,' did I say? I hated it. We examined an intermediate alternative: bosses of rock, loose and friable. We believed this route to be possible; we were sure that it was dangerous. Of course we turned tail, descended the snow tongue with careful anchorages, and re-examined the waterfall. Without water we could have climbed it, and so have ascended the whole of this mighty ghyll. It is quite within the limits of probability too, that in its then state we might have forced our way up, though the stream coming down seemed formidable. We were cold enough as it was, and more or less tired, and, though the weather was superb, we had been out of the sun for hours.

On the W. side of the ghyll a comparatively easy traverse to a sunny grass slope lured us to abandon our enterprise and to take our ease. It was then 4.15, and we had climbed some 3,500 ft. in the grandest ghyll it has ever been my good fortune to enter, but it was hard luck to suffer defeat and to be beaten by so small a foe.

We soon reached the grass slopes, and Johann recognised the place, having once found some sheep there on some shepherding search. After a hearty meal, we traversed nearly the whole face of Hofsnebbas along ledges broad and narrow. As rest was of greater importance to me than time, I tried to get to sleep for nearly an hour, and would have done so but for a few most persistent and really impertinent flies.

A second traverse, a good mile in length, brought us to the brink of the ghyll once more, where we saw above the waterfall the steep snow which should have been our highway either to the serpent glacier tongue issuing out of the Vinnubræ, or to the gap between Hofsnebbas and Furunebba, a pass which, for want of a better name, may be designated 'Faar Skaret'—the sheep's pass—as, oddly enough, the mountain sheep cross this pass over to Sandvikdal north.

At 8.30 we reached the latter pass, and, though the view was very wild, the grand mass of the Vinnufjeld blocked out the large glacier region, the representation of which on the map had so keenly interested me.



W. C. Stingsby, photo.

HOFSNÆBBA FROM THE VINNUFJELD.

Swan Electric Engineering Co. Ltd.

However, we had no cause to grumble, as the peaks of the Hofsnébba, close at hand, were infinitely grander than we had expected to find them. They rose out of the snows of Sandvikdal with magnificent precipices to a jagged crest and several distinct peaklets. That which in our ignorance we took to be the highest overhung on two sides, and, of course, invited a close investigation.

No weariness now on my part, nor yet idleness. There was something to win, and well worth the winning too.

Off we went, up steep snow, then along a merry and a narrow rock ridge of the sort beloved by so many of us. Yes, the top overhung; but was there not a romantic winding staircase up it, like that on the highest peak of the Aiguilles Rouges d'Arolla? Of course there was. But there was something else, too—a higher peak a little further on. We erected a cairn on our first new peak, and set off once again. This time the climb was eminently sensational, the precipices on both sides and at the back being very grand. The holds were excellent, and we soon stood on an ideal rock summit, very small, consisting of two slabs of rock standing end upwards, like several of the tops of the Fusshörner, near Belalp. We were now on the top peak—not, however, the highest peak of the Hofsnébba, as we had fondly imagined, but only on the top of the eastern group of the range. We made our second cairn, and then enjoyed to the full the glorious view of fjord and fjeld. The snows of the Eikisdal mountains glistened in sunshine, though it was 10.5 when we reached the summit. Sundal and the river Driva, the music of whose blue waters, over 5,000 ft. below us, was distinctly heard, fascinated us. Sjöland and its green meadows, little more than a stone's-throw away, yet nearly a mile of vertical height below us, seemed the very embodiment of peace and content. Johann pointed out his own house and farm with pardonable pride.

On the W., or further side of our peak, there was a square-cut precipice rising out of a steeply inclined rock slab, which ended in a high rock escarpment. This rock slab also was continued to the top of the main ridge beyond. It was covered with thin, hard snow in a very dangerous condition. We could have got on to it; indeed, we climbed down to a gap a few feet above it, and Johann proposed that we should try to pass this Rubicon. I examined it most carefully, and had we been a party of three men, as of course we ought to have been, and had we possessed a long spare rope, instead of being only two in company with one rope which, though

80 ft. in length, was all too short for the purpose, we would have gone on, and would have won too. In our case the risk was too great to be incurred, so we turned back to the Faar Skar.

At 10.40 we watched the sun set, and the scene reminded me of midnight mountaineering near Lyngenfjord, in the Arctic Circle. Shall I describe the view? No; not I. Go and see it yourself.

How we romped along the ridge and glissaded helter-skelter down the snow to the pass! How we ran along the ledges on the highest sheep's traverse! How I slackened my pace when we came to the steep snows! And how we cheered when, after a little exciting rock climb, we found ourselves on the main ridge once more, nearly 3 hrs. after leaving that lovely peak, now above, but behind, us! Ah! it was indeed a jolly climb.

After making a new ascent on one of the western, and slightly higher, series, we see a two-headed peak close to us. One of the two heads is undoubtedly the highest of the range. Which is it? We cut across a hard frozen snow gully; very steep it is, but Johann is quite at home now, and is proud of his work and of his axe too. Whilst making the traverse we see the sun rise, and greet it with uncovered heads. It is 2.20 A.M. The final climb is good and interesting; but, alas! we note that its jagged summit has already been desecrated by human hands. We are, at any rate, saved the necessity of making ourselves into stonemasons. We reach the top at 2.50—a grand point of view—and we can readily understand its being the great landmark to seamen off the coast near Christiansund.

After a few minutes we left for lower regions, and at first followed a grand northern ridge. Then Johann turned down some steep snow to a small glacier, and we went on merrily. The first 3,000 of the 5,000 ft. was very enjoyable; but when we reached the tree zone it was another matter. Much practice in descending steep hill-sides, where trees, beaten down by winter snows, grow out horizontally from the mountain-side, does not tend to make one like such places, but rather the reverse; and I fear that my friend Johann must have thought me to be—at least a grumbler. He told me that he could take me by the squirrel-like process of locomotion, which was necessary, down to Sundalsören itself. Then it was about 1,500 ft. below us. I sat down, wiped the sweat off my brow, pulled the moss and lichen from my neck and arms, and then counted the fishing-boats being rowed out to the estuary. I

questioned Johann, and found that there was a cleaner, or a less brushwoody, sheep route, which would take us longer, but might be less tiring.

Off we started, and soon reached this terrace. Up and down, round crags, under and over them, now ducking under a hazel branch, now stepping over a bramble. A mile and a half of this, and after descending a stone shoot worthy of Tofana or Popena, we reached the green meadows, and lastly the haven of Sjöland, which we entered at 8 A.M., or exactly 20 hrs. after leaving it. Fortunately, we found the maids in the kitchen.

Who shall say which was the most delightful restorative—the bottle of delicious beer the moment of my arrival, the tea and toast a few minutes later, or the cosy bed? I, for one, cannot decide; but I do know that I cherish very happy memories of all the three, as well as of the hearty welcome given to me when I came down to a late lunch.

What a jolly, idle day we had! Were there not fishing and shooting yarns galore? Were there not also mountaineers' tales told too? Did not the two boatmen—who, by the way, speak excellent English—add many a tale of adventure connected with Sundal, of bears, of reindeer, of avalanches, of storms? Of course, all contributed to the fun and jollity. Meanwhile, where was Johann? Hard at work, haymaking in his best meadow—and making it when the sun shone, too!

II.—*Ascent of Dronningen's Krone and Passage of Sandvikbræen's Skar to Indredal.*

The grand day on Hofsnabba whetted our appetite for more mountain adventure, and I determined to get to the real glacier region, so near as the crow flies, but yet so far off in point of time. Johann suggested that we should take the Tyvsti ledge and Faar Skar route over to the upper Sandvikdal. For me, the memory of the grilling, stewing, and roasting which had been my fate so recently when traversing and re-traversing the face of Hofsnabba was much too real and fresh to require so soon a repetition of the process. No, the natural course undoubtedly was by boat to Sandvik, a night at a sæter, and a fair start up the valley in the dewy morning, aiming straight for a glacier pass which Ramsay and I had noticed from the deck of the steamer which took us to Sundal.

Johann agreed that this plan was good, so that all that was needed now was to put it into effect. After waiting for letters, we stepped into our boat at Sundalsören at 9.30 on

Monday evening, July 9; and during the half-hour's row to Sandvik we passed eight salmon nets, some where streams entered the fjord, others where, failing the white water foam, rocks on the shore had been painted white to deceive the unwary salmon into the belief that they had already reached the mouth of the Driva. A couple of days later we counted thirteen nets during an hour's row. Needless to say, this does not help the rod-fishers on the river.

The walk up the cattle-path to Øvresæter was very lovely. We found a woman in charge of ten cows. A board which just held Johann and me, and a sheepskin, were placed at our service, but in vain we tried to woo sleep. About 2 a.m. we were disturbed. It appeared that at a lower sæter a cow had got one foot jammed fast between two rocks and could not extricate itself. Word had been sent to the owner many miles away. He came with a strong lad and a girl, and with considerable difficulty to themselves and damage to the cow they had liberated it, bound up the lacerated foot, and then had come up to the higher sæter for coffee and much talk. When they left, we got up and had coffee, but went to our board once more.

At 7 o'clock we bade adieu to our hostess, and in an hour and a half stepped upon the snows which led us imperceptibly to the Sandvikbræ, the glacier which we had seen from the fjord. The snow was in excellent order, and as it was fairly steep we made height rapidly and easily. On the S. side there was a grand castellated ridge which, if followed conscientiously, would prove to be a very sporting rock climb. I had noticed the other side of this ridge in the distance from the Faar Skar a few days before.

At 11.55 we crossed the bergschrund to a belt of rocks, only some 40 yards in width, which forms the top of the pass and separates the Sandvikbræ from a portion of the eastern glacier system called the Grasdalsbræ. An arm of the latter glacier in reality overlaps the pass and runs up to the top of the peak for which we were making. This we reached at 12.30. It is marked 5,626 Norsk feet on the map. This is equivalent to some 5,800 English feet. Finding no cairns on the top we concluded that we had made the first ascent. As apparently there was no distinctive name* to this really fine mountain, we called it Dronningen's Krone—the

* In the *Nor. Tur. For. Aarbog* for 1880, p. 58, the peak is spoken of as 'Sandvikshoug, sydlige top' (a family name). This, of course, is indefinite, and wholly unsuitable.



W. C. Slingsby, photo.

Swan Electric Engraving Co. Ltd.

DRONNINGEN'S KRONE AND SUNDAL'S FJORD

Queen's crown—in partial recognition of the recent coronation at Trondhjem. A beautiful dome of pure glistening snow crystals on the very summit suggested the name to us.

The glacier land of Trolldheim, the Grasdalsbræ and its several icy tributaries, lay outspread before, or rather below, us like a map, and its grandeur much exceeded my expectations. The ice scenery was as wild and savagely crevassed on the eastern side of our mountain as it was tame, or of an ordinary type, on the W. or Sandvikdal side. Down and across a tempestuous sea of ice rose up in savage precipices to an aiguille-like crest the mountain Trolla, the grandest and almost the highest rock peak in Trolldheim.* On the S. was a fine massive snow-capped mountain, the Vinnufjeld, from whose mighty shoulders streamed icefalls of the Grasdalsbræ. As it was higher than our peak, it hid the Vinnubræ from our view. This latter glacier flows S. and terminates not far from the brink of an enormous mural precipice which walls in several miles of Sundal on the N. side. I determined to explore the latter as soon as I could. Just below us, on the S., there were grand precipices and a fine amphitheatre bounded on one side by our friend the Hofsnebbæ. The views of the Eikisdal mountains and of the blue fjords were very fine.

Our intended destination was the little mountain inn at Indredal, and the important question was, how to get through a cornice on to the Grasdalsbræ and, when on the latter, how to steer a course through two icefalls and a maze of crevasses. Fortunately, we enjoyed almost a bird's-eye view of the glacier, and past experience on many similar places came in useful. There was, it was clear, one line—an easy one too, but intricate—which I could follow with my glass to within a few hundred feet of the valley, and which, if strictly adhered to, would lead us very pleasantly amidst grand surroundings to the valley below.

After a delightful half-hour on the top, we set off quickly down the snow tongue to the pass. The cornice was uninviting and dangerous, so we went a little further N., where we found a steep narrow snow gully, out of which we noticed a lane of snow leading through a rock portal on to the glacier. As the gully apparently terminated on the brink of a rock escarpment it was clear that care was needed. The snow was

* Though I had a camera with me, I omitted to take a photograph of Trolla until clouds came and robbed me of a view which would have surprised many persons. The mountain was, I am told, ascended a few years ago.

excellent, and we soon cleared the gully, but had to traverse a concave surface of glacier which led down to an avalanche dust-shoot, the bin of which was a deep glacier hollow many hundreds of feet below us. Care was needed here too.

Now came the real fun, following the zigzag route which we had planned on the heights above. All went well. Johann, who had never been on a well-crevassed glacier before, enjoyed himself immensely. It was the real thing, considerably better than the average glacier work one encounters on a mountain ascent in the Alps. Late in the summer this pass may prove to be exceptionally difficult. Now, on the other hand, we probably had the very best summer conditions, and we ran along over crisp snow, glissaded 400 or 500 ft., and left the glacier at 2.25, or in 1 hr. and 25 min. from the top.

More glissading on old snow lanes helped us merrily down to Grasdal, where we soon reached the haunts of the wheatear, dipper, and sandpiper, well-known friends on our Yorkshire fells.

A mountain path through Grasdal under Trolldal leads to Sundal through grand scenery. This is but little used, though some day its grandeur will be fully recognised, as by it the tourist gets into close touch with the ice world. A path through the parallel valley, Giklingdal, E., though not quite so grand, is rather better known.

How we chatted with the men who had just arrived at the sæter; how we planned other glacier passes; how we found and lost, and found over and over again, our way through the forest on a so-called path; how we descended hundreds of feet, well knowing that we should have to make up our loss of height; how we marvelled at the colossal mountain ruin which in olden time has blocked up the valley and formed a lovely lake; how tired I felt when following the steep road up to Indredalsvand; and what a hearty welcome we received in the little subsidised mountain inn! These and many other such details can easily be imagined.

It rained all night. It was rain, rain, rain, in the morning. New snow covered the symmetrical Daltaarn, a high pyramid of a mountain, which has a strange fascination for many people, but which I fail to appreciate. Clearly our second little campaign amongst the mountains, full of enjoyable incidents so far, must be ended.

Though I am sorely tempted to scribble about Indredal, I will resist the temptation.

We walked, we drove in a carriole, a stalwart farmer sitting

on the shafts, through fine scenery and fertile lands to Opdøl. What a lovely view from the windows of that charming inn! An hour's row, a short walk, and then an excellent English dinner at Sjöland.

Fish and glaciers. Surely no other topics for conversation were needed for that evening, at any rate.

III.—*Ascent of the Vinnufjeld.*

The day after my return from Indredal, Farrer organised a fishing expedition on the fjord, where we spent a most enjoyable and idle day. However, good weather had returned, and I felt an irresistible call to the mountains again. My host repeated his suggestion that I should climb Kalken, whose gaunt 6,000-ft. precipices rose up so grandly in front of us. The smallness of its two glaciers was my principal reason for declining to visit it, though the only reason why they are so small is owing to the fact that the narrowness and steepness of the range allow of no large gathering-ground for the snow nor for any large hollows.

No! I must climb the Vinnufjeld and descend the whole length of the Vinnubræ, if possible. Both were out of sight except for the tiny serpent glacier tongue which headed the Furugjæl. There is an air of mystery and romance about the Vinnufjeld and its great snowfields, whilst the loftier Kalken, proud in its strength, conceals nothing.

Johann and the gillie Lars were consulted, and each of them was apparently determined that I should ascend by the Tyvsti, or Thieves' Path. With becoming modesty I expressed a doubt as to my eligibility. Still, Lars pointed out one place where stones fell down very frequently over a huge crag directly on to this remarkable terrace, and so made it very dangerous. Indeed, we frequently saw this happening. Lars indicated a way of avoiding this danger by following a remarkable ledge—a mere pencil line it seemed from below—which runs round the face of a crag and connects the low sheep terrace with a place on the Tyvsti beyond the point of danger. Lars had discovered this, and Johann had once descended it. No one else had traversed it. In honour of the discoverer we named it Larsstien.

On July 13 Johann and I set off at 6.15 A.M., and in a few minutes were climbing through the brushwood which brought us to the lower sheep terrace. My guide then led me up and over huge bosses of glacier-polished rock which took us to the base of a perpendicular crag. Here the ledge began, broad at

first, then it narrowed; and as it narrowed, the rocks below became more and more precipitous, until they were nearly as square cut as those above. The ledge meanwhile was ascending. At first I enjoyed it immensely, then the ledge developed into a groove chiselled by Nature out of the rock, and we were forced to resort to creeping locomotion. Our rucksacks were in the way, and great care was necessary. Still, all seemed right until I saw Johann stop. He stopped because the ledge stopped. There was a gap of about three yards, and then the ledge apparently went on as before. Yes, only three yards. No jumping here. No way of turning it either. The rock above us overhung. Below us was a horrid ice-polished precipice. Yes, there was indeed one foothold half a yard down and half-way across; but though it did exist, it was very small. There was no real handhold, but only a sort of elbowhold, and to me the place looked horrible. Johann never flinched, but, holding on carefully with one elbow, he slowly lowered one leg into the gap and then the other, until one foot reached the wee foothold. Then he straightened himself up, leant over towards the further side of the gap, got an elbowhold, then a handhold, but where I could not see, and worming himself up to the ledge he crawled forward.

I told him to stop. He did so, but he could not look round. A rope would have been of no service here.

I said little, but thought much, and somehow I got across one of the nastiest bits of rock I have ever tackled.

The ledge soon became broader and we were able to walk. Then we came to a gully polished like an old maid's copper kettle. This we had to cross, and I liked it almost as little as I liked the gap. Johann, on the contrary, seemed quite at home. This over, we got to good ground.

The whole ledge was but little more than 150 yards in length, but it was highly sensational the whole distance, and of a type which is rarely met with even in Norway, where gneiss rock lends itself to square-cut crags and ledges. On the aiguilles of Mont Blanc one finds delightfully narrow and sensational ledges, and still more so in the Dolomites; but I have never come across a groove cut in the face of a mountain wall except in Norway.* Now we were on the Thieves' Path, above the place of danger, but for my part I think it infinitely safer to run the gauntlet of a possible stone-fall on the path than to follow the Larstti.

* See the illustration on p. 300, in 'Norway, the Northern Playground.'

We reached the top of the Tyvsti at 9.15 and the Faar Skar at 12.5. From the latter we climbed an easy ridge, having on our right hand, far below us, the steep snow of the Furugjæl. This ridge led us up to the serpent glacier tongue which had lured us forward, though in vain, on our first expedition.

At 1.25 we reached the top of the gap between Furunebba and an outlier of the Vinnufjeld—a glacier pass which, being also the very top of the Furugjæl, we named the Furugjæl Skar.

Here we took a well-earned half-hour's rest before embarking upon the snowy billows of the Vinnubræ. This great glacier flows from the massive heights of the Vinnufjeld, with grand undulations, steeply down to a great basin which has two outlets, the main stream flowing almost due S. nearly to the verge of the huge Vinnu precipice, the smaller one going E. to the Grasdals Pass and almost to the foot of the mountain Trolla.

Our way was clear and easy enough, though later in the summer the case would be very different. We roped, and sped merrily over capital snow, having on our left the outlier of the Vinnufjeld. We crossed a bergschrund by a strong snow bridge, and climbed a steep snow slope up to a large glacier plateau, probably 100 acres in extent, the actual summit of Vinnufjeld, which we reached at 3.40.

The last snow slope made me realise that an ascent of a 6,000-ft. mountain from sea-level is—what shall I say?—well, it is 6,000 ft.!

We walked to the northern edge of this plateau and, looking over its precipices, saw the whole glacier system of Grasdal, and very grand it looked too. We noticed in the distance our footmarks of a few days ago. Then we went to rocks on the N.W., the W., and the S.W., where, not finding any cairns, we built a few. The precipices on three sides were grand, the view magnificent. Old Snehættan, 50 miles away and apparently smothered in snow, glistened in bright sunshine.

We stopped an hour on this grand snow-girt mountain, and then raced famously down perfect snow. All was straight-forward, most of the crevasses being still sealed up with their winter snow covering. In 50 min. from the top we sat down on an old lateral moraine, near the snout of the glacier, where we unroped.

The tongue of this fine glacier terminates not very far away from the brink of one of the grandest rock walls in Norway—

a true mural precipice, unclimbable for miles, which must be some 2,000 ft. in height. Now and then the glacier advances, and tons of ice come thundering down to the valley below. But though the Vinnubræ is larger and generally steeper than the Glacier de Giétroz, its powers of destruction are much less. The snout of the Vinnubræ has room to expand laterally, and there is little fear of any really large glacier fall taking place, as for some distance its bed is not steeply inclined, as is the case in the Glacier de Giétroz. The Norse valley is broad; the Val de Bagnes, above Mauvoisin, in which is the Giétroz Glacier, is a mere gorge. There is no steep and polished rock shoot, beautifully arranged by Nature for evil-disposed glaciers to slide down, below the Vinnubræ, as is the case with the Bies Glacier or the Altels in Switzerland. The Vinnubræ has done, and will do, its work slowly and not cause much damage, even by air-blasts. It is a most interesting place, both above and below, and there are plenty of traces of mischief to be seen. Ordinary avalanches of destruction are, however, only too common in many other places in Sundal.

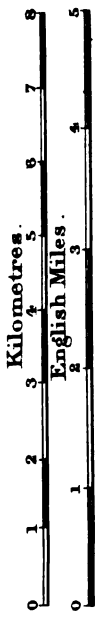
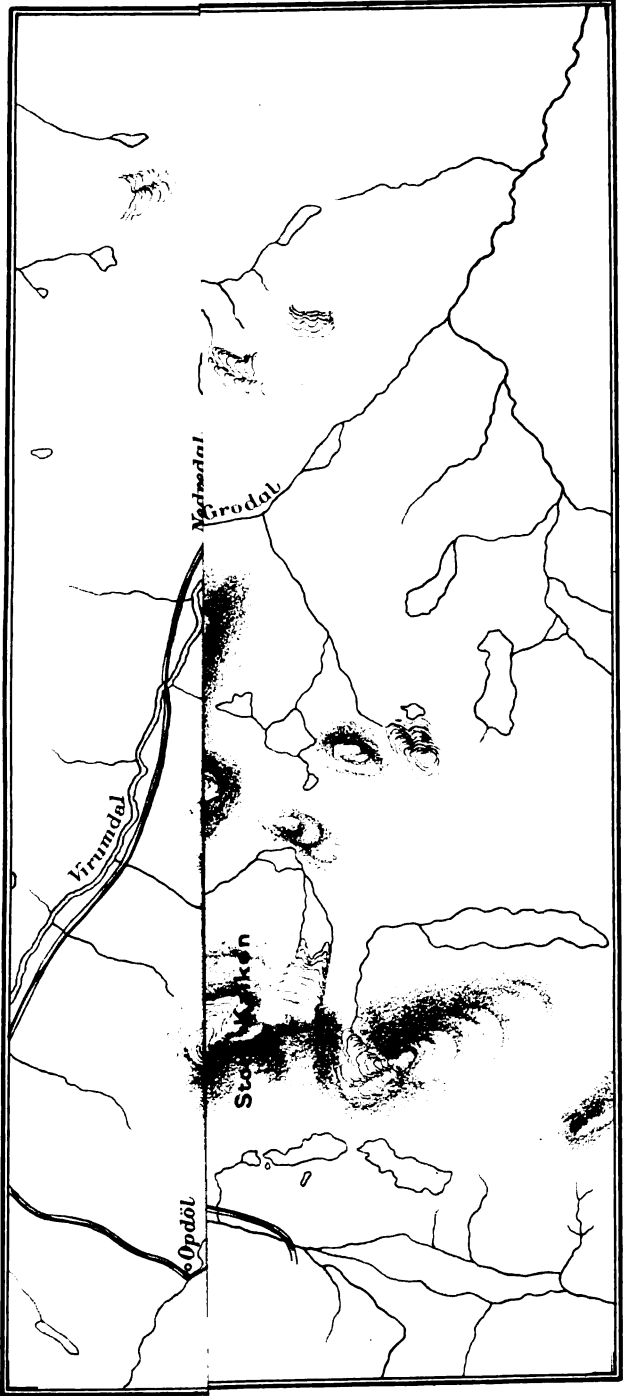
As without a parachute we could not reach the valley direct, we turned eastwards, crossed a more or less grassy spur, and glissaded madly down to a frozen tarn. Then we looked up a gruesome *cul de sac* headed by Trolla, and descended a steep and rough path under Hoasnebbæ, feasting on wild strawberries part of the way, and reached the farm Hoas at 8.30. From here we drove down the beautiful valley, and reached Sjöland at 10.20.

This was the last expedition which I made in Trolldheim, and I was as much delighted with it as I had been with the others. I intended to have climbed Trolla from Indredal, but was prevented from doing this by wet weather. It can equally well be ascended from Hoas.

It is quite certain that Trolldheim offers great attractions to the tourist who loves to go quite out of beaten tracks. Much detailed mountain exploration still remains to be undertaken there, in which the spice of adventure, so dearly loved by us all, will certainly appear.

Lastly, I cannot speak too highly of my guide and friend, Johann Sjölsvik Furu, who was invariably cheerful and obliging, full of pluck and energy, an excellent climber, and in every respect a delightful mountain comrade, of whom I have thought but pleasant recollections.

drawn by
ERIC GREENWOOD,
after the Amtskart and other maps.



AN ASCENT OF THE CENTRAL PEAK OF THE BOUQUETINS
(8,848 M.) FROM THE WEST.

By R. L. G. IRVING.

THE small expedition I propose to describe has no claim to novelty, for in Mr. Larden's admirable guide to Arolla at least one descent by what appears to be the same route is recorded. But as the notice is only a brief one, it is possible there may still be a good number of visitors to the locality who would be glad to know that the Bouquetins may be ascended in a single day from the Mont Collon Hotel.

Very soon after coming out from England in 1905 our party had visited the E. side of the Bouquetins, by which the ascent is usually made. The previous day had been spent in ascending the Za *via* the North Col de Bertol. We had not left Arolla till 9 A.M., and in our untrained condition found the traverse over soft fresh snow very fatiguing. Moreover, the Bertol hut, where we spent the night, was crowded, and a very moderate night's rest left us decidedly unfit for anything at all arduous next day. Two members of our quartette had had very little experience on steep slopes, and when we saw that to reach the glacier that hangs on the E. face of the Bouquetins it was necessary to mount a short ice-wall masked by already melting snow, we very quickly decided to leave it alone, and reached Arolla quietly by the Col des Bouquetins and the N. Col de Mont Brûlé.

The weather during the last week of August was very bad. Three of us managed to get in a traverse of the Perroc and Grande Dent de Veisivi on a thoroughly wet, misty day, and I venture to recommend this expedition to anyone who enjoys a climb on good rocks without any very sensational passages. Fortunately ice did not trouble us at all, and the whole round, including halts and a slight aberration from the right way just before reaching the Grande Dent, occupied just under twelve hours. Two or three hopeless days followed, and the only final chance of avenging our former defeat by the Bouquetins lay in ascending it on our way over to Italy by the Col de Collon. Accordingly it was arranged that I should start with another enthusiast of our party, Mr. E. Mallory, about four o'clock, and attempt to ascend the peak on the W. side, and descend by the same route, so as to meet the rest of the party on the Upper Arolla glacier, as soon after 1 P.M. as possible.

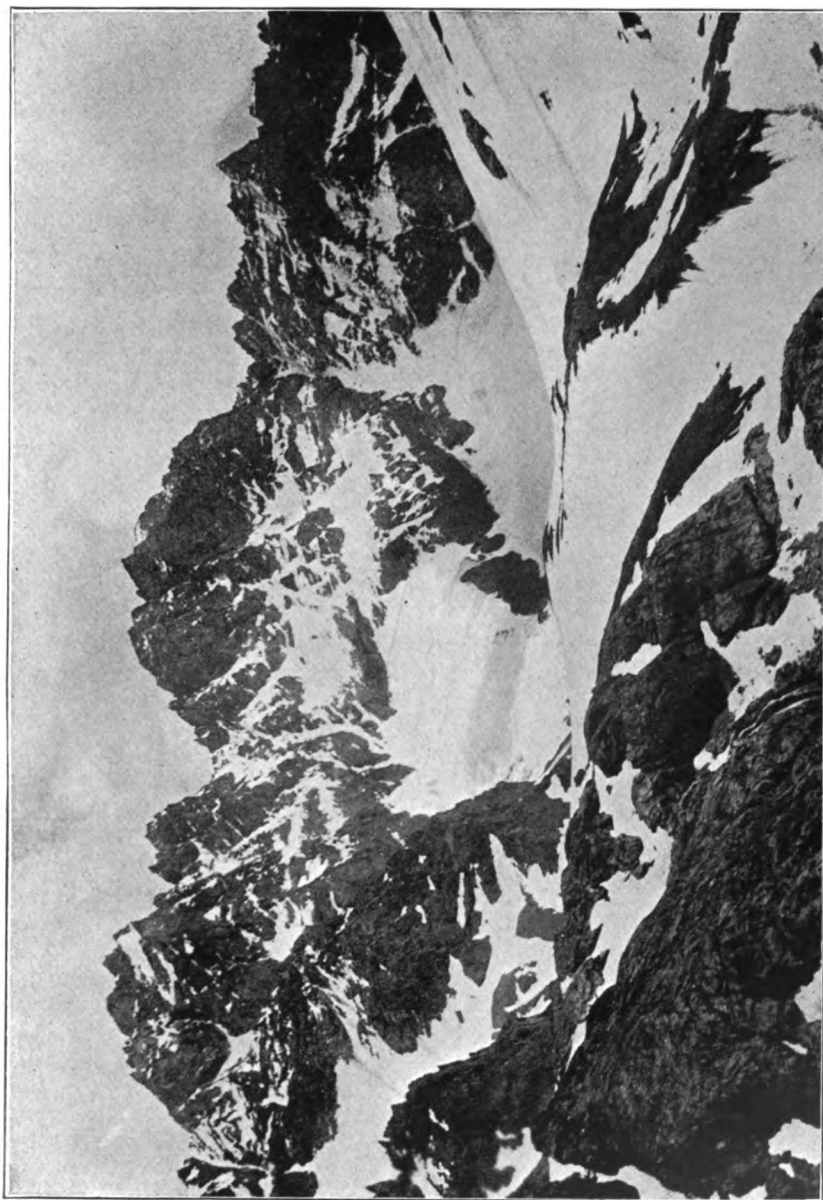
The morning promised splendid weather, and not a cloud was to be seen when we reached the right moraine of the

Glacier des Bouquetins. A cold wind blew from the north-west and froze the grit and boulders into a solid mass, rendering this bit of the ascent less toilsome than usual. After halting for breakfast (7.30-8.0) we got without any difficulty on to the steep little glacier. The problem of finding a way up which did not involve step-cutting was nearly solved successfully, and we reached a point just under the bergschrund at 8.45.

The only difficulties of the climb are contained in the next 300 ft. From the gap between the central and north peaks a rib of rock descends, flanked by couloirs on both sides, that on the S. being the more obvious. This rib, like the couloir on the N. side of it, is impracticable in its lower part, and to join it higher up two routes are available. Firstly, the couloir itself, which is very steep and filled with real hard ice; secondly, the rock rib on its S. side.

The great objection to the first alternative is the danger from falling stones. Directly the sun touches the main ridge (very soon after sunrise), the couloir is liable to be swept by these unpleasant missiles. Although it was still freezing hard where we were, we saw several rocks bound right over the lower part of the long rib on the north side of the couloir, into which most of them ultimately found their way. The couloir is very narrow at the bottom, and anyone engaged in cutting steps there when stones fell would have little chance of escaping. Warm west winds had prevented fresh snow accumulating on the rocks during the previous bad weather, and we immediately decided to adopt the second route.

The bergschrund just under the rocks gave little trouble, but we had to cut a dozen steps in a horribly hard mixture of grit and ice before actually getting on to the rib. We found the latter uncommonly steep. For about 20 ft. the way lay on the S. side, and then it became necessary to traverse across on to the crest. There was an awkward stride just getting past the angle, but once this was negotiated, we enjoyed 100 ft. up nice clean rock. Beyond this we began to traverse diagonally upwards towards the couloir on our left, aiming to strike it about one-third of the way up. The traverse is not exactly difficult, but the firm rock gives place to a mixture of mud and ice and semi-detached rock, which is distinctly troublesome to deal with. Late in the day, or in warm weather, stones probably fall frequently from the upper part of this loose rock into the couloir, but the sun does not touch it till the evening, and neither in ascending nor descending did we hear anything come down.



G. P. Abraham, photo.

Swiss Electric Engineering Co. Ltd.

THE DENTS DES BOUQUETINS FROM THE AROLLA GLACIER.

Once across the couloir, and on the rib on the far (N.) side, we could get along at a good pace, and reached the col between the N. and central peaks without further difficulty. Ascending a few yards to the right, we sat down on the E. side of the ridge, to shelter from the wind and take a short meal in the welcome warmth of the sun (10.40-11). Above this point fresh snow lay on the rocks, but no ice, and we thoroughly enjoyed all the remainder of the climb. I am sure few ridges can afford more exhilarating sport than this of the Bouquetins. The rock is a glorious colour, and has settled itself in a series of beautiful little problems, with plenty of nice trustworthy aids to their solution. As Mr. Larden had led us to expect, the terrors of the great jag in the arête vanished on close acquaintance, and a few minutes after crossing it we reached the summit (11.40). We knew the descent of the lower rib would take some time, and that our friends would not enjoy waiting for us, as the weather had suddenly turned sulky again, and an icy wind was beginning to drive heavy clouds over the sun; so we just stayed a minute or two to put a card in a bottle we found and taste the peculiar sensations of all summit views, and then went down without loss of time to the col (12.15). Our progress was fairly rapid and uneventful till we had crossed the couloir and reached the southern rock rib. I fancy we descended a little too far on its crest, for we had to make a short but exciting traverse over a vertical wall of red rock. There was good holding while Mallory went across. He reached a firm place, and though, if I had come off, I must have fallen 12 or 15 ft. into a little slanting gully below him, he could certainly have prevented my going further.

Those who go in for 'exceptionally severe courses' would make light of the place, but we found it rather too powerful a strain on the finger-tips to be pleasant. The place was very like the lower part of the big slab opposite the Mont Collon Hotel, which provides sport when the weather forbids a better outlet for one's energies. The bergschrund was soon passed in our ascending tracks, and we made our way down gradually in as southerly a direction as possible, so as to strike the Arolla glacier high up. We were soon espied and joined by our friends (2.30). Though they had waited more than an hour for us on the ice in a freezing wind, their greetings were most cordial. With the help of an Alpine rope they had held a sort of athletic meeting. In the skipping match the ladies had carried off all the honours, but some discussion arose as to the fairness of the tug-of-war, in which the men asserted

they had been placed on a slope of ice inclined at several degrees to their disadvantage. Mallory and I were kindly allowed a further period for feasting, and then we all started off for the Col de Collon just as the threatened snowstorm descended on us. We reached the primitive but hospitable inn at Prarayé in the best of spirits, but sadly bedraggled garments. However, the landlady ransacked her wardrobes to such good purpose that three beautifully fitting skirts, cut in the latest Valpelline fashion, were found for the ladies, while a male member of the party excited the envy of his less favoured companions by appearing in the curé's best corduroys.*

THE DIRECT ASCENT OF THE ALTELS FROM THE BALMHORN HUT.

By J. E. JAMES.

ON the afternoon of August 23, 1906, W. F. Reeve, my brother, W. W. James, and I left Kandersteg for the Balmhorn Hut. With us were the two guides Fritz Ogi and Peter Künzi, both of Kandersteg. Our intention in the first place was to discover, if possible, a second climb for which the hut could be used; namely, the direct ascent of the Altels and the descent to the hut by the north-eastern arête of the Balmhorn. If this were not considered feasible we should have to fall back on the only climb so far made from the hut, the traverse of the Balmhorn and the Altels, ascending by the north-eastern arête of the former and descending by the western arête of the latter to the road leading from Kandersteg to the Gemmi Pass.

Accordingly, when we stopped for some minutes at the sign of the brass bowl, which is the 'barber's pole' in Switzerland, Peter did not wait for us, but went on to survey the possible routes and to find out the condition of the rocks. The possibility of attempting the new climb gave us food for much thought on the way, and we looked with interested eyes on the cliffs far above us and slightly to our right hand, up which we might be journeying on the morrow. Certainly, if the comparative difficulties of the path to the hut and the climb beyond the hut were proportionate to those of paths to and climbs beyond other huts in Switzerland, so far as our experience went, the course proposed would not be an

* We are indebted to Mr. G. P. Abraham, of Keswick, for permission to reproduce the accompanying illustration.—EDITOR *A. J.*

easy one. For if any non-climber staying at Kandersteg wishes to make a 'sensational' excursion (I use the word in its lay sense), I do not think he can do better than follow the path to the Balmhorn Hut, but on no account let him go without a guide.

Peter's report was absolutely non-committal. He had reached the first real difficulty on what appeared to him the only possible route, but, owing to the failing light, could not say whether or not he considered it insurmountable. It was hard; of that he was satisfied. The condition of the rocks was not unfavourable.

The Balmhorn or Wild Elsigen Hut is not, like so many of the Swiss huts, a kind of caravanserai, crowded nightly by parties arriving from all directions. We were the only occupants.

Our decision to attack the new route, even although we might not be successful in the complete ascent, was undoubtedly influenced by the very natural desire to tread upon ground never before in all probability touched by any human being. This sentiment has no doubt been felt by most climbers of long experience, but it was fresh to us, and had an undiminished influence over our imaginations. It became alive directly we reached Wildelsigen; for this alp appears quite inaccessible. The grasses, I believe, are never cropped by cattle or sheep, or even goats, and have never been cut. The chamois have there an undisturbed pasturage.

Shortly after 2 A.M. we left the hut, the sky being cloudless and the stars brilliant. The air was perfectly still. Every sign promised a beautiful day, and it turned out that the promise was fulfilled. A better day could not have been chosen. For about twenty minutes we followed the path which leads to the hut, crossing the narrow tree-trunk bridge placed over the main stream running from the Balmhorn glacier. Our two guides carried lanterns, and at the bridge showed all the light possible, for the wood was coated with ice formed by the spray from the downrushing stream, and the crossing was not free from danger.

Although the path is only slightly marked on the rock débris and by no means easy to follow even in daylight, the guides seemed to experience no difficulty, and some twenty minutes or so steady walking brought us across the last stream fed by the glacier.

We had descended slightly below the level of the hut; but not much, for our course had lain round the bowl-shaped alp, from the hut standing on its eastern edge to the spot

where the path begins to drop down over its western edge. Here we turned sharply to the left up the loose moraine, going alternately straight and obliquely to our right. Owing to the darkness I cannot be sure of the exact direction followed, but from the character of the ground I should imagine almost any route could be taken, so long as the right point for attacking the cliffs was reached ; and as to this point I don't think there could be any doubt, as I hope to show later.

As I remember it, our way was sometimes up very loose and powdery débris, at other times up loose rocks varying in size, and occasionally over very sparse dry grass. The whole ascent of the moraine was varied by the necessity of dropping frequently into deep water-worn but perfectly dry channels in its surface, which showed that we were not following the line of greatest ascent.*

I was particularly struck with the difference between the actual character of this part of the route and the impression I had formed of it from the distant view on the previous day ; but probably the darkness is sufficient to account for this. I might add that the two patches of grass (at the foot of the cliffs) which are distinct features in the view from the hut have to be reached, and in a general way sufficiently serve as objects of attainment.

At about half-past three, or perhaps a little later, we reached the foot of the cliffs up which the real climb lay. Here we sat down on the grass, which I have just referred to, covering the moraine or cliff débris, and ate our second breakfast, and waited for the dawn.

We were at the bottom of the cliffs forming the E. face of the N. arête of the Altels which show so prominently † in a westerly direction from the hut. From the hut can be seen a deep gully, almost better described as a chasm, in these cliffs. We were at the entrance to the chasm ; but now it was quite unrecognisable, and incapable of being definitely marked off on, or even distinguished from, the face of the cliffs. From a distance the sides had appeared to run together at an appreciable, if not an acute, angle, but the near view showed that the true shape was widely obtuse with a narrow and shallow water-worn depression at the angle,

* The alp and superadjacent moraine are fanshaped. Our destination was not the handle of the fan, but a point lying in a diagonal direction across the ribs.

† Shown on the illustrations in the Swiss Jahrbuch, vol. xxxix. pp. 351, 353.

forming the true gully. The slope of the sides and of the gully appeared almost vertical.

The whole face was quite dry.

The actual position we were in was on the highest mound at the bottom of the cliff which forms the left-hand side of the angle (looking up). Between this mound and the gully was a sheer face of rock about 450 ft. wide, increasing in steepness until it reached the buttress I shall mention later.

The nature of the face between the buttress and the gully could not be seen.*

At about 4 o'clock, when there was sufficient daylight to permit an advance without the aid of the two candles, we put on the rope; Peter leading, followed by Reeve, Fritz, my brother and myself, in this order. Two lengths of rope of 100 feet were joined, roughly providing a little over 40 feet between each two climbers.

The first task was to traverse into the shallow gully (situated at the angle) to the foot of a long chimney, which could be seen quite plainly.

This point to be attained was several feet higher than the place on which we had roped, so that an ascending traverse had to be made. Peter led, and we were soon all on the face of the precipice. Luckily it was not such a true precipice that no foothold could be secured upon it. I think it overhung above and below us in places, but we found a possible path on the rough surface. The rock was not hard, compact, and smooth, but inclined to break away in small fragments or cubes, having weathered in a somewhat similar manner to the well-known Crib Goch ridge on Snowdon. It was accordingly essential to test well the firmness of every protuberance before trusting one's weight to it.

The steepest and most difficult part of the traverse was across a slightly hollowed portion of the face, just before reaching a small buttress situated about 80 ft. from the gully. On arriving at the buttress it was necessary to ascend to its top, which sloped at too great an angle to afford any safe anchorage. Beyond this the nature of the face was the same until the gully was reached, and here at the foot of the chimney was a good platform with a firm upright rock standing on its edge.

Looking from the roping place, we had inclined to an attempt on the chimney in the gully; but when Peter reached the

* Distances have been calculated from the length of rope used for the climb.

platform he had no need to hesitate. The cliff forming the opposite side of the angle to the one we had traversed promised a series of narrow sloping ledges covered with grass. One of these ledges led from the platform, and this Peter followed. After going some 100 or 150 ft. along it he turned sharply up to the left, climbing the rocks to the ledge above.

Thus we ascended some distance, in a zigzag course, to the highest grass ledge, along which we turned to the left, back towards the gully. Further ascent of the cliff was impossible; the only way of progress being up a smooth and nasty-looking pitch in a branch of the gully, which several feet below our grass ledge had divided into two smaller gullies. Before attempting this pitch we sat down on the ledge and ate our third breakfast, and left a bottle to indicate to the next climbers the former presence of humanity.

By this time the sun was well above the Doldenhorn and shone from the clear sky with a genial warmth upon the cliffs, making the ledge a most comfortable resting-place. The view was magnificent, but the precipitous cliffs dropping to the Gastern Thal were the most striking feature. The line of cliffs on the opposite side of the gully could be clearly seen, and it was fascinating to attempt to trace upon the face the ledges above, upon which it might be possible to discover a path to the top.

As I have said, the grass ledge ended several feet above the point of separation of the two smaller gullies into which the main gully divided. One of these small gullies passed the end of our ledge and formed, some few feet higher, a deep shelf or niche affording splendid anchorage. But above the niche this gully did not hold out any promise of a practicable route to the top.

The other branch was nearly 50 ft. from the niche, and separated from it by a boldly projecting rock. This branch once reached seemed to offer a way out, up the smooth-looking pitch to which I have already referred. To overcome the difficulty of the traverse and the pitch the order on the rope was altered: Fritz leading and Peter going second; then came Reeve, my brother and myself. Peter fixed himself firmly in the niche while Fritz was traversing into the gully. The jutting corner of rock made the traverse extremely awkward, and it took Fritz a long time to reach the gully. In fact, the traverse at this point and the subsequent ascent of the pitch were by far the greatest difficulties we met with on the climb. Fortunately the rocks were much sounder than below.

When Fritz was in the gully (and none too firmly stationed) Peter made the traverse to him. To enable Fritz and Peter to make the traverse Reeve and my brother had to give more rope, shortening the distance between themselves and between my brother and myself. When our turns came to move this shortening proved a considerable inconvenience, and it would be advisable for any other party to allow more space between the climbers or to carry a sufficient length of spare rope.

Reeve having fixed himself firmly in the niche, Fritz climbed the pitch with some assistance from Peter. Above the pitch Fritz cleared away a large quantity of loose stones, but the continuation of the slope was too steep and insufficiently rough, or sound, to provide a good anchorage. However, without a slip, Reeve joined Peter in the gully, my brother occupied the niche, and Peter joined Fritz above. Fritz and Peter went forward to the full length of the rope, and my brother and I followed Reeve across the traverse and up the pitch.

This was the last serious difficulty to be passed before reaching the N. ridge of the Altels. After it was passed the only possible route was to continue straight up for about 40 ft. and then turn abruptly to the left along a sloping ledge covered with loose debris, keeping close under the cliff. Great care was necessary, but no particularly difficult place had to be overcome.

After a long traverse in this direction, which must have placed us high over the roping place, some 1,000 ft. or so almost directly below, we turned up to the right, over rocks which gradually sloped at a less and less steep angle, until we reached the summit of the ridge and looked down to the glacier on the other side, between the N. ridge of the Altels and the ridge running from the Tatlishorn to the Ober Tatlishorn.

On our left hand the Altels ridge sloped upwards to the S. On our right hand it descended for a short distance to a notch at the termination of the gully, and then rose up to a small peak slightly higher than the spot upon which we were standing. This notch is a distinctive feature on the edge of the cliffs when looked at from the hut.

We reached the ridge at 10 o'clock, six hours after we had put on the rope.

It is difficult to indicate on the Swiss Government Map (scale 1·26 inches to the mile) with any accuracy the place at which we reached the ridge: but I think it would be slightly to the north of the point on the ridge that rises between the black

figures 2966 marked as the height of the Ober Tatlishorn and the blue figures 2400 marked on the Balmhorn glacier.

After a fourth breakfast we altered the order on the rope, to Fritz, Reeve, Peter, my brother and myself, and struck up the ridge, following it for about an hour and a half without much difficulty.

Then, to avoid going over the summit of the peak to which the ridge rises (called by our guides, I believe, the Klein Altels), we continued on its W. side, following a line of almost equal altitude and crossing patches of snow, until we reached the edge of the glacier below the N.W. side of the Klein Altels. This point is considerably above the main surface of the glacier,



THE ALTELS FROM THE NORTH-WEST.

being connected with it by a long and steep slope of snow. We followed the edge of the snow below the face, which here rises up very abruptly, until we reached a very plainly marked couloir. The opening of the couloir is very sharply defined (approached from the direction in which we came it is indiscernible until actually reached), and Fritz, Reeve, and Peter disappeared to the left round the sharp corner, leaving my brother and me on the snow, close under the rocks, waiting for the transmission along the rope of a sign that we could advance. We were not left unentertained, for large and small rocks and showers of stones came bounding out of the couloir with terrific noise, and shot down to the glacier below. We

shouted to our companions to know what they were doing, but did not receive any reply. So, as it was quite impossible to face the cannonade, we had to wait until the work of demolition was accomplished.

When at last all was quiet and we felt the welcome pull on the rope, we passed the corner and entered the couloir.

Fritz, Reeve, and Peter were above the first pitch, which was about 20 ft. high and almost perpendicular. It was formed of loose rocks, all of which seemed ready to fall away as soon as an appreciable weight was placed upon them. But the clearance effected by the first three of the party had uncovered a few fixed points, and my brother and I climbed the pitch without much difficulty. I think the position of this couloir is near the 'n' of the words 'Ober Tatlishorn' on the Swiss Map.

Immediately above, we traversed along the right-hand side of the couloir, and then turned up to the left. A short rock climb of about thirty minutes brought us to the upper glacier, above the icefall which lies between the Klein Altels and the Ober Tatlishorn. At this point, or possibly slightly above it, the climb ceased, I believe, to be a first ascent, as I understood from Fritz that the Altels had previously been ascended from the Gastern Thal by a party of climbers who had followed the whole length of the glacier.*

It was 1 o'clock when we reached this point.

After a short lunch and rest, we crossed the glacier to its long and steep rise to the summit. The upper part of the ridge was all ice, and Fritz and Peter alternately took the first position to cut steps, keeping as near as possible to the top of the ridge. It was impossible to make a fast ascent up the ice, and it was not until about 4.30 that we arrived at the summit. The lateness of the hour made it inadvisable to descend over the Balmhorn as originally planned.

The time for the total ascent was about twelve hours; but I think any other party of climbers can consider this a very full allowance, as it is impossible to claim that our pace was more than slow. Of course, with five persons on the rope a long time was spent over each difficulty.

But our object was attained, and having eaten and smoked, rested and enjoyed the glorious prospect, we turned downwards with cheerful talk, and left the summit of the Altels to its lonely contemplation of the sky.

* See *Climbers' Guide to the Bernese Oberland*, vol. i. p. 7.

THE ASCENT OF TRISUL, IN THE GARHWAL HIMALAYAS.

ON May 22, 1907, Major the Hon. C. G. Bruce and Dr. T. G. Longstaff, the guides Alexis and Henri Brocherel, Subadar Karbir, of the 5th Gurkha Rifles, and three men of the same regiment made a new pass of about 19,500 ft. from the head of the Bagini glacier into the uninhabited basin of the Rishi river. Starting from a camp near the foot of the Bagini glacier, and carrying Mummery tents and provisions for eight days, they encamped on the glacier on May 21, at a height of about 18,000 feet, near the foot of the pass. Steep snow lying on ice required some care during the ascent, but the principal difficulty lay in the passage of the rocks on the far side, the descent of 1,500 ft. occupying 5 hrs. The party camped that night on the glacier which descends from the pass, and proceeding down the valley of the Rishi river reached their main camp at Surai Tota, in the valley of the Dhauli river, on May 27, after some arduous marches.

On June 12—the party having entered the Rishi valley—Dr. Longstaff, the Brocherels, and Karbir made the ascent of Trisul (23,406 ft.) from the glacier which descends into the Rishi basin, by the easy north-east slopes.

MOUNTAINEERING CLUBS, 1857-1907.

By A. J. MACKINTOSH.

[We are deeply indebted to Mr. Mackintosh for the great trouble which he has taken in making this list of mountaineering clubs.—EDITOR A. J.]

FIFTY years ago, towards the close of 1857, the first Alpine Club was founded; and now, in 1907, as a record of growth, a list of the various mountaineering clubs established throughout the world within these fifty years cannot fail to be of interest. In the following compilation every care has been taken to give accurate information, but anyone who has compiled a similar list will expect to find, and will be indulgent with, omissions and errors. It has happened in many cases that those most intimately acquainted with the various clubs have been unable to give definite information, and contradictions in dates—usually from confusion of formation and subsequent confirming meetings—and in other particulars have sometimes been provided by the authorities concerned. The list aims at including all clubs that are definitely connected with mountaineering, omitting those that are concerned only or chiefly with mere touring. The dates and places of foundation are given, the aim as intimated in the rules, the number of members (most of the clubs except those in Great Britain admit women) and quali-

fiction if any is required, the present address (usually the same as the place of foundation), and the publications of the clubs and of their sections as far as this has been possible. The Editor will be very glad to have additions and corrections for publication in a future number of the *Journal*. The various activities of the clubs in the building of huts and the ordering of guides, &c., have been omitted, as they would have made the whole compilation too long, and particulars of these are very fully given in the official publications of the clubs, which must be referred to also for the complete history of the various clubs. The compiler has to thank the secretaries of many of the clubs and others for kindly supplying information and suggestions required to make the list as complete as it is.

Africa.

- 1891. Mountain Club, Cape
- 1892. †Club d. Alpinistes, Tunis
- 1897. Kameruner Alp.-Verein

America.

- 1863. †Williamstown Alpine Club
- 1873. †White Mountain Club
- 1876. Appalachian Mount. Club
- „ †Rocky Mountain Club
- 1887. §Oregon Alpine Club
- 1892. Sierra Club
- 1894. Mazamas
- 1902. American Alpine Club
- 1906. Alpine Club of Canada

Austria.

- 1862. §Oesterr. Alpenverein
- 1869. Steir. Gebirgsverein
- „ Oesterr. Touristen-Club
- 1873. *Wilde Banda, Vienna
- „ Techniker A.-C., Graz
- 1874. Deutsch. u. Oesterr. A.-V.
- 1875. †Soc. Alp. dell' Istria
- „ §Santhaler Comité
- 1876. Alpen-Club, Salzburg
- „ §Wr-Neustädter Touristenklub
- „ *Steiner Touristen-Club
- 1877. *Süd-ungar. Alpinisten-Club
- 1878. Oesterr. Alpenclub
- „ Wilde Banda, Innsbruck
- 1879. §Gmündner Gebirgsverein
- 1880. Lehrer-Touristen-Club
- 1883. Soc. Alp. d. Giulie
- „ †Bergsteiger Club, Vienna
- 1884. Club Touristi triestini
- 1885. Alp. Ges. Edelraute, Vienna
- 1888. Grazer Alpenclub
- 1890. Niederösterr. Gebirgsverein
- 1893. Tiroler Bergsteiger Ges. Alpler
- „ Slovensko plan. drustvo
- „ Akad. A.-C., Innsbruck
- 1895. Bergsteiger-Riege, Innsbruck

- 1896. *Alpiner Reise-Club
- 1899. Soc. alp. Liburnia, Zara
- 1900. Caucasus Club
- „ Akad. Alp. Ver., Innsbruck
- „ Ischler Bergsteigerbund
- 1901. Turner Bergsteiger, Graz
- 1903. *Verband alp. Vereinigungen
- „ Sportklub, Ampezzo
- 1905. Wiener Bergsteigerbund

Belgium.

- 1883. Club alp. Belge

China.

- 1899. Tsingtau Bergverein

France.

- 1863. *Soc. d. Touristes savoyards
- 1865. Soc. Ramond
- 1874. Club alp. français
- 1875. Soc. d. Touristes du Dauphiné
- 1879. *Club. alp. international
- 1882. *Union d. Tour. grenoblois
- 1892. Soc. alp. dauphinois
- 1895. Soc. de Spéléologie
- „ *Rocher Club, Grenoble
- 1897. Soc. excurs. marseillais
- 1899. Club ascens. grenoblois
- „ Soc. d. Grimpeurs, Grenoble
- 1902. Club sports alp., Chamonix
- 1903. Fédération d. Soc. pyrén.

Germany.

- 1869. §Deutscher Alpenverein
- „ §Leipziger Alp.-Verein
- 1874. Deutsch. u. Oesterr. A.-V.
- 1877. Gebirgsver. sächs.-böhm. Schweiz
- 1883. Verband deutsch. Vereine
- 1884. Deutsch. Gebirgsver. Isergebirge
- 1889. §Akad. A.-V., Berlin
- 1892. Akad. A.-V., München

* Dissolved. † Not known to be still existing. § Absorbed.

1896. Akad. Tour.-Ver., Strassburg
 1899. Hochtouristen-Club, München
 1900. Alpenkränzchen Bergeist
 1901. Akad. A.-V., Leipzig
 1903. Akad. A.-V., Berlin
 1905. Ski-Verband
- Great Britain.**
1857. Alpine Club
 1875. Oxford Alpine Club
 1879. §Dundee Institution Club
 1886. Dundee Rambling Club
 1889. Cairngorm Club
 " Scottish Mount. Club
 " Manchester Zweigverein
 1892. Yorkshire Ramblers
 1894. Norwegian Club
 1898. Climbers' Club
 1899. Kyndwr Club
 1902. Rucksack Club
 1904. Alpine Association
 1905. Winter Alpine Club
 1906. Wayfarers' Club, Liverpool
 " Fell and Rock Climbing Club
 " Derbyshire Pennine Club
- Holland.**
1902. Nederland. Alp. Vereeniging
- Hungary.**
1873. Ung. Karpathenverein
 " Siebenbürg. Verein
 1874. Towartz. Tatrafskie
 1888. Club alp. fiumano
 1891. Magyar. Tur.-Egeysület
 1898. Slovensko alp. drustvo
- India.**
1868. *Himalayan Society
 1879. *Himalayan Alpine Club
- Italy.**
1863. Club alpino italiano
 1870. *Petite Soc. alp. de Cogne
 1873. Soc. Alp. d. Trentino
 " *Circolo alp. d. Sette Commune
 1874. §Circolo alp. vicentino
 1876. *Club. alp. di Garfagnana
 1881. Soc. Alp. friulana
 " Club Monti Berici
 1883. Soc. alp. operaio Lecco
 1886. §Club alp. livornese
 1888. §Soc. alp. di Palermo
 1890. *Club. alp. Silano
 1891. Soc. escurs. milanesi
 1892. Club alp. siciliano
 " Club alp. bassanese
 " Soc. alp. meridionale
 " Unione escurs. torinesi
 " §Circolo alp. di Schio
1893. Soc. escurs. Torino
 " Club alp. Sardo
 1897. †Circolo alp. Irpinia
 " Circolo alp. Garessio
 1898. Club alp. Trapani
 " Federazione prealpina
 " §Soc. alpinisti monzesi
 1899. Soc. escurs. lecchesi
 " Soc. escurs. ossolani
 " Club alp. savonese
 1901. *Club alp. Salernitano
 1902. Club escurs. di Iesi
 1903. Soc. Rhododendro
 1904. Club alp. accademico
 " Audax alpinistico, Lecco
 1906. *Club alp. popolare
- Japan.**
1906. Japanese Alp. Club
- New Zealand.**
1891. N. Z. Alpine Club
- Norway.**
1868. Norske Turistforening
 1895. †Bergens Fjellmannalog
- Russia.**
1891. Crimean Alp. Club
 1902. Russian Alp. Club
 " Caucasian Alp. Club, Sotchi
 " Caucasian Alp. Club, Piatigorsk
- Spain.**
1878. §Assoc. Catalanista
 " §Assoc. d'excursions
 1890. Centre excursionista
- Sweden.**
1885. Svenska Turistföreningen
- Switzerland.**
1863. Club alpin suisse
 1865. Club jurassien
 1877. *Club alp. militaire
 1886. Club alp. ticinese
 1887. Soc. Allobrogia, Geneva
 1890. Alpina Luzern
 " Union montagn. ancienne,
 Geneva
 1893. Touristen-Club Edelweiss, St.
 Gallen
 " Piolet Club, Geneva
 1894. Fédération montagn. genevoise
 " Soc. Gyms-montagn., Geneva
 1896. Akad. A.-C., Zürich
 1901. Piolet Club lausannois
 1903. §Assoc. montagn. genevoise
 1904. Club montagn. genevois
 1905. Akad. A.-C., Bern

* Dissolved.

† Not known to be still existing.

§ Absorbed.

Akademischer Alpenclub Bern, 18 October 1905

'Mitglieder d. Clubs können nur aktive Bergsteiger werden, d. h. solche, die sich touristisch schon betätigt sollen. Das Erfordernis akadem. Bildung soll nicht streng einseitig betont werden, so dass auch Nichtakademische aufgenommen werden können'

Jahresbericht, from 1906

Address: Hotel Simplon, Aarbergerstr., Bern. 20 members

Akademischer Alpen-Club, Innsbruck, March 1898

Jahresbericht, from 1894; Hörtnagel, *Das Sellrainer Gleierschthal*, 1898; Schwaiger, *Karwendelgebirge*, 3rd ed. 1907. 132 members

Akademischer Alpen-Klub, Zürich, 19 June 1896

'Zweck d. Klubs ist Pflege d. Alpinismus. . . Mitglieder können Studierende . . . werden, deren Eignung zum Bergsteigen erwiesen ist.' 94 members

Jahresbericht, from 1897; *Urner Alpen-Führer*, see S.A.C. 1905

Akademischer Alpen-Verein, Berlin, 7 November 1889-1892

'Die wissenschaftliche u. touristische Kenntniss der Alpen unter der Berliner Studentenschaft zu erweitern und zu vertiefen'

Became in 1892 a section of the D.u.Oe.A.-V.

Akademischer Alpen-Verein, Berlin, 27 November 1908

'Die Pflege des Alpinismus und der Freundschaft unter den Mitgliedern sollen die einzigen Tendenzen des Vereins sein.' 28 members

Jahresbericht, from 1904

Akademischer Alpenverein zu Leipzig, 12 May 1901

Membership is limited to members of D.u.Oe.A.-V. sections

Jahresbericht, from 1901

Address: Thüringer Hof, Leipzig

Akademischer Alpenverein München, 8 November 1892

'Die Förderung der alpinen Bestrebungen unter der akademischen Jugend, insbesondere derjenigen Münchens.' 217 members; qualification, membership of a D.u.Oe.A.-V. Section

Jahresbericht, from 1892; *Ein Bergsteigerleben*, J. Enzensperger, 1905

Akademischer Alpiner Verein, Innsbruck, 29 October 1900

'Ein Verein deutscher katholischer Hochschüler . . . Pflege d. Bergsports . . . Freundschaft u. Frohsinn.' About 50 members

Bericht 1900-1905, 1905

Akademischer Touristen-Klub, Strassburg, 9 July 1896

'Bezweckt: die Lust und Liebe zu Wanderungen in den Vogesen, dem Schwarzwalde, den pfälzischen Hardt und dem Alpengebiet unter den Studierenden der Kaiser Wilhelms Universität zu Strassburg zu fördern u. zu pflegen.' 11 members

N.B.—For other Academical Clubs see Akad. Sektionen d. D.u.Oe.A.-V. and the C.A.I., Monza

Alpen- u. Touristenverein 'Liburnia'

see Società Alpinistica

Alpen-Club Oesterreich

see Oesterr. Alpenclub

Alpen-Club Salzburg, 1876

A local working-class social club, the members of which make occasional small mountain tours and undertake small local 'improvements'

Alpenkränzchen Bergegeist, München, January 1900

'Pflege d. Alpinismus, hauptsächlich d. Hochtouristik.' 44 members

Bericht, annual from 1900

Address: Pschorrbräubierhallen, Neuhauserstr. 11, Munich

Alpina Luzern, 13 September 1890

'Die Förderung d. Gebirgskunde, sowie die Pflege d. Freundschaft.' 30 members

Address: Hotel Brunig, Lucerne

Alpine Association for Great Britain, London, 1904

This is the Zweigverein England, affiliated to the D.u.Oe.A.-V. Members of this Association or of the Manchester Zweigverein (q.v.) obtain the advantages in connection with huts &c. that are possessed by members of the D.u.Oe.A.-V.

Address: M. Marks, 11 Southwood Mansions, Southwood Lane, Highgate

Alpine Club, London, 22 December 1857

'The object of the Club shall be the promotion of good-fellowship among mountaineers, of mountain-climbing and mountain exploration throughout the world, and of better knowledge of the mountains through literature, science, and art.' 668 members; qualification, mountain expeditions or contributions to Alpine literature, science, or art

Peaks, Passes and Glaciers, 4 editions, 1859; 5th, knapsack, edition, 1860; Second Series, 2 vols, 1862; *Alpine Journal*, quarterly, from 1864; *Index*, vols 1-15, 1892; Longman, *Suggestions for exploration of Iceland*, 1861; *Report on Ropes, Axes, and Alpenstocks*, 1864; *Report on equipment for mountaineers*, 1892; *Alpine Club map of Switzerland*, 4 sheets, 1874; *Catalogue of library*, 1880, 1888, 1899; *Alpine Distress Signal*, 1894; *Catalogue of Mountain Paintings*, 1894; *Ball's Alpine Guide*, new edition, *Western Alps*, 1898; and *Central Alps*, pt. 1, 1907; *Introduction to*, new edition, 1899

Address: 23 Savile Row, London

Alpine Club of Canada, Winnipeg, 28 March 1906

'Promotion of scientific study and exploration of Canadian alpine and glacial regions; cultivation of art in relation to mountain scenery; education of Canadians to an appreciation of their glorious mountain heritage'

Notices of formation, 1906

Secretary: Mrs. H. J. Parker, Winnipeg. On June 28, 1907, the Club numbered 231 members

In 1883 Sir Sandford Fleming and a few others founded a Canadian Alpine Club, which however did not exist beyond its informal foundation

Alpine Club of Massachusetts

see Williamstown Alpine Club

Alpine Gesellschaft 'Edelraute,' Vienna, 1 March 1885

'Die Gesellschaft strebt einerseits die wirksamste Unterstützung u. Förderung alpiner Interessen an, andererseits ist sie bemüht, den geselligen Verkehr der Mitglieder zu heben u. gemeinschaftliche Ausflüge derselben zu erleichtern.' 25 members

Petermann, *Wanderungen in d. östl. Niedern Tauern*, 1903

Address: Universitätsstr. 9, Vienna, I

Alpiner Reise-Club, Vienna, 15 January 1896-1908

'Förderung aller das Reisen betreffenden gemeinnützigen Angelegenheiten, Entwicklung der alpinen Touristik . . .' Formed by members of the Oe.T.-C.

Mittheilungen, monthly during 1898

Alpiner Verein 'Innerberg' in Eisenerz, 1 December 1889

Formed from the Section of the Steirisch. Gebirgsverein, q.v. 115 members

American Alpine Club, Washington, 2 January 1908

'Scientific exploration and study of the higher mountain elevations and of the regions lying within or about the Arctic and Antarctic Circles. The cultivation of the mountain craft.' Over 50 members; qualification, mountaineering, polar exploration, or science connected with either

Constitution, 1902; *List of members, etc.*, 1905

'Appalachia' was at first used as the official organ

Secretary: H. G. Bryant, 2013 Walnut St., Philadelphia

Appalachian Mountain Club, Boston, January 1876

'To explore the mountains of New England and the adjacent regions and to cultivate an interest in geographical studies'

Appalachia, quarterly, from 1876; *Register*, annual from 1879; Chapin, *Mountaineering in Colorado*, 1888; Chapin, *Land of the Cliff Dwellers*, 1892; *Some Adirondack Paths*, n.d.; also numerous maps

Address: Tremont Building, Boston, U.S.A. 1,602 members

— **Alpine Section**, 1898-1900. 'To encourage expert climbing of a distinctly alpine character, and in particular among the mountains of N. America.' 7 members

Associació Catalanista d'excursions, Barcelona, 1878-1890

L'Excursionista, 4 vols. 1878-1890

Associació d'Excursions Catalana, Barcelona, 21 September 1878-1890

'Es una societat que té per objecte recórrer lo territori de Catalunya y comarcas vehinas para estudiarme y ferne conèixer las bellasas naturals y artisticas'

Anuari, 1882, 1884; *Butllet*, 1878-1890; *Guias itinerarias*, 1888-1890

These two formed into the 'Centre Excursionista,' q.v.

Association montagnarde Genevoise, April 1903-1905

A union of various small clubs: Muguet, Rosée d. Alpes, Echo montagnard, Joyeux grimpeurs, Soldanelle, Joyeux montagnards, Rhododendron de Plainpalais, Bruyère, Flore d. Alpes, Aurore; joined in 1905 with the Fédération montagnarde, q.v.

For other small Clubs in Geneva, see 'Fédération Montagnarde'

Audax Alpinistico italiano, Lecco, 2 October 1905

'Promuovere e popolarizzare le marcie di resistenza e riunire nel medesimo tempo migliori camminatori di montagna d' Italia'

Banater Alpen-Club

see Südungarischer Alpinistenclub

Bergens Fjellmannalog, November 1895

A club of climbers. Did this join with the Turistforening for Bergens By og Stift?

Jahresbericht, 1895

Bergsteiger Club, Vienna, 1888

'Hebung und Förderung des Touristenwesens, Erweiterung der Kenntnisse der Gebirgswelt.' Does this Club still exist?

Bergsteiger-Riege d. Innsbrucker Turnvereines, 1895

About 50 members

Cairngorm Club, Aberdeen, 9 January 1889

'To encourage mountain-climbing in Scotland, with special reference to the Cairngorm group of mountains.' 155 members; qualification, ascent to 3,000 feet in Scotland

Journal, twice yearly from 1893

Address: Secretary, A. I. M'Connochie, 76 Devonshire Road, Aberdeen

Canadian Alpine Club

see Alpine Club of Canada

Caucasian Alpine Club, Piatigorsk, 1 May 1902

'De faciliter les voyages au milieu de nos grandioses montagnes'

Notice of formation, 1902; *Year-book*, 1904

Caucasian Alpine Club, Sotchi, 15 January 1902

Rules, 1902

Caucasus Club, Vienna, 14 May 1900

'Der Zweck ist Förderung der Kenntnisse des Kaukasus und anderer Hochgebirge.' The membership, limited to 100, is 38; qualification required undefined

Annual Circular, from 1903

Hon. Sec.: W. Rickmer-Rickmers, Radolfzell

Centre Excursionista de Catalunya, Barcelona, 1890

'El Centre té per objecte recorre les comarques de Catalunya a fi de reconèixer, estudiar y conservar tot lo que hi ofereixen de notable la naturalesa, l'història, l'art y la literatura'

Bulletin, monthly from 1890

This Society, a union of the two 'Associació' above, has also published many archaeological works and guide-books

Address: Paradis, 10 pral., Barcelona. 980 members

Circolo alpino Garesio, 16 July 1897

'Di studiare e far conoscere le nostre montagne.' 76 members

Circolo alpino Irpinia, Naples, 1897

'Di far conoscere le montagne d'Irpinia.' Does it still exist?

Circolo alpino di Lecco

see *Eoc. Alp. operatio*

Circolo alpino di Schio, 1892; in 1896 became Sez. Schio del C.A.I., q.v.

Busnelli, *Voci sulle Alpi*, 1894

Circolo alpino d. Sette Commune, Asiago, 27 October 1878-1889**Circolo alpino Vicentino, 1874; became C.A.I. Sez. Vicenza in 1875**

Da Schio, *Prima escursione*, 1874

Climbers' Club, London, 25 March 1898

'To encourage mountaineering, particularly in England, Wales, and Ireland, and to serve as a bond of union amongst all lovers of mountain-climbing . . .

The Committee shall decide on a candidate's climbing and general qualification.' 272 members

Journal, quarterly from 1898

Hon. Sec.: G. B. Bryant, 2 King William Street, London, E.C.

Club alpin d'Aoste; same as C.A.I. Sezione Valdostana, Aosta, q.v.**Club alpin belge, Brussels, 18 February 1888**

'A pour but de développer le goût des voyages'

Bulletin, irregular, from 1886

Address: Jardin botanique, Brussels. Over 90 members

Club alpin français, Paris, 2 April 1874

'De faciliter et de propager la connaissance exacte des montagnes de la France et des pays limitrophes'

Annuaire, 1875-1904; *Tables générales*, 1892, 1906; *Bulletin*, quarterly to 1881 and monthly after, 1874-1904; *La Montagne*, monthly from 1905;

Congrès International, 1880, 1900; *Chalets, cabanes et abris*, annual from 1898; *Commission des refuges*, 1901; Cuénot et Lefrançon, *Refuges des montagnes de France*, 1901; *Commission des glaciers*, 1901, 1904; *Commission de topographie, Procès-verbaux*, 1902-1906; *Société d. peintres de montagne*, 1904; *Règlement d. guides*, 1905, 1906; *Manuel de l'alpinisme*,

1904; Lefébure, *Étapes d'alpinisme*, 2de éd., 1904

Address: rue du Bac 30, Paris

Sections, 46. 5,568 members

The following list is believed to include every sectional publication:—

Ain, 1 January-December 1886. *Bulletin*, no. 1 only, 1886.

Aix-les-Bains, 25 November 1874. Budden, *Revue d. clubs alpins*, 1889;

Chalet-refuge au Grand Revard, 1890; *Miscellanées*, 1892; *Seance du 14 mai*, 1893

- Alpes-Maritimes**, Nice, October 1879. *Bulletin*, annual from 1880; *Index*, 1895; *Chalet-refuge de Rabuons*, 1905
- Atlas**, March 1880. *Bulletin*, 1880-1888; Ficheur, *Itinéraire de la Grande Kabylie*, 1886
- Auvergne**, Clermont-Ferrand, 16 May 1874. *Bulletin*, annual from 1876
- Barcelonnette**, March 1875-1904. Rava, *Album de Barcelonnette*, 1879; *Guide dans la Vallée de l'Ubaye*, 1898
- Bonneville**, 8 May 1877-1878. *Monument à J. Balmat*, 1878
- Briançon**, March 1875. *Album pittoresque*, 1877; *Guide dans le Briançonnais*, 1898
- Canigou**, Perpignan, May 1881; Section de Roussillon till 13 May 1885, when it took the place of the earlier but defunct Section du Canigou. *Bulletin trimestriel*, from 1895; *Pyénées-orientales*, 1904; Vergès de Ricaudy, *Notice historique*, 1906
- Carthage**, 5 July 1884. *Renseignements sur Tunis*, 1886
- Côte-d'Or**, Dijon, 24 April 1876. *Bulletin annuel*, 18 numbers, 1877-1900
- Drôme**, Valence, February 1888. *Bulletin*, 1891, 1905
- Fores**, June 1883. *Compte rendu d. excursions*, 1893
- Hautes-Vosges**, Belfort, 1887 (Epinal, June 1876). *Bulletin*, annual from 1887; Fournier, *Les Vosges*, 1900; *Vosges méridionales*, 1905
- Isère**, Grenoble, 27 August 1874. *Bulletin*, 1875, 1878; *Excursions autour de Grenoble*, 1875, 1877; *Panorama de la Tête de la Maye*, 1880; Gambiez, *L'alpinisme militaire*, 1884
- Jura**, Besançon, 21 August 1875. *Bulletin*, 7 vols, 1875-1879; *Annuaire*, 1881-1888
- Lons-le-Saunier**, 6 December 1894. *Congrès du C.A.F.*, 1897
- Lozère**, Millau, April 1885-1903. *Procès-verbal*, 1885; *Bulletin*, 5 parts, 1886-1889
- Lyon**, 1 January 1875. *Bulletin*, 8 parts, 1878-1892; *Revue alpine*, monthly from 1895; *Catalogue*, 1904
- Maurienne**, St. Jean-de-Maurienne, 5 July 1878. Nicolas, *Ascension aux Aiguilles d'Arve*, 1878
- Nord**, Lille, March 1898. *Bulletin*, irregular from 1902
- Fau**, December 1886. *Au Pic d'Ossau*, 1897; *Bulletin Pyrénéen*, monthly from 1896, in conjunction with *Fédération Pyrénéiste*, q.v. since 1903
- Provence**, Marseilles, 4 November 1875. *Bulletin trimestriel*, 1880-1893, and 1898-1902, annual from 1903
- Saône-et-Loire**, Châlon-sur-Saône, April 1875. *Bulletin*, annual, 1876-1889
- Savoie**, Chambéry, 14 November 1874-1883. *Ses débuts*, 1875; *La Savoie thermale et pittoresque, journal hebdomadaire*, 1875
- Sud-Ouest**, Bordeaux, 7 April 1876. *Bulletin*, two a year from 1877; *Tables alphabétiques*, 1891, 1897; *Catalogue*, 1897
- Tarentaise**, 23 June 1875. *Ascension à Crève-Tête*, 1875
- Vosgiennes**, Nancy, 31 January 1875. *Bulletin*, 8 a year from 1882. Various local guide-books are also published by this section
- The remaining sections are :—
- Albertville**, April 1898; **Alpes-Provençales**, Digne, October 1897; **Annecy**, 18 November 1874; **Bagnères-de-Bigorre**, May 1899; **Basque**, Bayonne, July 1898; **Bourgogne (Haute-)**, Beaune, February 1890; **Caroux**, Béziers, May 1896; **Cévennes**, Nîmes, 28 May 1884; **Chamonix**, October 1902; **Corse**, 14 March 1900; **Dôle**, July 1888; **Embrun**, February 1875; **Espinouse**, Lamalou-les-Bains, 1 January 1904; **Leman**, Chonon-les-Bains, July 1888; **Lot-et-Padiraç**, Cahors, March 1899; **Mont-Blanc**, Bonneville, 8 May 1877; **Nord-Est**, Laon, February 1897; **Périgord**, Périgueux, July 1903; **Pyrénées-Centrales**, Toulouse, 7 April 1876; **Rouen**, February 1882; **Sidobre et Montagne-Noire**, Castres, November 1898; **Tarbes**, January 1904
- Club alpin international**, Nice, 28 November 1879-1880
- Fused after a few months with the C.A.F. Alpes-Maritimes, q.v.
- Concerned chiefly with the Maritime Alps. International membership: about 200 members

Club alpin militaire

Suggested in 1877. Was this ever formed?

Club alpin suisse, or Schweizer Alpen-Club, Olten, 19 April 1863

'D'explorer les Alpes suisses, de les étudier plus exactement sous tous les rapports, de les faire mieux connaître et d'en faciliter l'accès'

Jahrbuch, from 1864; *Ortsregister*, 1886; *Mitgliederverzeichniss*, 1865-1877, and annual from 1889; *mit Notizen u. Auskünften*, annual, 1878-1888; *Beobachtungsnotizen*, 1866; *Schweizer Alpenzeitung*, fortnightly, 11 vols, 1882-1893, started by the Section Uto on the cessation of the 'Neue Alpenpost,' which had previously been used for contributions; *Alpina. Bulletin officiel*, fortnightly from 1893; *Instruction f. d. Gletscher-Reisenden*, 1871; *Grundzüge zu einem Reglement f. d. Bergführer*, 1873; *Siegfried, Die Gletscher d. Schweiz*, 1874; *Einige Regeln u. d. Aufgaben d. Bergführer*, 1874; *Conférence internationale*, 1880; *Rambert, Chronique*, 1883; *Exposition nationale*, 1883, 1896; *Baumgartner, Gefahren d. Bergsteigens*, 1886; *Buss, Die ersten 25 Jahre*, 1889; *Becker-Becker, Die Schirmhäuser*, 1892; *Courvoisier, Les cabanes*, 1896, 1899; *Album d. Clubhütten*, 1897; *Catalog*, 1897-1898, 1905; *Tarif Général*, 1897-1899; *Itinerarien*, 22 vols., 1863-1900; *Die Glarner Alpen*, 1902; *Die Urner Alpen*, verfasst v. Akad. A.-C. Zürich, q.v., 1905; *9 Clubhütten-Kärtchen*, n.d.; *Carnet de Poche*, or *Taschenkalender*, annual from 1905; also many district maps; and the following reports of annual meetings were issued locally:—*St. Gallen*, 1866; *Pilatus*, Luzern, 1867; *Berne*, 1868; *Zürich*, 1871; *Lausanne*, 1872; *Herisau*, 1873; *Sion*, 1874; *Thun*, 1875; *Réunion des Clubs Alpins*, 1879

Sections, 50; and 3 sub-sections; 8,416 members (1906): *Zentralleitung* 1907. Solothurn

The following is believed to include all sectional publications:—

- Bachtel**, 1872; subsection under Uto till 1876. *Grüsschen aus d. Clubbuch*, 1882; *Festschrift*, 1897
- Basel**, 1863. *Panorama (Hoffmann) u. Führer d. Maderaner-Thal*, 1865; *Katalog*, 1870, 1878, 1897; *Thiersteiner Joggeluner*, 1896; *Jahresbericht*, annual
- Bern**, 1863. Haller, *Was mir nöthig hülfe*, 1867; *Recueil de chants*, 1873; *Das fröhliche Mürmelthier, Liedersammlung*, 1883; *Katalog*, 1887; *Dubi, Vier Lebensläufe alpiner Veteranen*, 1904
- Biel**, 1882. Strasser, *Das fröhliche Mürmelthier*, 1887
- Chaux-de-Fonds**, 21 August 1877; began in 1881 as a sub-section of Sect. Neuchâteloise. *Catalogue*, 1890; *Bulletin annuel*, from 1892
- Davos**, 12 October 1886. *Chronik 1886-1896*, 1896
- Diablerets**, 1863. *Chansonnier*, 1896, 1902
- Sous-section **Jaman**. Imfeld, *Panorama d. Rochers de Naye*, 1883
- Genevoise**, 1864-9; thereafter **Sections Romandes**. *Echo d. Alpes*, quarterly and monthly from 1864; *Index*, 1892; *Schaub, Guide de l'ascensionniste*, 1879, 1893
- Monte Rosa**, Sion, 1865. *Führer-Taxen*, 1869, 1877; *Rion, Guide du botaniste*, 1872
- Neuchâteloise**, 16 January 1876. Imfeld, *Panorama de Chaumont*, 1881, 1888; *Carte de Chaumont-Chasseral*, 1888; *Catalogue*, 1889; *Jubilé*, 1901; *Borel, Panorama du Crêt du Plan*, 1901
- Oberland**, Interlaken, 1873. *Verzeichniss d. Bergführer*, 1882
- Pilatus**, Lucerne, 1864. Imfeld, *Pilatus-Panorama*, 1876; *Tarif*, 1880
- Rhätia**, Chur, 4 January 1864. *Excursion a. d. Sulzfluh*, 1865; *Führertaxen*, 1871; *Meisser, Geschichte*, 1904
- St. Gallen**, 1863. Heim, *Sentis Panorama*, 1871, 1873, 4. Aufl. 1890; *Verzeichniss v. Touren im Säntisgebiet*, 1895; *Katalog*, 1904
- Tödi**, Glarus, 1863. *Tableau d. Guides*, 1870; *Heim, Panorama v. Ruchen Glärnisch*, 1870; *Reglement f. d. Führer*, 1875; *Die Section Tödi*, 1881
- Toggenburg**, Wattwyl, 1877. *Das Toggenburg*, 1877

- Uto**, Zurich, 1868. *Bibliothek*, 1881; *Katalog v. Panoramen*, 1882; Becker, *Das Unglück a. d. Jungfrau*, 1887; Walder, *Festschrift*, 1904
Weissenstein, Soleure, 1886. *Bericht v. 1886-1896*, 1896; *Bibliothek*, 1894, 1905; *Jahresbericht*, annual
Winterthur, 1879. *Das neue fröhliche Murmelthier*, 1885
Zoffingen, 10 November 1874. *Festschrift*, 1899; *Wiggertal*, 1900

The other Sections are the following (there are frequent changes in 'Clublokale') :—**Aarau**, 1869; **Am Albis**, Zürich 1897; **Altels**, Frutigen, 1901; **Bernina**, St. Moritz 1891; **Blümlisalp**, Thun 1875, with which the **Wildhorn** Section, founded 1878, fused in 1897; **Bodan**, Romanshorn 1901; **Burgdorf**, 1879; **Einsiedeln**, 1903; **Emmental**, Langnau 1889; **Gotthard**, Altdorf, etc. 1881; **Hoher Rhon**, Wädenswil 1904; **Lägern**, Baden 1900; **Leventina**, 1904, formed as sub-section of **Pilatus** 1899; **Lindenberg**, 1895; **Moléson**, Fribourg, 1871; **Mythen**, Schwyz, 1877; **Oberaargau**, Langenthal 1881; **Oberhasle**, Meiringen 1904; **Pis Sol**, 1893; **Pis Terri**, Ilanz 1898; **Prättigau**, 1890; **Randen**, Schaffhausen 1886; **Rorschach**, Constance 1889; **Rosshorn**, Zug 1881; **Säntis**, Herisau 1869; **Ticino**, see Club Alp. Ticinese; **Thurgau**, Frauenfeld 1897; **Titlis**, 1877; **Unter-Engadin**, 1893; and former sections not now existing, **Alvier**, Appenzell, **Scesaplana**

Club alpino accademico italiano, Torino, 5 April 1904

'E costituito in seno al C.A.I. un Club alpino accademico, che si propone di coltivare e diffondere l' alpinismo senza guide in tutte le sue forme.'
 Address: Via Monte di Pietà 28, Torino

Club alpino bassanese, Bassano, 23 September 1892

'Lo studio delle montagne e più specialmente di quelle della provincia, facendole conoscere sotto l' aspetto materiale, scientifico e artistico, promuovendo ogni miglioramento nelle condizioni degli alpigiani'
Bollettino annuale, 3 vols, 1894-1897; Gobbi, *Le Colonie Alpine*, 1901; Fraccaro, *Guida d. Bassanese*, 1903
 160 members. Founded in 1900 a children's mountain convalescent home, on which a report, *Colonia Alpina Bassanese*, has been published annually since 1901: and is interested in re-afforestation

Club alpino fiumano, Fiume, 12 January 1885

'Di coltivare l' alpinismo in generale, e più specialmente di conoscere e far conoscere la regione fiumana'
Annuario, 1889, 1892; *Liburnia*, rivista bimestrale, from 1902
 Address: Via Biotia 1, Fiume. 147 members

Club alpino di Garfagnana, Castelnuovo, 1876-? 1883

Bollettino trimestrale, 1879

Club alpino italiano, Torino, 23 October 1863: till 1866 called

Club alpino di Torino

'Di promuovere la conoscenza e lo studio delle montagne, specialmente delle italiane'

The 'Giornale d. Alpi' was first used for Club notices; *Bollettino*, quarterly and annual, from 1865; *Index*, 1885, 1894; *Almanacco*, 1871, 1872; *L' Alpinista*, 2 vols, 1874-1875; *Rivista alpina*, 3 vols, 1882-1884; *Rivista mensile*, monthly from 1885; *Index*, 1892; *Istruzioni ad uso dei soci*, 1881; *Esposizione nazionale*, 1884; Cainer, *Cronaca*, 1888; *Statuto d. guide*, 1888; *Guide e portatori*, 1888; *Catalogo*, 1896, 1897-1899; *Vademecum dell' Alpinista*, annual, 1900-1902

Address: Via Monte di Pietà 28, Turin

Sections, 35; 6,200 members

The following is believed to include all sectional publications:—

- Agordo**, 3 February 1869. *Inaugurazione d. Osservatorio*, 1872. *Adunanze straordinarie*, 4 vols, 1874-5-6-8; *Rapida escursione nel Bellunese*, 1888
Alpi marittime, 1882-1891. *Annali*, 1881-1887, 6 parts
Aosta, 3 May, 1866: till 10 March 1873 Succursale d'Aoste du C.A.I. *Observ-*
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- vations aux guides*, 1872; *Règlement*, 1877; Reynaudi, *Aoste et sa Vallée* 1903; *Libretto Sociale*, 1906
- Auronzo**; see Cadorina
- Belluno**, 1891. *Il viaggiatore nel Bellunese*, 1893
- Bergamo**, May 1873. *Rota*, *Studio sul Resegone*, 1873; *Relazione*, annual, 1874-1901, and from 1904; Stoppani, *Guida alle prealpi bergamasche*, 1877, 1888, 1900; Varisco, *Profilo panoramico delle Prealpi*, 1881; Pozzi, *Guida alle Prealpi di Lecco*, 1883; *Guida d. xxix congresso alpino*, 1897; Castelli, *Prime ascensioni nelle Prealpi*, 1898
- Biella**, 25 November 1872. *Guida per gite*, 1873, 1882; *La Sezione*, 1877; Cesati, *Sguardo turistico sulla flora*, 1882; Barbieri, *Impressioni biellesi*, 1882; Antonioti, *Monografia dell' agricoltura*, 1882; *Verbale dell' adunanza*, 1883; Camerano, *Il museo biellese*, 1887; Sacco, *Carta geologica*, 1888; Sacco, *I terreni terziari*, 1888; *Relazioni*, annual 1892-1895; *Il Biellese*, 1898; De Agostini, *Carta del Biellese*, 1901; *La Sezione negli anni 1895-1901*, 1902
- Bologna**, 1 March 1875. *La fondazione*, 1875; Modini, *Il Faucigny*, 1878, 3rd ed. 1879; Bombicci, *L' Appennino bolognese*, 1882; Bonora, *Itinerari dell' Appennino*, 1883, 1888, 1898; *Annuario*, 1893; *Ricordo del Congresso*, 1899; *Relazione*, 1902; *Catalogo*, 1904
- Brescia**, 4 July 1874. *Bollettino*, 3 vols, 1875, 1876, 1896; *Guida della Provincia*, 1882, 1889; *Excelsior*, *note alpine*, 1886; *Prospetto delle escursioni*, 1887; Antonio Stoppani, 1897; Gnaga, *Führer durch Brescia*, 1901; Gnaga, *Guida di Brescia*, 1903
- Cadorina**, Auronzo, December 1873. Ronzon, *Il Cadore*, 1876
- Calabrese**, Catanzaro, 1879-1883. Serravalle, *Relazioni*, 2, 1880
- Catania**, 1875. *Guida d. Sezione*, 1888; *Guide riconosciuti*, 1888; Corsaro, *All' Etna*, 1904
- Cavanese**, Ivrea, 13 June 1875-1882. Bruno, *Misura d. altezze*, 1878
- Como**, 1875. *Alpi Comasche*, 1893; *Relazioni*, annual 1896-1900; *Annuario*, 1901-1903; Brusoni, *Da Milano a Lucerna*, 1900; Brusoni, *Guida di Lecco*, 1903; *Programma*, annual from 1904; *Carta alp. d. Alta Lombardia*, n.d.
- Domodossola**, 1869. Bazetta, *La Valle Antrona*, 1881; Bazetta, *Guida dell' Ossola*, 1888; Brusoni, *Valsesia, Ossola, ecc.*, 1892
- Ensa**, 1875. *Le montagne fra la Secchia e l' Enza*, 1876; *Relazione d. gite a Canossa*, 1877; *Gardone. il xvi Congresso del C.A.I.*, 1883
- Firenze**, 1 July 1868. *Regolamento ed il C.A.I. ecc.*, 1874; Tigri, *Guida della montagna pistoiese*, 1875, 3rd ed. 1878; Bertini, *Itinerario d. Alpi Apuane*, 1876; G. Dalgas, *Il Pisanino*, 1876, 3rd ed. 1878; *Osservatorio di Fiesole*, 1878; *Bollettino*, *Scritti varii*, 5 parts, 1878-1882; Budden, *Rimboscimento*, 1880; Beni, *Guida del Casentino*, 1881, 1889; Bertini, *Guida d. Val di Bisenzio*, 1881; *Resoconto*, 1883-4-5; *Annuario*, 1886, 1887; *Catalogo*, 1894; *Ommaggio alla memoria di T. Cambray-Digny*, 1901; Rebutini, *Guida dell' alta Val del Tevere*, 1901
- Stazioni alpine di Lucca, di Prato e di Stia
- Stazione alpina Emilio Bertini, Prato, 1898. *Statuto*, 1905; *Programma*, 1906
- Friulana**, 21 April 1879: became Soc. Alpina friulana in 1880, q.v. Valussi, *Inaugurazione*, 1880; *Relazione*, 1880
- Iesi**, 1905. *L' Appennino Centrale*, monthly from 1906: see Club escursionisti di Iesi
- Lecco**, 30 April 1874-1880; reformed 25 February 1883. Gomes, *Inno alpino*, 1884; *Note alpinistiche*, 1885, 1893; Cermenati, *Commemorazione di G. Pozzi*, 1890; Cermenati, A. Stoppani e G. Pozzi, 1891; *Inaugurazione d. Stazione Alpina A. Stoppani*, 1895; *Il xxv anniversario*, 1899; Cermenati, *Il Club alpino e la Valsassina*, 1899; *Carte delle Prealpi*, n.d.; *Guida itinerario*, 1903; *Vademecum*, ? 1894
- Ligure**, Genoa, 1879. *Ricordo*, 1883; *Portafogli d. Alpinista*, 1885; Issel, *Carta geologica d. Liguria*, 1887; Martinelli, *Règime forestale ed il C.A.I.*, 1888; Timosci, *Ascensione al Gr. Cervino*, 1889; Delle Piane, *Guida nell'*

- Appennino Ligure*, 1892, 1896; Ratti, *Da Genova a Cuneo*, 1896; *Regolamento e tariffe*, 1896; Bensa, *Guida d. xxviii Congresso alpino*, 1896; Costa, *L'igiene in montagna*, 1896; Modini, *Serra d. Argentera*, 1898; Poggi, *La Liguria romana*, 1899; *Gite mensili*, annual from 1901; Poggi, *Le due Riviere*, 1901; Poggi, *La Polcevera 177 anni a. C.*, 1901; *Annuario*, from 1902; Poggi, *Studi Storici*, 1902; *Rassegna*, 1905, 1906
- Lombarde, Sezioni**, Milan, 16 January, 1907. 'E costituito fra i soci delle Sezioni Lombarde del C.A.I. un Gruppo di Alpinisti senza Guide'
- Lucana, Potenza**, 1878-1883. *Annuario 1878-1880*, 1881; Bellucci, *Itinerario della Basilicata*, 1879; Lomonaco, *Dell' alpinismo in Basilicata*, 1880
- Lunigiana**, Bagnone, 13 January 1884-1886. *Bollettino*, 1885
- Marchigiana**, Ancona, 1875-1885. *Al Vettore*, 1879
- Milano**, 16 November 1873. Grassi, *Le misure d. altezze*, 1876; *Guida alle Alpi di Bergamo*, 1877; *Istruzioni per gli alpinisti*, ? 1878; Pogliaghi, *Carta d. Alpi Valtellinese*, 1878; Bossoli, *Tavole barometriche*, 1881; Lurani, *Le montagne del Valmasino*, 1881; *Annuario*, 1883, 1884, and annual from 1890; Pogliaghi, *Carta del Ortler-Cevedale*, 1884; Bignami-Sornami, *Dizionario alpino*, 1892; Vittadini, G. Poggi, 1894; 25° anniversario, 1898; *Catalogo*, 1899; *Panorama d. Grigna Settentrionale*, 1899; *Tariffe*, 1901
- **Ski-Club**, 1902. *Statuto*, 1902; Reports in 'Annuario d. Sezione'
- Monza**, 9 April 1899: started as Soc. Alpinisti Monzesi, q.v. *Regolamento*, ? annual; *Annuario*, 1900, 1901, ? later
- **Stazione Universitaria**, 1905; 'di promuovere la conoscenza e lo studio delle montagne fra gli studenti italiani.' Membership for University students only. *Vademecum della studente alpinista*, 2 editions, 1907
- Napoli**, 21 January 1871; in 1899 the Soc. Alp. Meridionale, q.v., joined with this section. *Congresso in Chiete*, 1871; Cannavale, *Passaggiate Appennine*, 1886; *Lo Spettatore del Vesuvio*, 1887; Savastano, *Il rimboschimento*, 1893; *L' Appennino meridionale*, quarterly, 1899-1902
- Palermo**, 1877-1882; re-formed 1889; *Società alpina di Palermo*, 1880; xxiv Congresso d. alpinisti italiani, 1892; *Guida d. Provincia*, in hand since 1890, not yet published; *Carta d. Madonie*, n.d.; *Carta d. Provincia*, n.d.
- Perugia**, 18 April 1875. *Annuario*, 1884, 1885; Antonio Cecchi, 1897
- Piceno**, 1885-1892. *Guida della Provincia di Ascoli Piceno*, 1889
- Pinerolo**, 1877. Ball, *Guida d. Alpi Cozie*, 1879
- Roma**, May 1873. Coleman, *Escursione sui Simbruini*, 1881; Abbate, *Da Brescia a Trento*, 1884; *Bollettino 1880-6*, 1887, and annual from 1893; Fritsche, *Carta del Gran Sasso*, 1886; Fonteanive, *Guida ai munimenti detti ciclopici*, 1887; *Annuario*, 3 vols, 1887, 1888, 1892; Abbate, *Guida del Gran Sasso*, 1888; Abbate, *Guida della Provincia*, 1890, 1894; *Tariffe per il Gran Sasso*, 1896; *Catalogo*, 1897; Abbate, *Guida dell' Abruzzo*, 1903
- **Circolo speleologico**, 1904
- Sassari**, 1879-1883. Lovisato, *Gita inaugurale*, 1879; Siro, *Escursione del Campo Mela*, 1879
- Savonese**, 15 November, 1884-1899; continued as Club Alp. savonese, q.v. *Bollettino 1884-1887*, 1887
- Schio**, 1896; started in 1892 as Circolo alp. di Schio, q.v. *Relazioni*, 1896; Fontana, *Guida di Valdagno*, 1898
- Susa**, 1872-1886. *Carte altimetriche*, 1878; *La sezione all' Esposizione*, 1881; *Bollettino*, 1879, 1880; Caso, *La flora segusina di Fr. Re*, 1881
- Tolmezzo**, 15 January 1874-1880; fused with the Sezione friulana, later Soc. alp. friulana. *Dal Peralba al Canino, raccolta di atti*, 1875, 1877; *Relazione*, 1878
- Torino**, 1866. Bossoli, 3 *Panorame d. Alpi*, 1874; 6 *Conferenze alpine*, 1876; Baretto, *Fenomeni sui ghiacciai*, 1876; Bertetti, *Primi passi in alpinismo*, 1876; Prina, *La corda e la piccozza nelle grandi ascensioni*, 1876; Vallino, *Igiene del alpinismo*, 1876; Denza, *Meteorologia e le montagne*, 1876; Isaia, *Il C.A.I.*, 1876; Cronaca, 3 parts, 1880; *Catalogo d. Esposizione*, 1881, 1904; *Guida d. Esposizione*, 1884; Vaccarone, *Guida pei Congressi alpini*, 1885; *Notizie*, annual from 1887; Martelli, etc., *Guida d. Alpi occidentali*, 1889,

1896; Vaccarone, *Il Gran Paradiso*, 1894; Rey, *Al Monte Rosa*, 1897; Vaccarone, G. Corrà, 1897; *Escursioni da Torino*, 1897; *La vedetta ed il museo alpino*, 1898; *Le Valli di Lanzo*, 1904; *Esposizione di Arte alpina*, 1904

Valdostana; see Aosta

Valtellinese, Sondrio, August 1872. Bonfadini, *Guida al Valtellina*, 1873, 1884; *Atti d. vi Congresso*, 1875; *Regolamento per le guide*, 1880

Varallo, July 1867. Vallino, *In Valsesia*, 1878; *Carta geologica di Novara*, 1881; Spanna, *Discorso*, 1882; Gallo, *Guida del Valsesia*, 1883, 1891; *L'illustrazione della Valsesia*, ? 1886; *Storia della Sezione*, 1886; Parona, *Carta geologica d. Valsesia*, 1886; Giordani, *La Colonia tedesca di Magna-Valsesia*, 1891

Venezia, 7 February 1890. *Relazione*, annual; *Libro d. guide*, 1895; Brentari, *Guida del Cadore*, 1896; *Il primo dicennio*, 1900; Ceresole, *Osservazioni meteorologiche*, 1905

Verbano, Intra, 1874. *Bollettino*, 7 vols, 1877-1886; Fanchiotti, *La Sezione ed il rimboschimento*, 1885; *Itinerario*, 1891; Gabardini, *Commemorazione dell'anniversario*, 1899

Verona, 12 March 1875. *Attività*, annual from ? 1875; *Cronaca 1879-1880*, 1880; *Prealpi Veronese*, 1888

Vicenza, 1875; began in 1874 as Circolo alpino vicentino, q.v. *Al Pasubio*, 1875; *Escursioni diverse*, 1875; *Gite ed escursioni*, 1876; *Bollettino*, 10 vols, 1876-1889; Cainer, *Una gita al Summano*, 1876; *Prospetto d. escursioni*, 1878; *Cronaca*, 1881; *Le Rogazioni di Asiago*, 1881, 2 editions; Budden, *L'alpinismo e gli alpigiani*, 1881; Colleoni, *Val di Fiemme*, ecc., 1881; Lioy, *Guida di Recoaro*, 1883; Cita, *L'alpinismo nel Veneto*, 1884; *Panorama d. Villa Rossi*, 1884; Cita, *Strenna natale*, 1884; Brentari, *Guida alpina*, 1885; Cainer, *Guida di Vicenza, Recoaro*, ecc., 1887, 1888; Cainer, *Altezze di 1062 punti*, 1888; Colleoni, *Il anniversario d. Sezione*, 1899; Negri, *Carta geologica d. Provincia*, 1901

Other sections are or were:—**Abruzzese** in Chieti, 1888, originally Chieti, 1872-1880; **Alpi Marittime**, Cuneo, 1897, originally Cuneo, 1873-1877; **Apuana**, Carrara, 1888-1896; **Bossea**, Mondovì, 1881-1889; **Cagliari**, 1879-1880; **Cremona**, 1887; **Liri**, Arpino, 1890-1891; **Messina**, 1897; **Modena**, 1875-1882; **Pisa**, 1875-1878; **Sannita**, Campobasso, 1885-1888; **Spoleta**, 1884-1885

Club alpino livornese, March 1886: in 1887 became Sez. livornese del C.A.I.

Club alpino dei Monti Berici

see Club Monti Berici

Club alpino operaio di San Rocco, Como

Club alpino popolare, Milan, 1906 only

Club alpino salernitano, Salerno, 1901-? 1906

Club alpino sardo, Cagliari, March 1893

'Di far conoscere le nostre montagne, di agevolarne le ascensioni e di promuoverne le ricerche scientifiche'

Bollettino, 4 parts, 1893-1894; continued as *Annuario* from 1895

Club alpino savonese, Savona, 7 December 1899

'Lo studio e la conoscenza pratica delle montagne, organizzando escursioni alpine e dando impulso a studi geografici, ecc.' 78 members in 1905

Originally a section of the C.A.I., q.v.

Address: Piazza Garibaldi 2, Savona

Club alpino siciliano, Palermo, 9 September 1892

'Diffondere in Sicilia l'alpinismo specialmente fra i giovani, far conoscere le montagne di Sicilia . . . promuovere gli studii delle industrie agricole, ecc.' *Sicula*, quarterly from 1896

Address: Via Maqueda 282, Palermo. 508 members

Club alpino silano, Cosenza. Non-existent in 1907

Club alpino ticinese, Bellinzona, 11 April 1886; became in 1887, under special rules, the revived Section Ticino d. S.A.C., previously existing 1872-5

' Visitare e far conoscere le regioni montuose del nostro Cantone e del paese limitrofo '

Annuario, 5 vols, 1887-1890, 1895

Club alpino di Torino

see Club alpino italiano

Club alpino di Trapani, 29 December 1898

' Di promuovere la conoscenza e lo studio delle montagne della Provincia '

Club ascensionniste grenoblois, Grenoble, 12 January 1899

' De faciliter par des lectures, des conférences et au moyen d'excursions collectives et de famille les connaissances du Dauphiné '

Le Philanthrope, irregular, 1900-1902; *L'Ascensionniste grenoblois*, monthly from 1902-1903; *Revue montagnarde*, monthly from 1906

Address: Place Grenette 12, Grenoble

Club des Alpinistes, Tunis, 1892

Club escursionisti di Iesi, 1 November 1902: has worked with the Sez. Iesi d. C.A.I. since 1906

' Si propone di conoscere e di far conoscere i monti dell' Appennino Settentrionale e del Centrale '

L' Appennino Centrale, 6 times a year from 1904

Club jurassien, Neuchâtel, 1865

Le Rameau de Sapin, from 1866, except 1873

Club montagnard genevois, 1904

Address: Corps Saints 3, Geneva

Club Monti Berici, Lonigo, 1881

' Di far conoscere le montagne specialmente del Vicentino . . . di promuovere tra i giovani le escursioni nelle regioni montuose, per rin vigorire il corpo ed alpestre passeggiate ed ardue salite e per arricchire la mente di utili cognizioni '

Club des Sports alpins, Chamonix, 1902

' Il a pour but de favoriser les excursions sur nos montagnes et d'attirer les alpinistes dans notre vallée.' 130 members

President: Dr. M. Payot, Chamonix

Club turisti triestini, Trieste, 19 December 1884

Il turista, monthly, 1894-1899, and quarterly thereafter

Compagnia alpino operaio Lecchese

see Soc. Alp. operaio

Crimean Alpine Club, Krimski Gorny Klub, Odessa, 1891; name altered in 1905 to **Crimean and Caucasian Alpine Club**

' To explore the Taurus mountains and the Caucasus, to develop agriculture, to protect animals and plants.' About 900 members

Zapiski, annual 1891-4, monthly thereafter

Address: Gorodskoi Sad, Odessa

Derbyshire Pennine Club, Sheffield, 30 November 1906

' The organisation of the sports of rock-climbing, cave-exploring, and hill-walking, and the collection and dissemination among the members of information, literature, maps, etc., relating thereto.' 20 members

Hon. Sec., H. Bishop, Avon House, Fieldhead Road, Sheffield

Deutscher Alpenverein, Munich, 9 May 1869-1873

'Die Kenntnisse von den Deutschen Alpen zu erweitern und zu verbreiten, ihre Bereisung zu erleichtern'

United with the Oesterreich. Alpenverein to form the

Deutscher und Oesterreichischer Alpenverein, Munich, 1 January 1874

'Die Kenntniss d. Alpen Deutschlands u. Oesterreich zu erweitern u. zu verbreiten, sowie ihre Bereisung zu erleichtern'

Zeitschrift, annual from 1870; *Beilagen, Anleitung zu wissenschaftlichen Beobachtungen*, 5 parts, 1882; *Wissenschaftliche Ergänzungshefte*, 4 parts, 1897-1905; *Mittheilungen*, fortnightly from 1875; *Register zu d. Publicationen*, 1877, 1887, 1896, 1901, 1905; *Ein Blick auf seine Ziele*, 1879; *Eine Übersicht seiner Ziele*, 1884; *Atlas d. Alpenflora*, 1881, 1896-1898; Della Torre, *Handbuch zum Atlas*, 1899; Della Torre, *Wörterbuch d. botanischen Fachausdrücke*, 1884; *Schulausgabe d. Atlas*, n.d.; Richter, *Erschliessung d. Ostalpen*, 3 vols, 1893-1894; *Kalender*, annual from 1888; *Anleitung z. Ausübung d. Bergführers Berufes*, 1891, 1893, 1896, 1906; Emmer, *Verfassung und Verwaltung*, 1893; Emmer, *Geschichte*, 1894; Fritsch, *Verzeichniss d. Gletschermarken*, 1898; Rosenthal, *Verzeichniss d. Schutzhütten*, 1900; *Verzeichniss d. autoris. Bergführer*, annual from 1902 (see under Berlin Section); *Bücherverzeichniss*, 1902, 1906; *Führertarife*, 1-4, 1904-1907; Aichinger, *Technik d. Bergsteigens*, 1906; also many maps and panoramas. There are 343 Sections (73,219 members), most of which publish annual reports containing list of members and expeditions and news of huts, and often summaries of papers read, and many Sections publish guide-books, and library catalogues. The following have published '*Festschriften*': *Allgäu-Immenstadt*, 1899; *Allgäu-Kempton*, 1896; *Augsburg*, 1894; *Berlin*, 1894; *Bosen*, 1895; *Breslau*, 1883, 1902; *Chemnitz*, 1907; *Coburg*, 1904; *Darmstadt*, 1895, 1905; *Dresden*, 1898; *Frankfurt*, 1894, 1904; *Gera*, 1905; *Gleiwitz*, 1900; *Golling*, 1905; *Gotha*, 1906; *Greiz*, 1906; *Halle*, 1896; *Hamburg*, 1900; *Heidelberg*, 1894; *Innsbruck*, 1887; *Karlsruhe*, 1895; *Klagenfurt*, 1897; *Königsberg*, 1894, 1901; *Konstanz*, 1899; *Krain*, 1901; *Kufstein*, 1884; *Küstenland*, 1883; *Landshut*, 1900; *Leipzig*, 1894; *Mains*, 1897; *Marburg*, 1901; *München*, 1894, 1900; *Nürnberg*, 1899; *Passau*, 1899; *Prag*, 1895; *Regensburg*, 1895; *Rheinland*, 1901; *Rosenheim*, 1902; *Salzburg*, 1890; *Salzkammergut*, 1900; *Schwaben*, 1894; *Schwarzer Grat*, 1905; *Silesia*, 1896; *Sonneberg*, 1901; *Stettin*, 1898; *Steyr*, 1899; *Tüls*, 1906; *Ulm*, 1904; *Villach*, 1895; *Warnsdorf*, 1902; *Weiden*, 1905; *Wiesbaden*, 1907; *Würzburg*, 1902

For *Zweigvereine* see Alpine Association of Great Britain, Manchester Zweigverein, Tsingtau Bergverein. *Academical Sections* are:—Vienna, 1887, Berlin 1892, Graz 1892, Dresden 1901, Innsbruck 1902
Address for 1907: München

The publications of the following Sections may be separately mentioned: a date of foundation prior to 1874 indicates a Section of the 'Deutscher Alpenverein':—

Allgäu-Immenstadt, 21 May 1874: founded as *Bezirksverein d. Sekt. Augsburg*, 28 August 1869. *Waltenberger, Entfernungskarte f. Allgäu*, 1886; *Panorama v. Nebelhorn*, 1886; *Festschrift*, 1899

Allgäu-Kempton, 7 September 1871. *Festschrift*, 1896; *Förderreuther, Geolog. Plauderei u. die Allgäuer Alpen*, 1897

Amberg, 23 October 1884. *Simon, Panorama d. Schrankogels*, 1894

Austria, Vienna, 3 January 1874; the fusion of the Oesterr. Alpenverein, q.v., and of the Sekt. Wien d. deutschen A.-V., founded 18 January 1870. *Bericht*, annual from 1873; *Reisekarte d. Salzkammergutes*, 1877; *Kiel, Reliefkarte d. Schneeberg*, 1879; *Führer d. d. Salzkammergut*, 1880; *Böhm. Hochschwabgruppe*, 1881, 1896; *Fickeis, Schneeberg*, 1882, 1883; *Biedermann, Führer auf d. Hohe Veitsch*, 1882; *Jahne, Karawankenfürher*, 1882, 1896; *Zoff, Panorama v. Brandriedel*, 1882; *Katalog*, 1882; *Geyer, Dachsteingebirge*,

- 1886; *Zur Erinnerung an der Gründung des Oe.A.-V.*, 1887; *Nachrichten*, quarterly from 1892
- Barmen**, 25 November 1896. *Erster Bericht 1896-1901*, 1902; *Barmen Hütten-Triller, Festspiel*, 1903; *Wie gelangt man zur Barmer-Hütte*, 1904
- Berchtesgaden**, 17 May 1875. *Purtscheller, Führer*, 1893
- Berlin**, November 1869. *Jahresbericht*, annual from 1873; *Verzeichniss d. autorist. Führer*, annual, 1885-1900, continued in 'Kalender,' above; *Katalog*, 1887, 1894-1898, 1904; *Panorama d. Schwarzensteingrundes*, 1890; *Festschrift*, 1894; *Treptow, Die Berliner Hütten*, 1892, 1905, 1907; *Deegen, Bergfahrt im Zillertal*, 1896; *Mitteilungen*, monthly from 1900; *Bergführertarif f. d. Zillertal*, 1904. The Section has also published 4 vols of *Wanderungen*, by T. Wundt
- **Zwanglose Vereinigung v. Hochoctouristen der Sektion**, 11 November 1893. *Festschrift*, 1903
- Bludenz**, 1896. *Führer d. Bludens*, 1903
- Bozen**, 3 November 1869. *Peischer, Der Rothenstein*, 1890; *Peischer, Orientierungsblatt v. Penegal and v. Schlern*, 1896; *Festgabe, xxzv. Generalversammlung* 1904
- Breslau**, 30 November 1877. *Bericht u. d. 5 ersten Jahre*, 1883; *Schmidt, Das Lied v. d. Hütte*, 1883; *Aus d. Leben d. Sektion*, 1888; *Schmidt, Im goldenen Mains*, 1890; *Liederbuch*, 1893; *Katalog*, 1899-1903; *Festschrift*, 1902
- Bruneck**, April 1870-1873; reconstituted 16 May 1880. *Siegl, Panorama d. Kronplatz*, 1895
- Cassel**, 1 April 1887. *Bericht 1897-1902*, 1903
- Gilli**, 24 April 1884; see *Sannthaler Alpen-Club*. *Glantschnigg, Cilli u. s. Umgebung*, 1887
- Dresden**, 9 April 1873. *Bericht*, 1881; *Festschrift*, 1898; *Panorama, Val di Canale*, 1897; *Das Villnößtal*, 1906
- Fieberbrunn**, 20 April 1884. *Rundschau v. Wildseeloder*, 1904
- Frankfurt a. M.**, 3 September 1869. *Aus der Chronik d. Sektion*, 1890; *Festschrift*, 1894; *Katalog*, 1894; *Kirschbaum, Blumenlese aus d. Alpenen Chronik*, 1899, and *Zweite Blumenlese*, 1900; *Bericht 1894-1904*, 1904
- Füssen**, 15 January 1887. *Roggenhofer, Panorama v. d. Schlicke*, 1903
- Gleiwitz**, 1895. *Bericht 1895-9*, 1900; *Baumgartner, Panorama v. Imbachhorn*, 1901
- Gmünd**, 1897. See *Sektion Klagenfurt and Gmündner Gebirgsverein*. *Führer-Tarif*, 1898
- Golling**, 1 December 1880. *Meinhart, Golling u. s. Umgebung*, 1889; *Festschrift*, 1905
- Görs**, 21 January 1888-1901. *Nöe, Itinerar f. Görs*, 1891
- Gröden**, 2 July 1885. *Gröden, ein Wegweiser*, 1887; 2. Aufl., *Moroder, Das Grödenenthal*, 1891
- Halle**, 14 May 1886. *Bericht 1896-1900*, 1900; annual thereafter; *Führer d. d. Suldenenthal*, 1902; *Katalog*, 1904
- Hannover**, 18 April 1885. *Buchheister, Wie d. Führer sich zu behalten haben*, 1882; *Bericht*, annual from 1885; *Arnold, Unterweisung f. d. Mitglieder*, 1885, 1899, 1900; *Arnold, Malnitzthal*, 1890; *Arnold, Ziele d. Alpenvereine*, 1891; *Arnold, Commersbüchlein f. Alpenfreunde*, 2 Auflagen, 1891; *Festschrift*, 1900
- Hochpustertal**, *Niederdorf*, December 1869-1874; reconstituted 1877. *Burger, Panorama v. Dürrenstein*, 1896
- Imst**, 9 February 1872. *Imst u. s. Umgebung*, 1888
- Innsbruck**, November 1869. *Bericht 1870-1886*, 1886; *Berichte*, annual from 1887; *Katalog*, 1902, with annual 'Nachträge'
- Karlsruhe**, 31 January 1870. *Nix für Ungut*, 1895; *Katalog*, 1895; *Brehm, Festspiel*, 1895; *Liederbuch 'Fidelitas'*, 1896; *Routenkärtchen d. Hütte 'Fidelitas'*, 1898
- Klagenfurt**, 12 November 1871. *Schüttelkopf, Spaziergänge am Wörthersee*, 1895; *Oberlecher, Rundschau v. d. Adlersruhe*, 1896; *Oberlecher, Der Gross Glockner*, 1897; *Festschrift*, 1897

- Klagenfurt, Gau Gmünd**, 14 June 1891-1897. See Sektion Gmünd and Gmündner Gebirgsverein. *Gmünd u. s. Umgebung*, 2. Aufl. 1893; *Jahresbericht*, 1893, 1894
- **Gau Karawanken**, or **Karawanken Alpen-Club**, Klagenfurt, 22 February 1904
- Konstanz**, 21 March 1874. *Führer d. Konstanz*, 1890, 1892; *Festschrift*, 1899; *Katalog*, 1904
- Krain, Laibach**, 7 March 1874-7; reconstituted 1881. Keesbacher, *Alpine Diätetik*, 1882; Roschnik, *Rundschau v. Schlossberge*, 1892, 1904; *Umgebungskarte v. Laibach*, 1892; Sima, *Im Billichgrazer Gebirge*, 1892; *Hütten u. Wege*, 1896; *Festschrift*, 1901
- Kufstein**, 15 April 1877. Trier, *Rundschau v. Thierberg*, 1880; *Jubiläum*. 1884; *Wegmarkirungskarte*, 1892; *Kufstein u. d. Kaisergebirge*, 1904; Reschreiter, *Panorama d. Ellmauer Haltspitze*, 1904; Petters, *Karte d. Kaisergebirge*, 1906
- Küstenland, Trieste**, 19 June 1873; Sezione litorale. *Enzian*, a periodical irregularly published, 1873-1883?; *Itinerar f. d. Küstenland*, 1878; *Panorama v. Oficina*, 1878; *Gedenkblatt*, 1883; Lindenthal, *Tabelle d. Aussichtsweite*, 1887; Müller, *Grotten v. S. Canzian*, 1887; *Chronik 1573-1892*, 1893; *Guida d. Caverne di S. Canziano*, 1896
- Ladina**, 14 October 1886. *Enneberg u. Buchenstein*, 1889
- Leipzig**; 31 May-25 June 1869 this was the Leipziger Alpenverein. *Veröffentlichungen*, later *Jahresbericht*; (1) Pückert, *Bericht, 1869-1879*, 1880; (2) Süsmilch, *Alpenübergänge*, 1882; (3) 1887, and annual from 1889; *Mittheilungen*, 1884, no. 2 *Festzeitung*, 1888; *Katalog*, 1886, 1902; *Festschrift*, 1894; Compton, *Alpen-Diorama*, 1897
- Lienz**, June 1869. *Karte v. Lienz*, 1889
- Linz**, 20 March 1874. Kraus, *Spaziergänge*, 1887; *Linz an d. Donau*, 1887; *Bücherverzeichnis*, 1905
- Lungau**, 1885. *Panorama v. Speiereck*, n.d.
- Mains**, December 1883. *Zur Erinnerung an Mains*, 1890; *Festschrift*, 1897
- Memmingen**, 1869. Hommel, *Panorama v. Schloss Eisenburg*, 1877
- Mittenwald**, 1874. *Mittenwald-Führer*, 9. Aufl. 1906
- Mittleres Unterinntal**, 4 February 1886. *Führer v. Brizlegg*, 1889
- München**, 9 May 1869; the first section of the Deutscher Alpenverein. *Panorama v. Wendelstein*, 1886; *Die erste Hilfe*, 1892; *Jubiläumsgabe*, 1894; *Geschichte d. Sektion*, 1900; Waltenberg, *Panorama v. Rothen Wand*, n.d.
- Nürnberg**, 14 December 1870. *Jahresbericht*, annual from 1870; *Sektionsvorträge*, 1895; *Führer d. Nürnberg*, 1898; *Festschrift*, 1899; *Katalog*, 1899, 1905
- Passau**, 7 January 1875. *Festschrift: Führer d. Passau*, 1899
- Pfalz**, 12 December 1888. Bayberger, *Sing ma oans*, 1891
- Pforzheim**, 28 December 1891. *Karte d. Sesvennagruppe*, 1899
- Pongau**, 21 May 1876. Baumgartner, *Panorama v. Hochgründeck*, 1887
- Prag**, 13 May 1870. Toldt, *Zur Waldfrage*, 1883; *Panorama vom Vorderen Unnützl*, 1889; *Festschrift*, 1895
- Reichenau**, 19 April 1886. *Karte d. Reichenau*, 1887
- Rheinland**, 19 February 1876. *Festschrift*, 1901; Compton, *Fernblick v. d. Cölnerhütte*, 1905
- Rosenheim**, 19 October 1877. *Berge u. Vorland*, 1886, 1902; *Gebirgsansicht u. Führer*, 1889
- Salzburg**, 3 August 1869. *Wegweiser d. Salzburg*, 1882; *Festansieger*, 1882 *Festschrift*, 1890; Widmann, *Erste Ersteigung d. Gr. Venedigers*, 1891
- Sonneberg**, 15 November 1890. Zeppezauer, *Der Höhe Göll*, 1900; *Bericht 1891-1900*, 1901
- Starkenbergr**, 2 December 1884. Langheinz, *Winke u. Ausrüstung*, 1885, 1889, 1891
- Steyr**, 9 April 1874. Reichl, *Führer auf d. Steyrthalbahn*, 1889; Grindler, *Panorama v. Dambergquarter*, 1889; *Erinnerung*, 1899; Diltsch, *Panorama v. Schoberstein*, 1902; *Katalog*, 1904
- Taufers**, 1873. Daimer, *Taufers*, ? 1880; Siegl, *Panorama v. Speikboden*, 1886; *Führertarif*, 1904

- Telfs**, July 1884. *Telfs u. Umgebung*, 1886
- Teplitz**, 21 February 1886. Czermack, *Die Teplitzer Hütte*, 1887
- Tölz**, December 1881. Gmeiner, *Panorama d. Zwieselbergs*, 1883; *Panorama v. Herzogenstandes*, 2. Aufl. 1890; *Bericht 1881-1906*, 1906
- Traunstein**, 9 December 1869. Beilhack, *Bergtouren im Bereiche d. Sektion*, 1896
- Trostberg**, 21 April 1873. *Panorama v. d. Siegertshöhe*; Seelinger, *Panorama v. Hochberg*, n.d.
- Verein z. Schutze d. Alpenpflanzen**, Bamberg, 28 July 1900. *Bericht*, annual from 1901
- Vorarlberg**, Bregenz, 1 December 1869. Baumgartner, *Rundschau v. d. Scesaplana*, 1896; *Rundschau v. d. Sulzftuh*, 1899
- Waidhofen**, 18 May 1875. *Panorama v. Sonntagsberg*, n.d.
- Weilheim-Murnau**, 6 February 1881. Walterberger, *Panorama v. Krottenkopf*, 1888
- Wien, Akadem. Sektion**, 7 December 1887. *Bericht*, annual, 1888-1894; continued as *Mittheilungen*, quarterly from 1896; *Kartenskizze d. Langkofelgruppe*, 1896; L. Purtscheller and E. Zsigmondy, portraits, 1905
- Wolfsberg**, September 1875. Högel, *Führer in d. Lavantthal*, 1884
- The names of above and of remaining Sections can be found in the annual 'Kalender'

Deutscher Gebirgsverein f. d. Jeschken- u. Isergebirge, Reichenberg, 29 June 1884

'Das Interesse für das Jeschken- u. Isergebirge und die Kenntnis desselben in weiteren Kreisen zu erwecken u. zu verbreiten u. den Besuch dieser Gebirge zu erleichtern u. angenehm zu machen . . . sowie durch Ausflüge die Liebe z. Heimat zu fördern.' 2,509 members
Mittheilungen, 1885-1890; *Jahrbuch*, from 1891

This Club has 13 'Ortsgruppe,' several of which publish reports

Deutscher und Oesterreichischer Touristen-Club

This is another name for the Dresden section of the Oesterr. Touristen-Club, q.v.

Dundee Institution Club, 1879-1889

Incorporated with the Rambling Club in 1889

Dundee Rambling Club, April 1886

'To encourage climbing on the Scotch hills.' 32 members; climbing qualification needed since 1889

Secretary: T. H. B. Rorie, 33 Albert Square, Dundee

Fédération montagnarde genevoise, 1894

A union of the following small clubs: Bluet, C. A. de Plainpalais, Croissant, Edelweiss, Grimpeurs, Genepi, Piolet, Rose d. Alpes, Union montagnarde, Cyclamen d. Eaux Vives; joined by the Association Montagnarde, q.v.

Bulletin, 2 vols, 1895, 1897; *L'Alpiniste*, Geneva, used as the official organ since 1903

Address: Café rue du Rhône 10, Geneva

Besides the small clubs mentioned here and under 'Association montagnarde' there are in Geneva some others, in all about 40, mostly composed of working men, clerks, etc., who meet at intervals in some café and take more or less interest in climbing

Fédération des Sociétés Pyrénéistes, 1903

A union of the Pyrenean sections of the C.A.F., of local 'Sociétés excursionnistes,' and of the Soc. Ramond. Its organ is the 'Bulletin Pyrénéen;' see C.A.F., Pau

Federazione prealpina, Milan, 1898

'Promuovere la costituzione di Società alpinistiche nei piccoli centri della Lombardia e vicinanze.' This Federation forms the union of the 12 following small local clubs:—Soc. Alp. oper. A. Stoppani; Circolo Edelweiss,

Menaggio; Circolo Stella d. Alpi, Delebio, 1895; Soc. Alp. monzese, 1898, see C.A.I. Monza; Escursionisti ossolani, milanesi, lecchesi, aronesi, Ciclamino, di Valmadrera, e Gnifetti; Soc. mediolanum, Milan
Rassegna, Fior d' Alpe, monthly 1898-? 1902: thereafter notices were printed in 'Le Prealpi'; see Soc. excursion. Milanesi

Fell and Rock Climbing Club of the English Lake District,
 Coniston, 11 November 1906

'To encourage rock-climbing and fell-walking in the Lake District, to serve as a bond of union for all lovers of mountain-climbing.' Over 100 members.
 Hon. Sec., E. Scantlebury, 11 Clarence Street, Ulverston

Gebirgsverein f. d. sächsische (originally sächsisch-böhmische) Schweiz, Pirna, 25 November 1877

'Den unter dem Namen "Sächsische Schweiz" im weiteren Sinne bekannten Teil des Vaterlandes der Wissenschaft wie den Wanderfreunden zu erschliessen, sowie dessen Naturschönheiten und Volkstum zu erhalten'
Ueber Berg und Thal, monthly from 1878; *Jahrbuch*, 3 vols, 1882, 1885, 1887; *Liederbuch*, 1889

Address: Dresden. 45 Ortsgruppen; about 3,900 members

Gmündner Gebirgsverein, Gmünd, Carinthia, 1879-1890

In 1890 became a 'Gau d. Sektion Klagenfurt,' and in 1897 the Sektion Gmünd d. D.u.Oe.A.-V., q.v.

'Den Bezirk Gmünd mit seinen grossartigen Gebirgen und Thälern bekannter u. f. Touristen zugänglicher zu machen'
Gmünd u. seine Umgebung, 1883

Grazer Alpen-Club, Graz, 1 May 1888

'Die Förderung der Alpinistik und die Verbreitung der Kenntniss d. österreich. Alpenwelt.' 20 members
 Wagner, *Die Gruppe d. Hochlantsch*, 1905

Himalayan Alpine Club, Calcutta, November 1879

'For the exploration of the Himalaya and the climbing of its highest peaks, especially Mount Everest'
 Was this proposed Club ever formed?

Himalayan Society, Lahore, 1868

Science, anthropology, exploration of the Himalayas. Promised to publish a Journal, but was the Society ever formally organised?
 It has been unfortunately impossible at the time of going to press to find any certain information regarding these two Himalayan Societies

Hochtouristen-Klub, München, 10 September 1899

'Der Club verfolgt den Zweck, die Kenntnisse der Alpen zu erweitern u. deren Bereisung zu erleichtern. Insbesondere macht sich der Club die Aufgabe die bergsteigerische Thätigkeit sowie die Hochtouristik auszuüben und zu fördern'

Jahresbericht, from 1902. 34 members

Address: Gasthaus zum Eberlbräu, Sedlingerstr. 79, Munich

Ischler Bergsteigerbund, Ischl, 1900

'Zweck des Bundes ist hauptsächlich Bergsteigen und Pflege der Geselligkeit.' About 80 members

Japanese Alpine Club, San-gaku-kwai, Tokio, March 1906

'The object of this Society is the study of science, literature, and art, in relation to mountains, forests, lakes, streams, plateaus, waterfalls, rocks, flora, fauna, and astronomy. The Society will also encourage in every way the practice of mountain-climbing'

San-Gaku, Alpine Journal, thrice a year from 1906

Address: 10 Muromachi 3 Chomé, Nihon bashiku, Tokyo

Kameruner Alpenverein, Victoria, West Africa, 1897

'Die Erschliessung u. wissenschaft. Erforschung d. im Schutzgebiet Kamerun gelegenen Gebirge d. die Anlage von Wegen und Wegsanzeigern'

Karawanken Alpen-Club

see D.u.Oe.A.-V., Klagenfurt

Kyndwr Club, Derby, 28 November 1899

'To encourage rock-climbing and rambling in the wilder parts of Derbyshire, and mountaineering generally.' 22 members in 1907

Address: Hon. Sec., H. F. Wightman, Chellaston, near Derby

Lehrer-Touristen-Club, Vienna, 14 April 1880

'Die Liebe zur Alpenwelt, die Begeisterung f. d. Herrlichkeiten d. Berge zu wecken u. zu erhalten'

Bericht, annual from 1881

Address: Josefgasse 12, Vienna viii. 1.

Leipziger Alpenverein

see D.u.Oe.A.-V., Leipzig

Magyarországi Kárpátgyestület

see Ungar. Karpathen-Verein

Magyarországi Turista-Egyesület, Budapest, 29 September 1891

Formed from the Budapest and other Sections of the Ungar.-Karpathen Verein, q.v.

Turisták Lapja, monthly from 1889

There are 9 Sections

Manchester Zweigverein, 14 March 1889

This is affiliated to the D.u.Oe.A.-V. See note under Alpine Association

Mazamas, Portland, Oregon, 19 July 1894; succeeded the Oregon Alpine Club, 14 September 1887-1890

'The exploration of snow-peaks and other mountains, especially of the Pacific North-West, the preservation of features of mountain scenery, and the dissemination of knowledge concerning the beauty and grandeur of the mountain scenery of the Pacific North-West. Any person who has climbed to the summit of a snow peak shall be eligible for membership.' Over 200 members

Mazama, irregular from 1896

Mount Whitney Club, Visalia, Col., 1902

'To aid in making Mount Whitney, the crown of the Sierras, and the adjacent mountain region better known to the world.' Over 100 members

Journal, irregular from 1902

Mountain Club, Cape Town, 1891

'Organisation of mountain expeditions in South Africa'

Mountain Club Annual, from 1894, except 1897

This Club has three sections, at present dormant. There are 457 members

Address: Hon. Sec., G. F. Travers-Jackson, P.O. Box 164, Cape Town

Nederlandische Alpen-Vereeniging, Leyden, 2 June 1902

'De Vereeniging stelt sich ten doel de kennis der berglanden in het algemeen en der Alpen in het bijzonder onder de Nederlanders te verbreiden'

Mededeelingen, twice a year from 1903

Address: Schiedam

New Zealand Alpine Club, Christchurch, 11 March 1891

'To acquire information regarding New Zealand mountains . . . to inculcate knowledge of the general principles of alpine climbing . . . to encourage art, literature, and photography in connection with the mountains, to record mountain adventure and science.' Qualification for membership similar to that for the Alpine Club, London

Alpine Journal, half-yearly, nos. 1-9, April 1892-May 1896

Hon. Sec.: G. E. Mannering, Timaru, N.Z.

Niederösterreichischer Gebirgsverein, Vienna, 25 March 1890;
became, 14 March 1904, **Oesterreich. Gebirgsverein**

'Die Kenntniss d. deutschen Alpenländer Oesterreichs zu verbreiten u. zu vertiefen; die Zugänglichkeit u. d. Besuch derselben, insbesondere aber des Wiener Ausflugsgebietes zu fördern; seinen Mitgliedern Gelegenheit zu bieten, die ganzen Ostalpen u. auch andere Berggegenden zu besuchen, und ihnen deren Kenntniss zu vermitteln'

Der Gebirgsfreund, monthly, from 1889; *Josefswarte Panorama*, 1892; Brietze, *Der Türrnitzer Hüger*, 1895

Address: Lerchenfelderstr. 39, Vienna VII/2. About 5,500 members

Norske Turistforening, Christiania, 21 January 1868

'Foreningens nærmeste oiemed er dels vel medlemmernes kontingent, dels ved udgivelse af foreningens skrifter at erhverve midler til at lette og udvikle turistlivet her i landet.' Over 2,300 members

Aarbog, from 1869; *Indez*, 1894; *Catalogue*, 1896

Norwegian Club, London, 25 January 1894

'To unite those who are interested in or acquainted with Norway and Sweden, either as travellers, mountaineers, sportsmen, artists, etc., by providing them with opportunities of meeting in London'

Yearbook, from 1896

Address: 112 Strand, London. 125 members

Oesterreichischer Alpenclub, Vienna, 5 December 1878; till 25 January 1884 called Alpen-Club Oesterreich

'Die Kenntniss d. österreich. Alpenwelt möglichst zu verallgemeinern und d. Bereisung derselben zu erleichtern'

Oesterreich. Alpenzeitung, fortnightly from 1879; *Katalog*, 1887; *Festschrift*, in 'Alpenzeitung,' 1903; Biendl, *Skitouren*, 1906

Address: Getreidemarkt 10, Vienna I. About 800 members

Oesterreichischer Alpenverein, Vienna, 19 November 1862-1873;
united in 1874 with the **Deutscher A.-V., q.v.**, to form the **D.u.Oe.A.-V., q.v.**

'Die Kenntnisse von den Alpen mit besonderer Berücksichtigung der österreichischen zu verbreiten und zu erweitern, die Liebe zu ihnen zu fördern und ihre Bereisung zu erleichtern'

Mittheilungen, 2 vols, 1863-1864; *Verhandlungen*, one part only published separately, 1864; *Jahrbuch*, 9 vols, 1865-1873; Pernhart, *Panorama v. d. Spitze d. Gr. Glockners*, 1865

Oesterreichischer Gebirgsverein

see Niederösterreich. Gebirgsverein

Oesterreichischer Touristen-Club, Vienna, 18 May 1869

'Förderung des Alpinismus und der Touristik, Erweiterung der Kenntnisse der Gebirgswelt, Hebung des Verkehrs und Erleichterung des Reisens in den österreich. Gebirgsländern.' [Original aim, 'Erleichterte, lehrreiche u. möglichst billige Bereisung d. österreich. Gebirgswelt']

Jahresbericht, 1870-1872, continued as *Jahrbuch*, 1873-1881; Frischau, *Tafeln z. Höhenmessungen*, 1877; *Katalog*, 1878, 1902; Wallmann, *Gründung*, 1879; Frank, *Tabelle z. Holzgewächse*, 1879; *Chronik*, 10 vols, bi-monthly 1881-2 and annual, 1883-1890; *Oesterreich. Touristen-Zeitung*, fortnightly from 1881; Wallmann u. Rabl, *Oesterreich. Touristen-Kalender*, 1882, 1883; *Kränzchen-Almanach*, 1882; Fink, *Touristen-Vademecum*, 1889, 1905; Gröger u. Rabl, *Die Entwicklung d. Hochtouristik*, 1890; Fehlinger, *Grundsätze f. Wegmarkierungen*, 1892; also various maps

Address: Bäckerstrasse 3, Vienna I. About 14,000 members

Sections, 65, numerous 'Alpine Gesellschaften' not included. Many of them publish reports, etc.

The publications of the following may be mentioned:—

Alpine Gesellschaft Krumholz, 4 April 1882. 'Die Erstätigung auf alpinem

u. alpin-humanitärem Gebiete, durch Bekleidung u. Erteilung armer Gebirgskinder im Alpengebiet.' *Die Krummholz Zeitung*, 1892-1899
Baden, 1878. *Katalog*, 1894; *Gedenkschrift*, 1903
Dresden, 29 November 1901. *Jahrbuch*, 1905
Eisenkappel, 1877. *Tourenverzeichniss*, 1880, 1885; *Gedenkschrift*, 1902
munden, 1877. *Krackowitz*, *Das Wirken d. Sektion 1877-1887*, 1887; *Krackowitz*, *Hera u. Sport*, 1906
Krems-Stein, 1882. *Ausflüge in die Wachau*, 1902
Innsbruck. Müller, *Tiroler Alpenbilder*, 1884
Section f. Höhlenkunde, originally Verein f. Höhlenkunde, q.v. *Mittheilungen*, 7 vols, monthly 1882-1888, when it became the following
Section f. Naturkunde. *Mittheilungen*, monthly from 1889
Wiener-Neustadt, 1878: originally Wr-Neustädter Touristen-Club, q.v. *Katalog*, 1899; *Gedenkschrift*, 1903; Mühlhofer, *Eisenstein-Grotte*, 1906
 The names of other Sections can be found in the 'D.u.Oe.A.-V. Kalender'
 The following have been published by the Central Office or by the Sections:—

Guide-books:—

Frauberger, *Miesenbachthal*, 1870; Fischer, *Schneeberg*, 1873; Ziegler, *Leobersdorf-Gutenstein*, 1. Th. Wiener Tour.-Führer, 1884; Rabl, *Raxalpe*, 1877, 1883, 1897, *Sannthaler Alpen*, 1877, *Leobersdorf-Kaunberg*, 1880, *Traisenthal*, 2 pts, 1881, 1884, *Semmering*, 2. Aufl. 1883, 6. Aufl. 1890, 1902, *Zwettl u. d. Kamptal*, 1884, 1891, 1883, *Wachau*, 1890, *Abbasia*, 2 Auflagen 1890; Fruwirth, *Dürrenstein*, 1882, *Maria Zell*, 1892, 1901; Leeder, *Schneeberg*, 1883, 1889, 1898; Friachauf, *Monte Baldo*, 1883, *Gebirgsführer*, 3. Aufl. 1883, *Italien. Gebirge*, 1887; Müller, *Innsbruck bis Bludenz*, 1883; Zelinka, *Waidhofen*, 4. Aufl. 1886; Klotz, *Lechthal*, 1886, 1890; Reska, *Lofer*, 1890; Meurer, *Madonna di Campiglio*, 1889; Kranzer, *Amstetten*, 1886; Jahne, *Eisenkappel*, 1903; Eichert, *Hohe Wand*, 1903, 1904, 1906, *Rosaliengebirge*, 1903; Steiner, *Bischofshofen*, 1895; and the following were anonymous:—*Mährische Schweiz*, 1880; *Wien-Aspang*, 1882, 1884, 1892 (Märzroth); *Windischgarsten*, 1883, 1888; *Innsbruck*, 1885; *Wienerwald*, 1887; *Mattsee u. Seeham*, 1886; *Ost-Karawanken*, 1886

Panoramas, published in the 'Jahrbuch,' etc., and separately with text:—

Silberhuber, *Gr. Sonnkleitstein, Schneeberg*; Schifflner, *Spindeleben*; Haas, *Hoher Lindkogel, Leopoldsberg, Hermannskogel, Heukuppe, Wetterkogel, Rossbrand, Hallenmauern, Tamischbachturm*; Urlinger, *Gr. Oetscher*; Pernhart, *Hochschwab, Gr. Gallenberg, Triglav, Gr. Stou*; Sattler, *Gaisberg*; Zoff, *Mte. Maggiore, Grintovc, Hochgolling*; Baumgartner, *Helm, Schmettenhöhe, Bernkogel*; Mülbacher, *Zwieselalpe, Gr. Priel, Wildenkogel, Traunstein*; Schönberg, *Hoher Hundstein*; Machanek, *Unterberg*; Siegl, *Mte. Baldo, Eiserner Thor, Schlern, Monte Roën, Cerna Perst, Göstritz*; Schweighofer, *Gr. Bösenstein*; Gatt, *Venet, Patscherkofel*; Pavich von Pfauenthal, *Hochmöbling, Castell Alimonda, Sagrado*; Reithmeyer, *Karawanken, Gaberg*; Ender, *Nussingkogel*; Geyer, *Brucker-Hochalpe*; Edlbacher, *Pöstlingberg*; Jaussner, *Jenfeld*; Kofler, *Hochobir*; Blamauer, *Jochgraben-Warte, Schopfl*; Plant, *Laugenspitze*; Jirasek, *Wr-Neustädterwarte*; Gutmann, *Goldhann-Warte*; Hartmann, *Plattenberg*; Walter, *Rittnerhorn*

Oesterreichisch-ungarischer alpinen Verband, Vienna

'Unter Währung der vollen Actionsfreiheit jeder einzelnen Corporation, mit vereinten Kräften f. d. alpin-tour. Sache in Oesterreich-Ungarn zu wirken, u. das Gefühl d. Zusammengehörigkeit . . . zu stärken.'

This was suggested at a meeting of Club delegates on 4 August 1882, but came to nothing. Compare the later 'Verband alp. Vereinigungen.'

Oregon Alpine Club

see Mazamas

Oxford Alpine Club, 25 November 1875

'The Club shall consist of resident members of the University interested in the objects of the Alpine Club.' 37 resident members

Hon. Sec., A. Zimmern, New College, Oxford

Pennine Club

see Derbyshire Pennine Club

Petite Société alpine de Cogne, 1870

Not a constituted society. Formed by MM. les Abbés Chamonin, Vescoz, and Carrel, for the writing of the undermentioned work, which appeared first in the 'Feuille d'Aoste,' 1870
Géographie du Pays d'Aoste, 1870

Piolet Club, Geneva, 17 February 1898

'De développer le noble sport de la montagne.' Joined in 1905 the Fédération montagnarde, q.v. 83 members
Le Piolet, monthly 1899-1904
Address: 3 rue Vallin, Geneva

Piolet Club lausannois, 1 August 1901

'De développer l'alpinisme parmi les jeunes gens.' 20 members
Address: President, C. Thonney, rue du Tunnel 8, Lausanne

Rocher-Club, Grenoble, 12 July 1895-1898

'De développer le goût des escalades de rochers, exclusivement sans guides, c'est-à-dire de développer le courage, mais surtout le sang-froid, l'esprit d'initiative et le coup-d'œil qui peuvent manquer aux alpinistes toujours accompagnés de guide'

Rocky Mountain Club, Colorado Springs, 15 April 1876

'Scientific exploration of the Rocky Mountains.' Does this still exist?

Rucksack Club, Manchester, 18 October 1902

'The objects of the Club are to facilitate walking tours, cave exploration, and mountaineering in the British Isles and elsewhere'
Annual Report, 1903-1906; Journal, annual, started in 1907
Headquarters: Albion Hotel, Piccadilly, Manchester. 96 members

Russian Alpine Club, Russkoe gornoe obshchestvo, Moscow, 28 April 1901

'Créer un centre d'union entre les explorateurs et les amateurs d'excursions dans les montagnes'
Year-book from 1903, in Russian
Address: A. v. Meck, Obuchoff per. 6, Moscow

San-gaku-gwai

see Japanese Alpine Club

Sannthaler Comité, 1875, i.e. Sannthaler Alpenclub, Cilli, 1877

In 1884 became a section of the D.u.Oe.A.-V. It was an active club of about 50 members
'Die weitere Zugänglichmachung d. Sannthaler Alpen'

Schweizer Alpen-Club

see Club alpin suisse

Scottish Mountaineering Club, Edinburgh, 11 February 1889

'To encourage mountaineering in Scotland in winter as well as summer . . . and to further everything that will conduce to the convenience of those who take a pleasure in mountaineering and mountain scenery.' 170 members; qualification, ascents of, or contributions to science, art, or literature of Scottish mountains
Journal, twice a year from 1890
Address: 20 George Street, Edinburgh

Siebenbürgischer Karpathenverein, Hermannstadt, 28 November 1880; successor to the Siebenbürgischer Alpenverein, Kronstadt, 1878

'Die Karpathen Siebenbürgens und deren angrenzende Teile zu erschliessen.'
2,226 members
Jahrbuch, from 1881; *Führerbuch*, 1884; Déchy, *Bilder aus d. siebenbürg. Karpathen*, 1886; *Festalbum 1880-1903*, 1905

Sections, 11

Hermannstadt, 25 February 1881. *Fremdenführer v. Hermannstadt*, 1884, 1896, 1902 (the last in German, Hungarian, and Rumanisch); *Album v. H.*, 1896, 1902

Kronstadt, 2 April 1881. Römer, *Ein Rückblick*, 1881; Fieltch, *Die Stadt Kronstadt*, 1885; *Erinnerungsblatt*, 1886; *Aus d. Pflanzenwelt d. Burgenländer Berge*, 1898; Miess, *Tourenwesen*, n.d.; and various maps

Sierra Club, San Francisco, 4 June 1892

'To explore, enjoy, and render accessible the mountain regions of the Pacific Coast'

Bulletin, irregular, from 1893

Address: 2901 Channingway, Berkeley, Cal.

Ski-Verband, Mittel-Europäischer, Munich, 5 November 1905

A union of the German, the Austrian, and the Swiss 'Skiverbände.' This Union represents some 160 clubs and small societies, with a total membership of about 7,000. The official organ is *Ski*, published in Bale. Many of the Sections of the leading Alpine Clubs have sub-sections for ski-ing; and there are also numerous societies for ski-ing in Norway, Sweden, France, England and the United States

Slovenské alpské družstvo, Prag, 1898

Alpský Vestník, monthly from 1898

Slovensko planinsko društvo, Laibach, 10 January 1893

Planinski Vestnik, monthly from 1894

Has also published several local guide-books

Società alpina friulana, Udine, 1 January 1881; formed 21 April 1879 as Sez. friulana d. C.A.I., q.v.

'Di conoscere sotto l'aspetto materiale, scientifico, economico ed estetico le montagne . . . di assuefare i giovani alle escursioni e di addestrarli alle ascese alpine.' 310 members

Marinelli, *L' alpinismo in Friuli 1878-1879*, 1879; *Cronaca*, 8 vols, 1881-1888; Marinelli, *Materiali per l'altrimetria italiana*, 1884; Marinelli, etc., *Guida del Friuli*, (1) *Illustrazione del Comune di Udine*, 1886, (2) *Canal d. Ferro*, 1894, (3) *Carnia*, 1898; *Commemorazione d. Conte G. di Brazza-Savorgnan*, 1888; *In Alto*, six times a year, from 1890; *Catalogo*, 1887-1890; Taramelli, *Commemorazione di G. Marinelli*, 1901

Address: Via Nicolo Lionello 10, Udine

— **Circolo speleologico**, 1 January 1898. *Mondo sotterraneo*, 6 times a year from 1904

Società alpina delle Giulie, Trieste, 1886; formed 23 March 1883 as Soc. d. Alpinisti Triestini

'La visita, lo studio e l'illustrazione delle montagne in generale, delle Alpi Giulie in particolare, nonchè l'esplorazione delle caverne e grotte'

Atti e Memorie, 3 vols, 1885, 1887, 1893; *Alpi Giulie*, six times a year from 1896

Address: Via del Ponto rosso 9, Trieste. About 500 members

Società alpina dell'Istria, Fiume, 1875

'Di far conoscere le Alpi Giulie.' Does this still exist?

Società alpina meridionale, Naples, 1 July 1892-1899; later fused with the C.A.I., Napoli

Bollettino trimestrale, 6 vols, 1893-1898; this was continued as 'L' Appennino Centrale,' see C.A.I. Napoli; *Calendario*, 4 vols, 1896-1900, except 1898

Società alpina operaia A. Stoppani, Lecco, 1 May 1889; first called Compagnia alpina di Lecco, and later Circolo alpino operajo Lecchese

'L' unione e la fratellanza, il divertimento, le passeggiate ed escursioni in montagna . . . concorrendo in tutte quelle opere riconosciute atte a promuovere ed incoraggiare la moralità e l' intelligenza a degli operai'

xx. Aniversario di fondazione, 1903

Società alpina di Palermo, 1888; became in 1899 C.A.I. Sez. Palermo, q.v.

Società alpina del Trentino, Arco, 9 February 1873; since 1880 **Società d. Alpinisti tridentini**

'La visita, lo studio e l' illustrazione delle montagne e specialmente di quelle del Trentino'

Annuario from 1874; nos. 15, 17, 18, 21 of the 'Annuario' are guide-books by O. Brentari; Gamballo, *La Valle di Rendena*, 1882; *Commemorazione di Q. Sella*, 1884; *Bollettino d. Alpinista*, rivista bimestrale, from 1904; Largaolioli, *Bibliografia d. Trentino*, 1904

Address: Via Dordi 1, Trient; alternating with Rovereto. Over 2,000 members

Società alpinisti monzei, December 1898; fused in 1899 with the C.A.I. Sez. Monza, q.v.

'Di facilitare e propugnare gite in montagne'

Società alpinisti tridentini

see Soc. alpina d. Trentino

Società alpinisti triestini

see Soc. Alpina d. Giulie

Società alpinistica e turistica 'Liburnia,' Alpen- und Touristenverein, Zara, 1899

'Di promuovere l' alpinismo e la turistica in Dalmazia e di ricercare ed esplorare le bellezze naturali del regno . . . di esplorare e d' illustrare grotte, laghi, monti ed oggetti preistorici.' 129 members

Società escursionisti Lecchesi, Lecco, 1 February 1899

'Di diffondere, facilitare e rendere popolare l' escursionismo'

Società escursionisti Milanesi, Milan, 11 August 1891

'Per diffondere, facilitare e rendere popolare l' escursionismo'

Le Prealpi, rivista trimestrale, 1902-1907; *La Festa d. Alberi*, 1905

Address: 8 Via Ciavasso, Milan. About 250 members

— *Sezione Skiatore*, 7 April 1904

Società escursionisti ossolani, Piedimulera, 28 February 1899

'Di diffondere, facilitare e rendere popolare l' alpinismo.' 428 members

L' Ossola e le sue valli, 1904; Momo, *Il canto d. Montagno*, 1905

Società escursionisti Torino, Turin, 1898

Same object as the Unione escursionisti Torinesi, q.v.

Società Rhododendro, Trento, November 1903

'Di dare incremento all' alpinismo col promuovere passeggiate e gite alpine, sulle stesse compilare relazioni . . . di concorrere, quando la cassa lo permetta, ad opere di beneficenza'

Strenna, 1903; *Bollettino*, monthly from 1904; Battisti, *Guida d. Pergine*, 1904; *Paganella*, 1905; *Guida di Mezzolombardo*, 1905; *Dizionario geogr.-statist. del Trentino*, 1906

Société Allobrogia, Geneva, 1887

'Développer l'amour de la patrie et de la montagne'

Bulletin semestriel, from 1897; 28 hectographed reports were issued, 1893-1896, and a lithographed report in 1896

Address: Collège de Genève. 81 members

Société des Alpinistes dauphinois, Grenoble, 30 January 1898 ; originally **Soc. d. jeunes Alpinistes grenoblois**, 14 January 1892

'De propager le goût des excursions dans le Dauphiné . . . de développer chez ses membres l'habitude de la marche en montagne, l'endurance à la fatigue, et de les préparer . . . à compter un jour parmi les plus solides défenseurs du pays'

Annuaire, 6 vols, 1892-1897 ; *Revue d. Alpes dauphinoises*, monthly from 1898

Address : Place Grenette 6 bis, Grenoble

Société des excursionnistes Marseillais, Marseilles, 28 March 1897

'A pour but de développer le goût des exercices physiques et des excursions, principalement en montagne, et de faire connaître nos sites intéressants et nos montagnes des Alpes'

Bulletin annuel, from 1900

Société des Grimpeurs des Alpes, Grenoble, 9 June 1899

'De propager le goût des excursions et de favoriser le développement de l'alpinisme, principalement en Dauphiné.' About 230 members

Société des Gyms-montagnards, Geneva, 1894

Address : Quai de la Poste 8, Geneva.

Société Ramond, Bagnères-de-Bigorre, August 1865

'L'étude de la chaîne Pyrénéenne, soit au point de vue scientifique, soit au point de vue des explorations proprement dites.' About 80 members

Explorations Pyrénéennes, quarterly from 1866

Société des Touristes du Dauphiné, Grenoble, 24 May 1875

'L'étude des Alpes dauphinoises tant au point de vue de la science qu'à celui des excursions'

Annuaire, from 1875 ; *Index*, 1897 ; *Bulletin indicateur*, 1876, 1889 ; *Guides, porteurs et muletiers*, 1876, 1885, 1896, 1901, 1906 ; Merceron-Vicat, *Les dix premières années*, 1886 ; Collet, *Notice sur la Société*, 1892 ; Chabrand, *Les guides de la Société*, 1892 ; *Catalogue*, 1897 ; *Tarif, La Grave*, etc., 1898 ; Kilian, *Variations d. glaciers*, 1900

This Society has 465 members, and one section, in Paris, since 1883

Société des touristes savoyards, Chambéry, 1863-1874

A forerunner of the C.A.F. Section Savoie, q.v.

Spéléologie, Société de, Paris, 5 February 1895

'Pour assurer l'exploration . . . des cavités souterraines'

Spelunca, *bulletin*, quarterly from 1895 ; *Mémoires*, 1896-1902, later united with the 'Bulletin'

Several sections of the leading Alpine Clubs and some of the smaller clubs—such as, q.v., C.A.I. Rome, D.u.Oe.A.-V. Küstenland, Oe.T.-C. Höhlenkunde, Rucksack Club, Soc. alp. friulana, Soc. alp. Giulie, Soc. alpinist. Liburnia—are largely interested in speleology, so that the subject must be included in this list. See also 'Verein f. Höhlenkunde'

Sportklub Ampezzo, Cortina, 24 January 1903

'Hebung d. Fremdenverkehrs . . . Bergsteigen, Skilaufen, Radfahren . . . u. alle anderen Sporte zu pflegen.' 226 members ; international

Steiner Touristenclub, Carinthia, 1876-?1884

'Die weitere Zugänglichmachung der Steiner-Alpen'

Steirischer Gebirgs-Verein, Graz, March 1873 ; originally **Verein d. Gebirgsfreunde in Steiermark**, 4 May 1869

'Die Förderung des Touristenwesens und Fremdenverkehrs in Steiermark, die Bethätigung humanitärer Bestrebungen, endlich die Erschliessung der steirischen Gebirgswelt für weitere Kreise'

Jahresbericht, annual 1869-1873, and annual from 1883 ; *Jahrbuch*, annual 1874-1882 ; *Steyrische Wanderbücher*, 5 vols, 1881-1885 ; Haas, *Panorama*

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mit Text v. d. Gleinalpe, and v. d. Zirbitzkogel, 1883; Wagner, *Panorama mit Text v. Hochlantsch*, 1883; *Katalog*, 1895
Address: Graz. 1,128 members. No sections

Südungarischer Alpinistenklub, or Banater Alpen-Club, Karansebes, 1877-? 1880

'Die Erforschung der Banater Alpen'

Südungarischer Karpathenverein, Temesvár

Südkarpathen, annual from 1905

Svenska turistföreningen, Stockholm, 27 February 1885

'Att i fosterlandets intresse utveckla och underlätta turistväsendet inom Sverige samt arbeta för spridandet af kändedomen om land och folk'

Circulär, annual from 1885; *Årsskrift*, from 1886; Arlberg, *Touristen-Kalender*, 1893; also various local guide-books

Address: Stockholm 16. 38,722 members

Techniker Alpen-Club, Graz, September 1873

'Ausübung des Bergsportes: gesellige Zusammenkünfte verbunden mit belehrenden Vorträgen.' 35 members

Denkschrift, 1898

Tiroler Bergsteiger-Gesellschaft 'Alpler,' Innsbruck, 10 February 1893

'Die Förderung des rationellen Bergsteigens in Tirol, Anleitung zur Ausführung von Hochtouren und Ertheilung von Auskünften über alpine Fragen.' 18 members

Touristenclub Edelweiss, St. Gallen, 23 November 1893

'Den Freunden der Bergwelt die Alpenregionen u. namentlich das Alpstein-gebiet näher zu erschliessen, u. Kameradschaft, wie edle Geselligkeit unter seinen Mitgliedern zu pflegen.' 271 members

Towarzystwo Tatrzzańskie, Cracow, 10 May 1874

'Umiejtne badanie Karpat, a w szczególności Tatr i Pienin, oraz rozpozszecznianie zebranych o nich wiadomości.' About 500 members

Pamiętnik, annual from 1876

Address: Zakofane, Galicia

— **Sekoya Turystyczna**, 1903: a section for expert climbers only, about 50 members. *Taternik*, 6 times a year, started in 1907.
There are 3 district sections of the T. T.

Tsingtau Bergverein, China, 1899

Affiliated to the D.u.Oe.A.-V.

'Die Aufschliessung und den Besuch der an Naturschönheiten reichen gebirgigen Gegenden unseres Gebietes nach Möglichkeit zu fördern u. zu erleichtern'

Turner-Bergsteiger, Graz, 27 September 1901

Address: Restaurant 'Stadt-Neugraz'

Ungarischer Karpathen-Verein, Magyarországi Kárpát-Egyesület, Kesmark, 10 August 1873

'Die Karpathen, insbesondere aber die Centralkarpathen oder die Hohe Tatra zu erschliessen, sie in wissenschaftlichen Beziehung zu erforschen . . . überhaupt das Interesse für dieses Gebirge zu beleben und zu verbreiten'

Jahrbuch, from 1874; Kolbenhoyer, *Karte d. Hohen Tatra*, 1877; Payer, *Bibliotheca Carpathica*, 1880; Kolbenhoyer, *Führer d. d. Hohen Tatra*, 1882, 10. Auf. 1898; *Festschrift*, 1883; Dénes, *Wegweiser durch die ungar. Karpathen*, 1888

The Budapest Section became in 1891 the Magyar. Turista-Egyesület, q.v.

This club has 8 sections: Egri Bükk; Eperjes; Gölnicfal, Gölnicbánya; Igló; Ost-Karpath, Budapest; Lőcse; Schlesien; Zólyom, Besztercebánya; Liptó, Liptószentmiklós; about 2,300 members. Address: Igló

— **Sektion Schlesien, Breslau.** Müller, *Wegweiser f. d. Hohe Tatra*, 1876, 1905

Ungarischer Touristen-Verein

see Magyar. Turista-Egyesület

Union montagnarde ancienne, Geneva, 1890

Le Montagnard, organe mensuel, 1890-1900

Address: rue Pierre Fatio, 8, Geneva

Union des touristes grenoblois, Grenoble, 1 February 1882-1883

'Développer les connaissances des diverses parties du département et habituer la jeunesse à la marche et aux fatigues'

Unione escursionisti Torinesi, 1 October 1892

'Promuove e favorisce l' amore per l' escursionismo; organizza e favorisce comitive in montagna'

Programma, annual from 1893; *L'escursionista*, monthly from 1899; *Itinerari alpine*, 1899; *Calendario*, annual from 1905; *Escursioni nelle Prealpi*, 1905

Address: Via dei Mille 14, Turin

Verband alpiner Vereinigungen, Vienna, May 1903-1906

The object of this 'Verband' was to form a bond of union for the larger and the very numerous smaller alpine clubs in Vienna. Compare the Oesterr.-ung. alp. Verband.

Verband deutscher Touristen u. Gebirgs-Vereine, Frankfurt a.M., 15 October 1883

'Die Bestrebungen des Touristenwesens im deutschen Vaterland zu fördern u. zu unterstützen; die Erforschung u. Kenntniss d. deutschen Gebirge in touristischer u. wissenschaftlicher Beziehung zu hegen u. zu pflegen'

Der Tourist, fortnightly from 1883

This is the union of some 50 societies, many of which are somewhat interested in mountaineering, such as Vogesenclub, 1872; Glatzer Gebirgsverein; Hannover'scher Gebirgsverein; Harzclub; Erzgebirgsverein, 1879; Fichtelgebirgsverein. Most of the 50 publish journals

Verein der Gebirgsfreunde in Steiermark

see Steirischer Gebirgs-Verein

Verein für Höhlenkunde, Vienna, 11 October 1879 - 6 April 1881

'Die wissenschaftliche u. touristische Erforschung von Höhlen'

Literatur-Anzeiger, 5 nos. 1880

Became a section of the Oe. Tour.-Club, q.v.

Wayfarers' Club, Liverpool, November 1906

'To promote the pursuits of walking, climbing, and allied sports among its members, and to bring together persons who are desirous of making the same excursions or ascents.' 60 members

Address: Hon. Sec., G. D. Ricketts, University of Liverpool.

White Mountain Club, Portland, U.S.A., 1870 or 1873

Chiefly a social club. Does this still exist?

Wiener Bergsteigerbund, 8 December 1905

'Bezweckt die wirksamste Unterstützung und Förderung alpiner Interessen, sowie der Gefälligkeit unter die Vereinsangehörigen.' 14 members

Address: Neubaugasse 46, Vienna vii/2

Wiener-Neustädter Touristenklub, June 1876 - 23 May 1878

Became a section of the Oesterr. Tourist.-Club, q.v.

'Förderung d. Touristenwesen und insbesondere des Besuches u. d. Kenntniss d. österr. Gebirgswelt'

Wilde Banda, Innsbruck, 18 October 1878

'Pflege der Bergsteigerei, alpine Turistik; Förderung u. Unterstützung gemeinnütziger alpiner u. alpin-humanitärer Unternehmungen.' 18 members.

Address: Gasthof Hellenstainer, Innsbruck

Wilde Banda, Vienna, 28 March 1878-1888

'Förderung alpiner Unternehmungen, Errichtung von Schutzhäusern und Herstellung von Wegen in den Alpen'

Rechenschaftsberichte, 1875, 1877; *Ortlerführer*, 1876

A small active club formed within the Oest. Touristen-Club, originally limited to 6 members, increased to 12 in 1876

Williamstown, Mass., Alpine Club, or Alpine Club of Massachusetts, April 1868

'To explore the interesting places in the vicinity, to become acquainted, to some extent at least, with the natural history of the localities, and also to improve the pedestrian powers of the members'

A club of not more than 24 members for local excursions only, with no alpine attribute but in the name. It existed in 1886; does it still exist?

Winter Alpine Club, Manchester, November 1905

'To enable winter visitors to the Alps to get information and travelling facilities.' 20 members

Address: Hon. Sec., W. Coles, 77A Market Street, Manchester

Wocheiner Triglav-Verein, Carinthia, ? 1874**Yorkshire Ramblers' Club, Leeds, 6 October 1892**

'To organise walking and mountaineering excursions and to gather and promote knowledge concerning natural history . . . and kindred subjects [till 1895, 'also to further the objects of the Commons Preservation Society']. Over 90 members; qualification required, but undefined

Annual Report, 1892-1898; *Journal*, twice yearly from 1899

Address: 10 Park Street, Leeds

THE ALPINE CLUB ANNUAL PHOTOGRAPHIC EXHIBITION.

THE Annual Exhibition of Photographs was held, as usual, in May, and proved to be considerably above the average both as regards the number of exhibits and the high level of general excellence attained by them.

What struck one particularly on perusing the catalogue was that, with a few exceptions, such as the Andes and Alaska, nearly every mountainous district in the world was represented.

Miss Benham sent three taken in New Zealand, two in the Canadian Rockies, one in Japan, and one in Corsica, all of which showed both technical and artistic skill.

Mr. Longstaff exhibited two very fine views of the Himalayas, that of Nanda Kot being particularly so.

The Hon. Mrs. Bruce showed some charming pictures taken amongst the Kaghan Mountains, and we were particularly impressed with the view from Makra and the Panorama of the Kaghan Mountains.

Mr. Rickmer-Rickmers took us into a new country with his views of the Bokhara Mountains, showing scenery of much grandeur, which should tempt some of our enterprising members to pay it a visit. Mr. Stutfield sent a view taken in the Mountains of Morocco, and Miss Mudd one taken in Norway (this year strangely neglected).

As has been the case of late years, a very fair proportion of the exhibits was sent by ladies. Mrs. Bruce's and Miss Benham's have already been noticed. Miss Edna Walter again demonstrates that she is no tyro. Her panorama of the Finsteraarjoch was most pleasing and showed much taste in the method of mounting and framing. She also exhibited two effective photographs of icefalls—very similar, though that entitled 'The Lower Grindelwald Glacier' struck us as a little the better of the two. The technique of all her exhibits was excellent.

Mrs. Beatrice Taylor had a delightful picture in her 'Near Tre Croce, Tyrol,' and Miss Evelyn Arkle must have pleased the impressionist with her 'Stormy Evening on the Col de Bertol.'

Two exhibits sent by Miss Collin displayed much taste in colour and framing. That of the summit of the Wetterhorn showed what an extraordinary year the last must have been. It is very unusual to find so much bare rock at the top.

Mrs. A. G. Spencer sent a very artistic photograph taken in the Chamonix valley, excellent alike for composition and lighting, and Miss Elsie Ellis delighted us with a very tasteful rendering of the well-known view of the Mer de Glace from the Montanvert.

Of those exhibited by Miss Venables 'A Street in Sierre' made a charming little picture. She also sent six very good lantern slides from photographs taken in and about Saas Fee.

The most striking pictures in the room were undoubtedly five of Fuji San by Mr. Ponting, the view through the pines being particularly effective. They were all remarkably fine enlargements of a very pleasing and artistic colour, as also was his other of the Great Wall of China.

Mr. G. Hastings sent six very good exhibits, all worthy of better frames. We liked best the one of the 'Col de la Brenva and Upper Icefall.'

One of the gems of the Exhibition was the Rev. F. C. Bainbridge Bell's 'On the Riffel Alp Path,' the winding path and the pines framing the peaks of the Mischabel making an altogether delightful composition. The colour, which was an artistic green, also suited the subject to perfection, but the frame struck us as a little heavy.

Mr. Sydney Spencer this year confined his exhibits to the modest dimensions of 12 in. by 10 in., but what was lacking in size was certainly not lost in beauty. Where all were so good it is hard to discriminate, but his picture of the Waterfall in the Val di Genova was really remarkable. With a very small stretch of the imagination one could see the rainbow in the sunlit spray. He was equally successful with his photograph of Fontainemore, which is a charming composition, admirably lighted, and, needless to say, of perfect technique.

Mr. Woolley only showed us two of his masterpieces, both charming winter effects, alike excellent from a technical and pictorial point of view. In fact, that from Le Bourgeat, Chamonix, was one of the most perfect photographs in the whole exhibition.

Mr. Staffurth is one of the best of the recent recruits to our

exhibition. The Grandes Jorasses from Courmayeur was distinguished by great delicacy of tone and good composition.

Mr. Hoek showed a fine rendering of a somewhat hackneyed subject in his Fünffingerspitze.

Mr. Thurston Holland again sent six very fine enlargements, the Oberland from the Pigne d'Arolla and the Aiguilles Rouges being both magnificent specimens of the photographer's art. He also showed a beautiful set of lantern slides.

Dr. Northall Laurie had a beautiful picture in his 'Morning Mists across the Glacier d'Orny,' and Mr. W. T. Lister was equally successful in a cloudy morning on the Cevedale.

Mr. Alfred Holmes's best exhibit was that of the Nord End taken from the Dufourspitze, the track up the snow ridge being marvelously defined; he also secured some very fine icicle effects in his photograph near the summit of the Punta Gnifetti.

Mr. Nettleton is to be congratulated on a very fine picture in the south peak of the Aiguilles Rouges, the peaks, beyond making a very effective background, and not inferior was his photograph of Mont Blanc from the Grands Montets.

Of Mr. Wollaston's two that of Monte Viso was much the better, being both pictorially and technically excellent. In his view of the Südlenzspitz from the Nadelhorn he has too much cloudless sky—doubtless a joy to the climber—and he would have done better to have got his centre ridge a little more diagonally.

Mr. Somers did not this year attempt to rival his exhibit of last year, and contented himself with two very realistic little figure studies on the bergschrund on the south side of the Lyskamm. Mr. Winthrop Young also exhibited three charming figure studies, but of a different nature.

Mr. Montague Murray sent four very large frames, the best of which was his 'Midday Clouds.' The other three struck one as being thin and over-exposed.

Mr. Noel Hood also sent a very large picture of the Matterhorn from the Rothhorn, but it was of a poor colour and would not bear a very close inspection; the figures of 'L'autre Caravane' on the final ridge of the Rothhorn were interesting.

Mr. R. C. R. Nevill exhibited a fine photograph of the bergschrund on the Grand Paradis, but possibly a green tint would have been preferable to the rather too bright blue. His summit of the Grande Casse was very fine, the four figures standing out on the sky line adding interest to it.

Mr. J. J. Withers sent six taken chiefly in the Engadine, those of Monte Disgrazia from the Capanna Cecilia and from the Canciano Pass respectively being the best.

Mr. J. J. Wyatt showed great technical skill in his Cima della Madonna and Tofana di Razes; they were both well printed and tastefully framed.

Mr. Gover was hardly so successful as in previous years, his photograph of the arête of the Aiguille du Chardonnet appearing very flat and wanting in proper lighting.

Mr. Mumm had six photographs of the Biferten Stock and district, which, though small, were very pleasing.

Mr. O. K. Williamson showed a fine, bold picture in his final peak of the Dent de Requin, and hardly less striking was Mr. Arnold Jones's Mt. Pourri and Mt. Blanc from the Pointe de la Sana. Mr. Jones also exhibited two excellent telephotos.

Other photographs which caught the eye were Mr. Fuller England's 'Spiez, Lake of Thun,' remarkable for its beautiful technique; an unusual view of the Matterhorn from the Château des Dames by Mr. Priestman, Mr. Norman Collie's very charming pictures of the Coolins, Mr. Reginald Graham's 'Weisshorn from the Festi Glacier,' and Dr. Atkin Swan's 'Sorapis and Antelao' and 'Cristallino;' the last named also sent four other exhibits of equal beauty.

Mention must also be made of Mr. Symons's 'Cornice on the Lauterbrunnen Breithorn' and the Rev. W. C. Compton's 'Sandy Pylos.'

We cannot conclude without drawing attention to the delightfully interesting set of stereoscopic slides sent by Mr. Winthrop Young. Fortunate was the member who could spare an hour to thoroughly examine and thereby appreciate them. The overhang on the Grépon and the descent of the Dru were most realistic.

The Rev. Walter Weston showed a very beautiful and characteristic set of coloured Japanese lantern slides.

ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 3s., can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C.

'THE ALPINE GUIDE,' THE CENTRAL ALPS. PART I.—A new edition of this portion of the 'Alpine Guide,' by the late John Ball, F.R.S., President of the Alpine Club, reconstructed and revised on behalf of the Alpine Club under the general editorship of A. V. Valentine-Richards, Fellow of Christ's College, Cambridge, is now ready, and can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C. It includes those portions of Switzerland to the north of the Rhône and Rhine valleys.

THE LATE S. LEOPOLDO BARALE.—In the 'Rivista Mensile' of the C.A.I. for May last will be found an excellent obituary notice of this famous Italian mountaineer, by S. Luigi Cibrario. All climbers will sympathise with the Italian Club in the great loss they have sustained by the death of so well known and enthusiastic a lover of the mountains.

EXHIBITION OF ALPINE PAINTINGS.—A very interesting and beautiful exhibition of paintings of Alpine and other mountain scenery, by Messrs. E. T. Compton and Harrison Compton, was

held at the galleries of the Fine Art Society, New Bond Street, in June and July last.

SKI-RUNNING.—Mr. W. R. Rickmers will be in Kitzbühel during January.

MR. EDWARD WHYMPER'S GUIDES.—We have received the twelfth edition of the 'Guide to Chamonix and the Range of Mont Blanc,' and the eleventh edition of the 'Guide to the Valley of Zermatt and the Matterhorn.' Each of these well-known works contains, as usual, a page of new and interesting notes.

NOTES ON THE ALPINE FLORA.—In the 'Climbers' Club Journal' for December 1906 will be found an interesting paper on this subject by Mr. H. Stuart Thompson, F.L.S.

THE NEW ZEALAND ALPS.—In the August number of the 'Geographical Magazine' will be found a paper by Mr. James Mackintosh Bell, Director of the Geological Survey of New Zealand, entitled 'The Heart of the Southern Alps, New Zealand.'

THE CONGRESS OF THE ITALIAN ALPINE CLUB, 1907.—The Congress will this year be held at Varallo on September 1-7. We notice that the 'Rivista Mensile' for July 1907 has changed its familiar blue cover for a more artistic one of grey.

THE NEW FELIX CABANE Q. SELLA.—This new 'cabane,' at a height of 8,680 m., on the ridge between the valleys of Gressoney and Ayas, is really a little inn like the Rifugio Torino on the Col du Géant. The service will be maintained till September 15.

AIGUILLE DE LA GLIÈRE (11,109 ft.).—In Dr. Longstaff's interesting and illuminative paper 'An Eccentric Holiday' * an account is given of an ascent of this perfect little peak *via* the icefall of the little glacier flowing S.W. from the Col de la Glière. No doubt, under the abnormal summer conditions his party here encountered, the tarn just under the snout of the glacier was obliterated by snow, and the route was a good one. On July 31, 1904, Messrs. Harold Raeburn and C. W. Walker found it not fast, not pleasant, and not particularly safe, though not seriously difficult. The icefall was almost entirely bare of snow and quite impassable, and they were only able to force a passage by scrambling up some steep, smooth, slippery, slabs underneath overhanging masses of ice. The ordinary route was followed on the descent, and is perfectly easy down the 'abominable-looking cliffs,' shaly and not very steep, overlooking the snout of the Grande Casse glacier.

The Glière is well worth doing by a party visiting Pralognan, both for the climb and the views from it. The final peak, though very steep, is good rock. The above party took 38 min. up from the Col de la Glière and 42 min. down, and from the Col to the Félix Faure Refuge exactly 1 hr.

GRANDE CASSE (8,861 m.=12,665 ft.) BY N.W. ARÊTE.—Though there are two excellent articles on this ascent in the French Alpine Club's 'Annuaire' there does not seem to be any note about it in English. It forms an interesting variation of the ordinary

* *Alpine Journal*, vol. xxi. p. 377.

route up the Grande Casse from the Refuge Félix Faure (it could also be done from Pralognan), and gives most impressive views of the magnificent N.W. face of the Grande Casse and its '800-metre ice slope.' The route is the same as that for the Col de la Grande Casse as far as the Col, then turning at once to the right the arête—more strictly perhaps the edge of the N.W. face of the Grande Casse—is followed to the main arête, reached about half an hour from the summit. If covered with plenty of snow in good condition no difficulty whatever should be encountered, but as a rule this face will probably be icy, in which case it will be best to keep as near the edge as possible, and avail oneself of the assistance of the rocks. These are of shale and disagreeably loose and treacherous.* It is also necessary to cut across the tops of a number of exceedingly steep ice couloirs, running down to the Grande Casse glacier, and the route is not one to be recommended to any one likely to be subject to 'le vertige.' The following are the times taken on the traverse of the Grande Casse, ascending by the N.W. arête:—

On August 1, 1904, Messrs. Harold Raeburn and C. W. Walker, without guides, left the Refuge Félix Faure at 2.25 a.m., traversed the débris-covered tongue of the Grande Casse glacier towards its right side, and then walked up it to the Col (4.25–4.45). The main arête was gained at 8.45 (halts totalling 25 min.) and the summit 35 min. later. The summit ridge was a beautifully sharp snow arête, corniced in places, and it was not possible to place more than one foot on the actual highest point, and not advisable to do that without the second man well anchored some way down the slope. (This is mentioned *à propos* of the discussion raised after the first ascent.†)

The return was made by the ordinary route down the Glacier des Corridors. The glacier was quitted by steep rocks on its right bank, in 2 hrs. 50 min. going time from the summit to the Refuge. There were some steps cut here, though very badly, or the descent, without crampons, would have taken longer.

REVIEWS AND NOTICES.

Mountain Sickness and its Probable Causes. By T. G. Longstaff, M.A., D.M. (London: Spottiswoode & Co. 1906.) Pp. 56. Price 1s.

IN this brochure (pp. 56), presented by Dr. Longstaff as a graduation thesis for the degree of 'M.D.'—letters which, with all due respect to the University of Oxford, sound more academic than the somewhat ambiguous inversion 'D.M.'—the subject of mountain sickness is for the first time treated in a methodical and scientific

* C.A.F. *Annuaire*, 1900, pp. 52, 67. The actual French is 'absolument désagrégée,' 'affleurement décomposée.'

† *Alpine Journal*, vol. viii. pp. 101 and 225-6.

manner. Very little fault can be found with the author's scheme of arrangement; and, whatever may be the eventual outcome of research into this matter, his physiological summary will be referred to by all future workers, while the statistics gathered together in his earlier pages must remain as a valuable collection of the actual experiences of mountaineers.

The body of Dr. Longstaff's work, prefaced by a short 'introduction' and terminated by a shorter 'conclusion,' is divided into three parts. In part i. we find the testimony of mountaineers, with appended notes on the highest inhabited regions, on balloon ascents, and on experiments in the pneumatic chamber. In part ii. the author records his own experiences and those of his companions in the Alps, the Caucasus, and the Himalaya. In part iii. the character and causes of mountain sickness are subjected to a systematic inquiry under eight headings:—section (1) dealing with the symptoms, (2) the effects of low atmospheric pressure, (3) certain changes in the atmospheric condition at high altitudes, (4) the diminished supply of oxygen, (5) changes in the blood, (6) the diminished supply of carbonic acid, (7) the effects of acclimatisation, and (8) the influence of fatigue and exhaustion.

The readers of these pages will find in them a mine of interesting record, much food for thought, and some grounds perhaps for criticism. Most climbers will recall experiences of their own or of their friends which do not at first sight appear to be accounted for by the conclusions which Dr. Longstaff draws. More careful reading of the physiological data he adduces will, however, tend generally to bring apparent anomalies into line with his argument. The fact that it is possible to work for hours at the rate of about 3,000 foot pounds per minute (p. 50) gives some idea of the enormous expenditure of energy which mountaineering may involve, and shows how readily the ordinary symptoms of fatigue, which are practically identical with those of mountain sickness, may be evoked. The work of Haldane and Priestley, alluded to on p. 47, showing that human respiration below 10,000 ft. (21·7 inches mercurial pressure) depends on the tension of carbonic acid gas in the lungs, and is consequently automatic, whereas above that height it depends on the deficiency of oxygen and becomes more or less a voluntary action, is of far-reaching importance: and the conclusions of Zuntz, Schumberg, and Loewy, cited on p. 51, showing that the consumption of oxygen on mountain heights is greater than at the sea-level, while the supply is less (p. 42), goes far towards explaining the slow rate of progress almost invariably noted at great heights. Indeed, the question is suggested whether rapid climbing in the higher ranges is a possibility. Mr. Freshfield saw Gurkhas 'going uphill very fast at 20,000 ft.' (p. 21); and Mr. Mummery's party were able to accomplish 6,000 ft. of difficult climbing to a culminating point of 19,000 ft. at the rate of 1,000 ft. per hour (p. 17). But the uniform rapid climbing of Mr. Graham's party in the Himalaya in 1883 (p. 15) stands alone; and, while Dr. Longstaff accepts these records frankly, it is perhaps not unfair to recall the existence of

those (not all of them 'interested parties') who have been inclined, on other grounds, to accept them with some reserve. But if rapid progress at great heights is possible the problems yet unsolved may prove simpler than seems likely. At any rate Dr. Longstaff's pages furnish no reasons for concluding that the highest mountains of the world may not be climbed, though the proportion of individuals to whom such a feat would be a physiological possibility is probably a small one.

'Acclimatisation' is a question to which most of us have been accustomed to attach importance; but strong grounds are given for believing that prolonged residence at great heights increases, rather than diminishes, the liability to mountain sickness, and reduces the powers of the human organism to withstand fatigue and cold. The data adduced refer mainly to the Andes and Himalaya, but our author pertinently remarks (p. 55) that 'guides have a much greater objection than amateurs to spending several consecutive days at low pressures even in the Alps.' The effects of 'training' are far different, and much of what has been usually ascribed to acclimatisation is doubtless due to training.

On the question of the treatment of mountain sickness Dr. Longstaff says practically nothing, and it will be noted that his title-page absolves him from this obligation. His note (p. 54) on the value of sugar as a food for mountaineers is, however, a useful hint both as to prevention and cure, while Sir Martin Conway's allusion (p. 16) to the beneficial effects of small doses of brandy also suggests the value of rapidly assimilable carbohydrate. The various allusions to brain anæmia point to the usefulness, referred to by several writers, of placing a sufferer with the head in a lower position than that occupied by the rest of the body.

Whether the last word has been said on the subject of mountain sickness may be questioned, but Dr. Longstaff is to be congratulated on the piece of admirable work which has led him to his simple conclusions. 'Mountain sickness,' says he, 'consists of two elements—firstly, mountain lassitude' (Major Bruce's term, p. 17), which, though felt by many at lower heights, 'can be escaped by few at altitudes of over 19,000 ft.' This condition is due to imperfect oxygenation, but above the altitude referred to it does not appear to increase in severity up to the greatest heights yet reached. 'Secondly, we have the symptoms of fatigue and exhaustion, which are more likely to occur during the ascent of mountains than under any other conditions to which the human economy is exposed' (p. 55). It seems pretty certain that most of the ordinary cases of the disorder occurring in the Alps are due mainly to this second cause, though it is probable that those individuals who succumb most readily are those who find a natural difficulty in accommodating their respiration to the conditions of low atmospheric pressure, where voluntary effort has to a large extent to replace an automatic reflex, and that in such subjects imperfect oxygenation may play a minor and a predisposing rôle.

C. W.

The Bernese Oberland. Vol. iii. 'Climbers' Guides' Series. By H. Dübli. 32mo. Pp. 136. (London: T. Fisher Unwin. 1907.) 10s.

It may seem at first sight rather quaint that vol. iii. of a work should deal with a district that topographically links on to vol. i. and not to vol. ii. But this apparent anomaly is explained by the first words of the author's preface, which state that this volume deals with the 'West Wing' of the Bernese Oberland. Thus vols. i. and ii. describe the main or central mass, extending from the Gemmi to the Grimsel, while the work before us forms as it were an appendix, and is devoted to the region stretching from the Dent de Morcles (above St. Maurice), the most westerly snowy summit of the range, to the Gemmi. It thus includes the Dent de Morcles, Grand Muveran, Diablerets, Wildhorn, and Wildstrubel groups, the loftiest summit described in these pages being the Wildhorn (10,709 ft., misprinted 10,609 ft.). It is not a country that is much visited by English climbers, though it is well adapted for exploration early or late in the season. It does not boast of any very difficult climbs, save the wrong routes up the Dent de Morcles and the Grand Muveran, but clamberers will find in it several short rock scrambles that may attract them, such as the Pierre Cabotz, the Tour St. Martin, and the Tschingeloch-tighorn. The book is written on the lines usually adopted in this series, a full account of the Club huts of the region being prefixed, while a very useful index is added. The text seems clear and accurate, though it must have been difficult to prepare, owing to the multitude of routes (often joining or crossing each other) that may be taken up all the more important summits. It is surprising how many peaks are enumerated in these pages of which the bare names are unknown to most climbers, who can thus make up for their previous ignorance. As might be expected, the author has paid special attention to the history of the names &c. of the various peaks and passes. Thus we note that the Dent de Morcles is mentioned as early as 1716, though not climbed till 1788, that the name of the Diablerets is older than the great landslip of 1714, and that both the Wildhorn and the Wildstrubel are mentioned on Schöpf's map of 1577-8. The historical notices of the Gelten Pass and of the Engstligengrat-Rothe Kuppe route are well worked out. The author may be congratulated on having brought together much interesting information of various kinds, practical, topographical, and historical, and has once more deserved well of the Alpine world, which looks eagerly every year for the Swiss 'Jahrbuch' that he has edited so conscientiously for a great number of years.

The Yorkshire Ramblers' Club Journal. Vol. II. No. 7. London: T. Fisher Unwin. 2s. net.

This number of the 'Ramblers' Club Journal' shows no falling off from the high standard set by its predecessors. The first article takes us to Norway. In it Mr. Erik Ullén relates 'Some Reminiscences of Skagastölstind,' the first ascent of which was made

by Mr. W. Cecil Slingsby in 1876. The narrative is distinctly interesting, and is illustrated by two excellent pictures; the former of these, 'The Skagastölstinder from the Dyrhangsridge,' will make all climbers who see it wish to try it. There are ridges on it almost as formidable as its name. 'An Old Rambler' tells us of the 'Joys of the Open Fell.' And then a capital photograph, which at first sight suggests a tug of war, attracts us to 'Further Explorations in Gaping Ghyll Hole,' by Mr. A. E. Horn. A plan of Gaping Ghyll Cavern and Passages is given, and details of a visit for surveying are supplied by Mr. J. H. Buckley. Mr. F. Botterill is the author of 'The North-West Climb—Pillar Rock' (there are two full-page photographs to illustrate the narrative), and also of 'Over the Strahlegg Pass by the Rocks.' Dr. A. R. Dwerryhouse writes of 'Limestone Caverns and Potholes and their Mode of Origin,' and Mr. Charles A. Hill of 'Scoska Cave, Littondale.' A plan of the cave is given, as well as three illustrations of the skull which was found in the cave. It is that of a female Celt (about forty years old) of the Bronze Age. This is followed by an 'In Memoriam' notice of the late C. E. Mathews, and the 'Proceedings of the Club.' The numbers of the Club are increasing.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, April 9, at 8.30, the Bishop of Bristol, *President*, in the chair.

The accounts for 1906 were presented by the HON. TREASURER, who pointed out that there was an excess of income over expenditure of 492*l.* 17*s.* 7*d.* He reminded the Club that the lease of the Club premises expired in the early part of 1910, and stated that they were promised by their landlords that the question of the renewal of the lease should be settled in March 1908.

Some discussion took place as to whether the assets of the Club were sufficiently described, and, on the motion of Mr. R. W. LLOYD, seconded by Mr. G. W. H. ELLIS, it was agreed that a short statement of the Club's property, such as the Library &c., should be included with accounts in future.

Mr. J. H. CLAPHAM read a paper entitled 'Dauphiné in 1906: a First Visit,' which was illustrated by lantern slides. Mr. Werner said that he had found it difficult, on the Pic de Neige Cordier, to find a way across the schrund. It was very wide, and there was no apparent way across. It had taken about 1½ hr. The view from the top, he considered, deserved everything that had been said of it. The position of the mountain was unique in being the joining point of three ridges, and the Ecrins and the Meije formed respectively the central points of the view towards the S. and N.W. A hearty vote of thanks was accorded to Mr. Clapham for his paper.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, June 4, at 8.30, the Bishop of Bristol, *President*, in the chair.

Messrs. A. E. Clarke, H. W. Dollar, G. F. A. England, and C. V. Rawlence were balloted for and elected members of the Club.

The PRESIDENT mentioned that, in accordance with a wish expressed by the late Mrs. Jackson, her executors, with the approval of Mr. H. J. Underwood, had very kindly presented to the Alpine Club a painting of the Matterhorn by Arthur Croft as a memento of herself. It was felt that this picture would be much valued by the Club.

The PRESIDENT referred to the circular announcing the arrangements being made with regard to the Jubilee Winter Dinner, and stated that the Committee would be very glad to consider any suggestions that members might send in to the Hon. Secretary. The President, in reply to inquiries, also stated that the Committee had decided that the guests at the Dinner must be restricted to those invited by the Club.

Mr. SYMONS suggested that, in view of the popularity of the informal meetings of the Club, one should be held in October or November. The PRESIDENT expressed his pleasure that the social meetings had been such a success, and said that the Committee would be glad to make such an arrangement.

The PRESIDENT then read an interesting paper on 'Ice Caves,' which was illustrated by lantern slides.

Mr. A. J. BUTLER remarked that he had once come across a bed of snow in a chalk pit on the Berkshire Downs three months after all other snow had melted; also that in some parts of Canada the ground some feet below the surface was never unfrozen.

Dr. TEMPEST ANDERSON also made some remarks on the paper, and stated that he had recently seen Mr. Bryce in Washington, who wished him to convey his good wishes to the Alpine Club.

The PRESIDENT then said that he should end the proceedings by moving, seconding, and carrying unanimously a hearty vote of thanks to the members of the Club for their most courteous attention.

Informal meetings of the Club were held in the Club Rooms on the evenings of April 23, May 21, and June 18. They were all largely attended.





Photo by C. F. Bennett.

Swan Electric Engraving Co. Ltd.

THE MEIJE, FROM ABOVE LA GRAVE.

THE
ALPINE JOURNAL.

NOVEMBER 1907.

(No. 178.)

DAUPHINÉ IN 1906: A FIRST VISIT.

By J. H. CLAPHAM.

(Read before the Alpine Club, April 9, 1907.)

IT is written that 'apology is a desperate habit,' so I will make no more preliminary excuse than this—that though I am asking you to listen to an account of something which to me was very new and delightful, I fear that it contains no new thing worth mentioning from the mountaineer's point of view. I am telling you a familiar sort of tale—how I fell in love with the peaks of a certain district; how I planned a visit; how after a time the plan was carried out; and how the place and the peaks that I had been studying and dreaming over seemed when I came to put them to the test.

An ex-president has said that every true climber can fix the moment when first the mountains set their mark on him and made him their disciple. Those are not his words; but it comes to that. I confess to having explored my memory more than once in somewhat morbid fashion to find the day and the hour of my Alpine conversion, for I am eager to conform to the faith as delivered by ex-presidents; but I have failed. Failed, that is, so far as the mountains in general are concerned. But I am proud to say that I can state precisely the hour at which I fell in love with the high peaks of Dauphiné. It was on Saturday, August 16, 1902, between 12.30 and 1.5 P.M., probably at about 12.55. We were on top of the Grande Motte in the Tarentaise; late in the day, I admit, but it was one of those days when the whole circle of the horizon is clear at noon and the surface of the upper ice and snow melts and glistens everywhere under the sun. Just over the way were the harsh and rather forbidding slopes of the Grande Casse—alternate streaks of snow and disintegrated black shale. Away in the S.W. the walls of the massed

Dauphiné peaks seemed to rise perpendicular from their deep-cut valleys. From that moment their claim on my imagination was established.

Plans were laid for an approach in the orthodox mountaineering fashion from the Maurienne valley over one of the Cols of the Aiguilles d'Arves range to the Lautaret road and La Grave. But that befell which dissolved these plans, and in the end I came into La Grave on August 8, 1906, not down the hills with a pack on my back, but up the main high road in an extra-powerful hired motor car with ladies and luggage. We had been forced to bribe the motor men who ply on the Lautaret road to make an additional journey, and that at night, because horses were not to be got at Bourg d'Oisans. So we sat on hot seats and sniffed the mingled scents of petrol and the wild lavender that grows among the fallen rocks of the Combe de Malaval, as the motor grunted uphill through the night. And in the end we were rather glad that we had been forced to do it.

Next day we began three weeks of almost uninterrupted fine weather, with a little training climb of no great interest to any one but ourselves. But the weather should be of interest to others, for from all that I could learn it was one of the finest and driest seasons that Dauphiné has known for very many years. They told us there had been no rain worth mentioning since April or May. Most of the little fields were sadly parched and the peasants were looking forward to a meagre harvest and a lean winter. At the Chalet de l'Alpe, above Villard d'Arène, old Mme. Castillan, the keeper's wife—upon whose name be peace, for she can cook—told us there was less grass and more cattle than she had ever known, and that the herds would have to go down long before the usual time. Only those pastures or meadows that lay on slopes made of the grey-black shale, that crops out and glistens at the N. base of the Meije and along the Lautaret road, seemed fresh and green, and they only when the tilt of the strata was such as to allow accumulated water to ooze out in the little swampy springs that are a feature of that formation.

In consequence of all this, a good deal of the knowledge one had collated from climbers' guides and the like needed correction on the spot. We soon learnt that the phrase 'snow gully' meant, in August 1906, either a funnel of clean rock or, more probably, a funnel partly filled with stones and *débris*, with slithery black ice underneath. The Col des Ecrins, for instance, was clean rock for perhaps a third of the way down, ice and rubble for the rest. The Col du Clot des Cavales was all

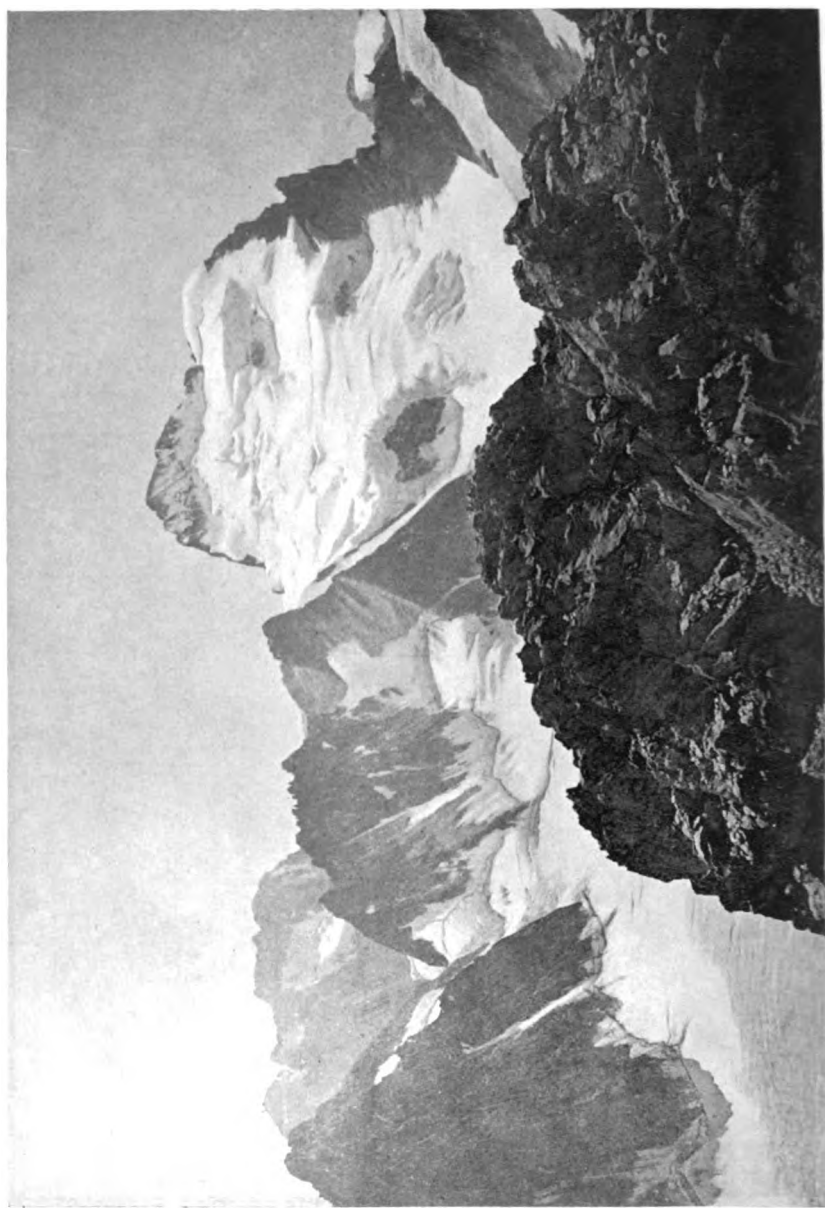
rubble, with a very little snow and ice at the bottom. The Brèche de la Meije was very icy, and so were the slopes to the Meije ridge on the north. There was an arête of solid ice on the Montagne des Agneaux, which we reluctantly left alone. The icicles of the Glacier Carré did not exist. Indeed the poor little glacier barely filled its shell and looked ridiculously like a pocket-handkerchief laid out on the rock to dry. As for the hanging glacier of the Ecrins, if it had not retired for the season, I must have looked for it in the wrong place, or else my powers of observation must have been so interfered with by circumstances to which I will refer shortly, that I passed and failed to recognise it.

We had our first experience of the state of the higher peaks on August 11, when the men of the party—Mr. C. F. Bennett, Mr. C. A. Werner, and myself—went to look for the S. Aiguille d'Arves. It is rather a long walk from La Grave, especially if you take a wrong turning early in the day among the villages, as we did, and get the full power of the morning sun in the dry and weary land on the way up towards the Col Lombard, where the rocks seem to be made of a kind of red clinker. Arrived under the peak, we turned on to the broken rock at its S. foot before reaching the Col, as one easily can, and looked about for the 'snow-filled couloir' of the 'Climber's Guide.' Various rubble-filled couloirs came our way, but very little snow. However, the route would be hard to miss, so long as one keeps close under the steep part of the S. face; and in time we struck the notch on the S.E. arête in which the gully ends. We had hardly been *in* the gully at all, except for the last 50 ft. or so, having worked up most of the way on the rough and easy rocks of its right bank. The gully contained a little snow and ice at the top; but that was a hindrance rather than a help. When we came to the notch, where one passes on to the E. face to find the 'Mauvais pass,' we met a very horrible thing—a red arrow painted on the rocks, pointing round the rather ugly-looking but not really difficult corner which hides the stiff bit from any one standing in the notch. It was helpful, but one would rather not have been helped in that way. There was a suggestion of some Teutonic brain about that arrow, the kind of brain that has conceived the notion of filling the woods and daubing the rocks of the Harz Mountains, especially the Brocken, with arrows red, white, and green, sloped at ingenious angles to indicate contours and facilitate mapless and compassless and thoughtless sight-seeing. (I wonder if many members of the Club have climbed the Brocken, by the way? One *can* climb

it in a *char à bancs*, and dinner in the excellent hotel on the top costs 3 m., or 3.50 if you take no wine.) The rest of the climb has no special history. One gets up the stiff bit, gets over the eaves of the gable crest of the mountain, by the help of a fixed rope (which at present has *not* got a ring at the end of it, as it seems the old rope had); then one climbs a straight and perfectly easy crack, and lastly one walks along the roof-tree of the gable to the summit. It was late in the day and there were a few clouds about, so that I lost the view of the Tarentaise which I had been promising myself on the way up, and only got the view of the central Aiguille, which, however, is almost as fine in its way as that of the Grépon from the Charmoz. I am sorry to say I have not a picture of it, for the photographer was slightly out of sorts and apathetic that day, and the light was bad.

Another instance of the effect of the dry season on the climbs came in our way ten days later, on Tuesday, 21. The whole party was at that time established with Mme. Castellan at the Chalet de l'Alpe, and we were prowling about the glaciers and peaks of the neighbourhood. Something drew us towards the Brèche Charrière at the head of the Glacier de la Plate des Agneaux. I think it was the curt notice of the 'Climber's Guide'—'a steep snow couloir, about 1,650 ft. long (stones fall in it).' We did not mean to cross it to La Bérarde, but we had vague notions of cutting up those 1,650 ft. and looking over the other side. The Plate des Agneaux is a stony glacier, even stonier than the Italian Miage, I am inclined to think; but about half-way up you mount a lateral moraine, such as I have only seen in Dauphiné—straight, clean-cut, sharp-edged, untrampled, running uphill for a mile or so, and generally just wide enough to walk on, though one must keep one's eyes on one's boots. This brings one in time to what you might call the apse of the glacier, above an ice-fall, where it lies flat and fairly free of stones, surrounded by a half-circle of steep reddish walls of rock. The Brèche is a true Dauphiné type. It looks as if an angry giant had bitten a piece out of the ridge, while it was still soft. From it to the floor of the apse runs that 'steep snow couloir, about 1,650 ft. long' (in which stones fall).

The local men told us later that it is seldom crossed now, and never so late in the season. I should be much interested to know if any more experienced member of the Club has crossed it in August, and if so, how he found it. Certainly it looked uncrossable enough on August 21 last—it was just



Snow Electric Engineering Co. Ltd.

THE PHOTOGRAPHY OF THE MOUNTAIN RANGE

Photo by C. E. Bennett

an evil stone-shoot, full of grey ice, polished by falling rubble, with hardly a bit of clean snow in all its 1,650 ft. Between 9.0 and 10.0 we saw and heard the big stones rumbling down it. It was about 8.0 when we got to the foot.

A council of war had decided at sight that it would not do ; but there seemed a possible alternative route. To the right of the gully, as you face it, stands a great red tower, detached from the main wall. From the point where this tower abuts on the wall we fancied that a bit of steep traversing might bring us to the Brèche ; but I must hasten to say that we never tested our theory, except through field-glasses. We worked up to the right round the base of the tower, on easy glacier-worn slabs, and then turned left into a little gully behind it, leading up to the point where it joins the wall. The gully was snowy at first ; but it soon changed to ice, and as a few stones came down there also we gave it up. Perhaps we were ill-advised to do so, as the stones were not serious ; but I think it was sound mountaineering. So we got nowhere in particular ; but learnt a good deal, having ' powdered up and down a bit and had a rattling day.' Also we were home in time for a glorious bathe under a waterfall, in the reasonably warm stream that comes down past the Chalet de l'Alpe from the Col d'Arsine.

I missed one of the most interesting climbs that our party did from the Chalet de l'Alpe, the traverse of the Pic de Neige Cordier from the Gl. des Agneaux to the Gl. d'Arsine. The misfortune of the mountains had fastened on me, and I got up that morning to act much as the navy acted in Kipling's story ' My Sunday at Home.' I made a start all the same ; but I rolled in my gait, and when I sat down and dropped my ice-axe and looked at it, it would *not* keep still, but behaved sinuously, for all the world like Aaron's rod. So I decided that I was not fit for a climb, and looked about for a sunny place and curled up to sleep on the stones, while the other men did the mountain. They had a great day and superb views ; for the peak, standing at a point where three ridges join, is very attractive to any one who wants to learn the country. This made me sulky when they got back, although I was physically convalescent.

Omitting a few minor excursions from the Chalet de l'Alpe, I should like to say something about the Chamoisière. It is but a little one, like the city of Zoar or the less respectable baby in fiction ; but it stands admirably, has three peaks, and some very attractive rocks along its crest, as indeed most Dauphiné mountains have. And since it rises straight above

the Chalet de l'Alpe it is available for experiment. Moreover, Mr. Coolidge said that the central peak was still unclimbed. I see from the 'Journal' for November 1906 that Messrs. O. K. Williamson and H. Symons went up it, rather more than a month before our party, and, like ourselves, found a cairn on top. I said the Chamoissière was available for experiment. Certainly we experimented rather freely. We were three men and two ladies. The day was Monday, August 20. Getting off about 5.0, we first tried to make our way up the great rocky ridge that comes down northward from the W. summit towards the Chalet de l'Alpe, with a view to traversing all three peaks. Careful reconnoitring would have shown us that it was *not* a good way up. After a very interesting scramble—which I do not for one moment regret—we found ourselves on top of a big tower, about 7.0 o'clock, and had to come down again. After that we got down from the ridge altogether, losing a good deal of time of course, and struck across slopes of scree and snow on the N. face of the mountain to the foot of a very obvious gully that descends from a point a little W. of the central summit. Our route must have been almost identical with Mr. Williamson's—up the gully, with a little real climbing at first, and then on to the easy broken face on its left bank to the ridge. On the summit the ladies stayed to rest, and we had a most excellent climb to the E. and highest peak (10,230 ft.) It is a narrow though not particularly difficult ridge most of the way, and it has to be climbed, not walked. We took as nearly as possible two hours out and back, going steadily.

Then followed what I fear was a fool's experiment, though no harm came of it—a descent on the S. side of the ridge into the glen that descends eastward from one of the most preposterously artificial-looking of all the Dauphiné breaches, the 'Brèche Gaspard.' It was a fool's experiment because we had ladies with us, and had never seen that side of the mountain except from above. Rubble and stone slopes were the chief features of the place; though I had five or ten bad minutes when we came to the top of one of the rock walls, of which the books had warned us, and did not at first see our way down. There was of course no danger; but one did not want to take the ladies up again. However, an easy way turned up after a little seeking; and thenceforward there was nothing but sheer boredom of moraine and stone-shoots and rubble-covered turf, until we struck the Romanche, just below the point where it leaves the glacier to curl round the base of the Chamoissière, back to the Chalet de l'Alpe. The party

broke up at the finish, for parts of it were tiring, and got home in sections between 6.20 and 7.45.

Two days later it broke up more definitely. Some of the sacks and bags were put on shepherd-back and crossed over with the ladies by the 'Sentier des Crevasses,' the track that winds along the steep hillside facing the E. end of the Meije group, to the Col du Lautaret. A few hours earlier—at 5.10 A.M.—the men had started for La Bérarde, the Ecrins, and the Meije. We took the ordinary route, the Col du Clot des Cavales, and were greatly helped by the improvements in the track that have been made, on both sides of the ridge, during the last year or two. Dropping into the notorious Vallon des Etançons, we met Jean-Baptiste Rodier, whom we had commissioned by letter to find good men for us, on his way up to the Promontoire hut. He had found Dévouassoud Gaspard and Pierre Richard, who were to meet us at La Bérarde. I think I ought to record, to the credit of Dauphiné, that I did not find the Vallon des Etançons so insufferably stony or the site of La Bérarde so bare and barren as the books had led me to expect. There are some grassy levels in the Vallon, full of the scent of juniper, that I for one found very attractive. Perhaps it was by comparison with the rather windy and treeless pastures of the alp of Villard d'Arène, where we had spent nearly a week before crossing the Clot des Cavales. As for La Bérarde itself, with its little patchwork fields, its few pines and birches and dwarf alders, it seemed positively a woodland haunt. We got down among the houses between 11.30 and 12, and rushed away at once to bathe in the Vénéon, at a place where a big projecting rock makes one of those swinging backwaters where one can sit in the milky water without too great risk of being ground among the stones, and where a jolly bit of wood—birch, if I remember right—made a pleasant shade from the sun.

After lunch and some idle sleep on the grass and tea, we started for a late afternoon stroll to the Carrelet hut, along by the Vénéon, 'deepening its voice with the deepening of the night,' while the last of the daylight fell on the rocky mass of the Ailefroide and the equally splendid snow and ice clad mass of Les Bans. Some say the Carrelet hut is too low, but I cannot agree. True, it is but an hour and a half above La Bérarde, is practically in the valley bottom, and still among the pines. But those of us who have had the ill-luck to be born into the days of high huts may be thankful when we are forced and are able, now and again, to make our climbs from the pines, up through all the mountain zones, and down

through them all to the pines once more. At any rate, as I look back over the not very many seasons of my climbing experience, three climbs seem to stand out above the rest, not in point of difficulty, but because of their completeness and the lasting satisfaction that the memory of them yields. They are all of this class—the Grivola from Cogne, the Dent d'Hérens from Prarayé, and now the Ecrins.

We rolled off the sleeping shelf in the Carrelet at about 12.45, and at 1.30 scrambled across the stream that runs below it and up into the woods. We were five men and two lanterns, going rather harder than I liked up some sort of steep track among the trees. There remain in my mind the usual blurred and sleepy memories—of strides up over big stones, brushings against low boughs, places where the track was sandy, places where it was gravelly, shifting lights, the sound of water, of breathing, of feet, of a word now and again about the pace or about the sweat. Then more air, an easier slope, the turf of an alp underfoot, a looming of the Ecrins far ahead under the stars: we were above the first line of valley bluffs. After that, moraine for an hour or so. When we got on to the edge of the Glacier du Vallon, under the cliffs of the Pic Coolidge, the stars were paling, and there was a band of faint blue above the peaks behind us, shading upwards into pink. In the cold grey light that comes before the dawn we stopped to rope. A little to our right lay a fan of *débris* at the foot of the rocks. While the men fumbled with their rope, which had got into a discreditable mess, there came a grumbling roar above the cliffs, and then a spout of stones over them. The men ran and tripped me up in their rope coils, and I fell and hurt my thumb. Their defence was that one or more stones dropped close to us, but as I saw none I remained for a time sceptical and rather cross.

At 5.0 we stopped to eat under the rocks of the Fifre, and about 6.0 the level sunlight struck us through the Col des Avalanches. Far away below lines of blue grey hills stood up against it. The rocks of the peak itself were in wonderful condition, the chimneys and gullies dry and clean. I think I am strictly correct in saying that we never set foot on snow or ice between leaving the névé at the Col des Avalanches and striking the final ridge at the head of the snow gully that runs down between the Pic Lory and the main summit. Certainly we crossed no glacier, and, as I have said, I never saw one. At the time I did not know that there ought to be one. Comparing our route subsequently with the books, I can only suppose that we crossed where the glacier normally

is to the rock rib on the right of the snow gully, and that while on that rib I neglected to look about for the glacier or its site. A stone was the main cause of this reprehensible omission, for as we were crossing to the rock rib aforesaid we heard the stones coming down and hurried; but I was last on the rope, and failed to cross the fire zone in time. Fortunately the stone had lost some of its pace by cannoning on the rocks just above me. Also it hit me very nearly where one is meant to be hit, and so did no great damage. But until we got on to the summit ridge my attention was all given to hand-holds, foot-holds, and the bruised part of my person. The ridge was in excellent order—a walk for the most part—and we got to the highest point at 8.25. The views were so good and the day so fine that we stayed there until 9.50.

A direct descent on the N. face was out of the question, for the schrund this year was huge and the slopes were icy. So we took the alternative route, along the N.E. arête and then down and across the face just beneath it, keeping as far as possible to the rocks and only being occasionally forced to cross a gully. For this one was glad; for the gullies were full of hard white ice, with a high glaze, of a kind that I have seldom met. However there were steps in them, another party having been up that way, and I imagine that the difficulties of the route were at their minimum. Still it needs careful climbing, so that we took about an hour and forty minutes from the summit to the snow above the Brèche des Ecrins. There was no true schrund there and no difficulties on the névé. Exactly at noon we halted for a drink at the top of the Col des Ecrins. At 12.20 we started down the rock-wall of the gully, and at 1.30 we halted again to drink and look about us on the floor of the Glacier de la Bonne Pierre. The view of the Ecrins from that side is stupendous, as all who have seen it well know. The summit is hidden; but the cap of the Dôme de Neige rises with a perfectly pure outline, above 4,000 to 5,000 feet of precipitous walls and pinnacles of red rock, which, so far as I know, no one has ever tried to climb.

After this last halt we ran down to La Bérarde, and got in at three o'clock.

There remained two more possible climbing days and the Meije. We had taken the Ecrins first, because we had fallen out of love with the Meije somewhat, while at La Grave. It is not exactly hackneyed, but it was certainly frequented in 1906. Dévouassoud Gaspard said he thought it had been

traversed five-and-twenty times before we went ; and I have no doubt he was within the mark. Very soon, I fear, it may have to become the scene of duffer-hoisting—if it has not already fallen to that depth. I myself saw some one lowered rather like a sack of potatoes, by Joseph Turc and his son, down into the Brèche Zsigmondy, and heard his shrill protestations that he was assuredly going to fall, as he was hoisted up the other side. The tongue in which he called I will no more mention than Gilbert would mention the name of the discontented sugar-broker who 'waltzed from his abode in Fulham Road, through Brompton to the city ;' for he gave me champagne before the lowering began, and I feel I have betrayed my salt enough already.

When we got to the Chatelleret hut, the day after the Ecrins, a queer film of cloud had spread over the sky and the wind blew in spiteful jets. Then the film touched the Meije and made it look hateful, as a little rain fell from the low grey roof. It is never beautiful on that side ; the ridge lacks a proper culminating point and the Glacier Carré is to my mind unsightly. Our men suggested a night at the Chatelleret, as we were bound to get to the high road next day, and the weather looked as if it might rob us of the Meije. So we boulder-scrambled and made soup and tea. As we ate and drank, the film broke in the S., rolled up to the N., and left the sky clear. Gaspard proposed that we should push on to the Promontoire hut at once. We agreed with clamour. He led us off about 7.0 o'clock, at full speed, and full of soup and ham, uphill over the stones. Until about 8.0 we managed to do without the lanterns. Then we lit up on the slabs under the Etançons glacier, and had a glorious half-hour getting over the uneven ice by lantern light. A broken glacier has a monstrous and distorted look by night. It fascinated me so much, that I sat and watched it for some time, after we got up to the hut, and before we turned in.

The weather had rearranged itself completely when we started at 3.30 next morning. Everything was in our favour—firm dry rock, no wind, the party in good condition—magnificent views away to the S., as one waited for one's turn to move whilst working up the great red and yellow wall above the Promontory and the big Couloir. Assuredly the climb deserves all that has been said of it. We halted for twenty minutes at the Pyramide Duhamel, where the Promontory abuts on the wall, and again at the left-hand bottom corner—if that is a legitimate mountaineering phrase—of the Glacier



Swan Electric Engineering Co. Ltd.

THE RIDGE OF THE MEJIE.

Photo by C. F. Bennett.

Carré. By ten minutes past seven we were on the top, and we stayed there nearly an hour. The views had been magnificent from the Ecrins two days earlier; but from the Meije they were, I think, the finest summit views I have ever had. About the foreground and the nearer distances there was nothing uncommon, only the clear outlines and strong, sharp shadows. The long distances were what attracted us. In the W. the sky was partly filmed over. Northward and eastward and southward every valley from us to Mont Blanc, Monte Rosa, and Monte Viso, was full of thin blue vapour, the shadows and mists of the morning, and in a few valleys—notably about Mont Blanc itself—small masses of low cumulus were lying at rest.

After that, down the wall into the Breach and along the ridge to the top of the Central Summit, the Finger of God. So many parties had been that way before that there was a well-cut staircase on the ice slope from the lowest rocks beyond the summit to the névé above the Rocher de l'Aigle. I suppose it saved us an hour or two, but it reminded me too much of a similar thing on the easy way up the Jungfrau to be entirely welcome. We spent one of the saved hours idling and photographing at the Rocher de l'Aigle; jumped a crevasse or two on the upper part of the Tabuchet Glacier; crossed the ridge of the Bec de l'Homme; ran down into the forest of Villard d'Arène, and were on the high road at 3.30. As it was early we felt bound to walk the four or five miles uphill from Villard d'Arène to the Lautaret hotel, but the walk was a bore.

Two days later I was swinging downhill on the front bench of a *char-à-bancs*, watching the Meije change shape as we moved along its base; and when we passed noisily into the long, cool, lighted tunnels through which the road runs, fancying myself on De Quincey's mail coach as it galloped through the aisles of his dream cathedral. Then the trees became more varied and the sun hotter. Some of the hill-sides were turning red and gold. In time we came to Bourg d'Oisans in its long rock-walled basin, and thence we slipped down in the evening on the noisy little steam tram, through the village streets, the new power stations along the Romanche, and a flaming sunset to Vizille. And so to bed and the end of the season.

THE GRAN PARADISO BY THE SOUTH FACE.

BY HAROLD RAEBURN.

AT Ceresole, in the beautiful Val d'Orco, the 'Stabilimento' is a delightful place to spend one or two off-days in bad weather.

Ling and I appreciated its advantages, gastromomic and otherwise, to the full, as they came between a long day of 20½ hours over the peaks on the Franco-Italian frontier, and several days' wandering in the lovely remote Italian valleys lying between Cogne and the Rutor. Chased from the Pic Central of the Meije by blizzards of wind, hail, snow, lightning, and all unkindness, we turned towards the Tarentaise—over the long, two-mile arête of the Dôme de la Sache and Mont Pourri. Then passing to Italy over five of the frontier peaks, we gained the hospitable roof of the Grand Hôtel Reale at 9 o'clock on the night of August 5, 1907.

In mist from the Cerru lake we were overtaken by darkness some way above Ceresole, and as in a semi-somnolent condition we steadily tramped down the seemingly never-ending, ever-descending track, a dream-like feeling stole over us. The dim, mysterious pine forests, the chalets, or groups of stone houses, half ruinous and seemingly deserted, from which no friendly light gleamed; the muffled sound of a bell (tolling from some invisible church) breaking the stillness of the night, the path bordered by the fairy lamps lit by numerous glowworms—all combined to induce a sense of unreality, as if we were wandering in another world. At last, seeing a cottage from which a light shone, we stopped to enquire regarding the whereabouts of the 'Stabilimento.' We were told that it was *tre quarti d' ora* off. But we were still able to step out better than the good lady's calculation, as in 20 m. we reached ultra-civilisation at the Grand Hôtel, with its electric light, *table d'hôte*, evening dress, and *baths*!

Two days of mist, rain, and thunder followed, our greatest exertion a short stroll, and the greatest excitement, watching the persevering young Italians snatch a game or two of tennis between the showers.

On the evening of the second day the weather cleared, and we resolved to start next morning to sleep out for the Gran Paradiso by the S. face.

The ordinary and the easy way to climb the Gran Paradiso is from the Victor Emmanuel hut in the Val Savaranche. Even from Ceresole this is the route usually followed.

The first day the Nivolet Col is crossed either on foot, or more usually on mule back, and ascent made to the hut.

Next day the mountain is climbed by the easy glacier on the west, descended to the hut, and return made over the Nivolet Col the same day.

From Cogne the usual route is over the great Tribulation glacier to the top of the Col de l'Abeille, then turning sharp to the right, a snow, ice, and rock couloir is climbed to a notch between the central rock tower and the highest point, which is on the N. ridge.

If the ascent is made by the N. ridge the climb is a fine one. On the S. side of the mountain a large glacier, the Glacier di Noaschetta, lies on a kind of shelf stretching along the N. side of the Noaschetta glen, the upper part of which is called the Val di Goj.

Above this glacier rise the great cliffs of the S. face. These extend round from the vertical, or overhanging, arête of the Becca di Moncorvé, to the Col de l'Abeille. The latter is the first 'weak' point in the formidable aspect of the peak on this side. This col does not, however, lead directly to the peak itself, but to the upper part of the Tribulation glacier lying on the N.E. side of the Gran Paradiso, where it joins the route from Cogne. Our idea was to find a way up these cliffs, leading more directly to the final ridge, and in order to get an early start, we resolved to make the Bruna chalets our first night's objective. On expressing our intention of attacking the Gran Paradiso from the Noaschetta valley, we were dismayed to learn that the King of Italy was expected on the following day at Noasca. The King has a hunting chalet on a green alp high up in the recesses of the Val di Chiamosseretto, and the route from Ceresole to the huts of Bruna passes through this glen and alp. These King's paths are a great convenience to the climber. That we were to follow ascends steeply up the hillside above Ceresole to the W., and then passing over a shoulder, swings round the Broglie glen without losing height, over another shoulder into the Chiamosseretto glen, and to the King's camp. Thence it ascends to a little rocky col, descends steeply to Bruna, and passes by the Motta chalets in the direction of the Col Noaschetta. When the King is shooting of course these tracks are closed; but the opinion was expressed, that as he had not yet arrived, perhaps the authorities would let our party through. A day later would certainly be too late.

--We accordingly resolved to make an early start.

At 8.15 on the morning of August 8, our porter, ordered overnight, turned up in good time. He was a tall, lean, active-looking man, who rejoiced in the sonorous names of Bartolomeo Rolando, and is, as we presently discovered, one of the leading guides of the district. As we were only going to take him along a mule path, from which it was impossible to stray, we could not be considered underguided with only one. Rolando is a pleasant, obliging man, and carried a pretty heavy load without complaint, and I have no doubt the floods of Italian explanations, which he poured forth to the keepers and officers at the King's camp, were the means of us getting through the lines with little worry or delay. He speaks French well, and seems thoroughly well acquainted with the Levanna peaks. We followed the King's hunting path before mentioned. The whole country was alive with parties of beaters, going up to take part in the hunt, and we kept company with some of these for part of the way. We learned from them that the Tresenta was to be the field of to-morrow's operations. The King's camp presented a busy and bustling scene. Numerous tents well floored with straw were pitched in addition to the permanent buildings of the chalet. A number of soldiers, officers, and keepers were already on the spot, and bands of porters were climbing up the steep ascent from Noasca, loaded with all kinds of provisions and articles, for the use of the King and his guests.

Thanks to Rolando's explanations, we got through after a short palaver. We then ascended steeply up to the little rocky pass, with built stone butts, leading over to the Noaschetta glen, and descending some hundreds of feet, arrived at the Bruna chalet.

It was a long low stone building, with no windows and but one small door. Rolando introduced us to the occupants. Over a fire of logs hung a great copper caldron full of curd. Stirring this was a huge, half-naked, and shaggy-haired Caliban, while on the floor crouched a woman and several children watching the operations. The 'Fug,' to use Ling's expressive phrase, was naturally horrible, and after as short a stay as politeness demanded we were glad to escape into the open air. We paid and dismissed Rolando with mutual expressions of goodwill, and after an *al fresco* meal turned in, under the shadow of a great rock, for forty winks, which I was lucky enough to obtain, though Ling was less fortunate.

In the afternoon numerous people began to arrive at the hut, and after another look at our mutual sleeping place—



Drawn by F. T. Compton, from a Photograph by Harold Ræburn. Swan Electric Engraving Co. Ltd.

**THE SOUTH FACE OF THE GRAN PARADISO, FROM ABOVE THE
VALLONE DI NOASCHETTA.**

merely hay spread along one side of the floor—we resolved to ‘seek higher things’ and to camp out.

On expressing our intention, Caliban and Co.—unlimited apparently—who evidently considered us eccentric before, now thought us quite mad. In Italian, eked out with bad French, Caliban explained that up there we should be lonely and cold, while here we should have company and warmth. ‘Plenty of both in Hades,’ we might have retorted. We were obdurate, however, and after getting a load of firewood from our friend Caliban, for which we gave him a lira, to his surprise and delight, we set off up the glen.

We found a suitable boulder not far from the moraine of the glacier tongue—this tongue is called the Glacier de Goj—coming down from the Col di Gran Paradiso, and pitched camp here.

Though the night was not cold, as usual we could not sleep; so by 1.20 A.M. on the morning of August 9 we were under weigh, and crossing a stream, kept up over scree and boulders in the direction of the pass. There are considerable stretches of quite a good path here, interrupted by spaces where all traces have been swept away by avalanches of stones and boulders. Presently we struck the glacier, and walked up it partly on moraine, partly on ice. From 2.40 to 3.0 we stopped, as the ice was getting steeper, and the stones fewer, to put in some ice-nails. Shortly after restarting Ling discovered a splendid comet blazing in the eastern sky. It was the comet known as Daniel's, and we had a capital view of it, with its wide-spreading tail brighter than the Milky Way. Soon the rising flood of daylight, pouring over the rocky barrier of the Grand St. Pierre, submerged beneath its waves the lesser luminaries of the night, and the comet paled and vanished with the rest.

At 3.15 we were almost level with the Col di Gran Paradiso, then turning to the right we mounted the easy, bare Glacier di Noaschetta. This glacier extends right along below the great S. wall of the Gran Paradiso, and forms an easy highway, for a traverse between the Victor Emmanuel and Piantonetto huts.

The western boundary of the S. face of the Paradiso is formed by the Becca di Moncorvé.

From the Becca an arête falls very steeply towards the Col di Gran Paradiso, and we resolved to make our first effort in this direction.

Gaining the Noaschetta glacier at 3.30, we soon turned to our left towards the rocks of the Moncorvé arête, and halted

at their foot for breakfast till 4.10. Then crossing the bergschrund, we climbed steep and very loose rocks to the arête, and followed it to a little col looking down to the Val Savaranche at 5.7. From then till 8.30 we had some hard climbing. The arête soon becomes exceedingly steep, and the rocks on the edge are, to look at, a miracle of equilibrium.

Enormous loose blocks appear to adhere to the arête, and seem as though a touch was all that was required to send them crashing down either to the Moncorvé glacier on the one hand, or to the Noaschetta glacier on the other. The only way to make progress was by dodging to one side of the arête or the other, where sundry overhanging slabby chimneys were discovered, which enabled us to slowly gain ground. These places reminded us of the mountaineer who 'did not mind when the rocks were merely steep,' but who 'could not stand that infernal dangling.'

The 'dangling' here was done frequently by our 'too too solid' sacks. As long as the angle permits of the rucksack behaving in its usual affectionate and clinging manner, all is well. When one's back is turned so much earthward that the sack wildly swings in air, with the strain almost at right angles to the cervical vertebræ, the climbing becomes decidedly tiresome.

The weather also by now was becoming rather doubtful. During the night it had never been cold, and the dawn, though a lovely one, was not altogether healthy-looking. Now, clouds were gathering in the direction of the Charforon and Tresenta. From the slopes of the latter an occasional rifle crack showed that the King's party were afoot.

At 8.7, at the height of 12,300 ft., just 1,000 ft. below the summit of the Gran Paradiso and 381 ft. below the top of the Becca, we abandoned this route. Descending for several hundred feet, we traversed off to left—E.—to a broad scree and dirt-covered ledge. Narrowing as we traversed E., and in places almost dying out, but never quite, this ledge led us right across the whole face to the edge of the couloir of the Col de l'Abeille route, at about one-third of its height above the glacier. No serious difficulties were encountered, though at one or two places it looked as if the ledge had completely fallen off the face.

At one point the route crossed a steep ice couloir. Earlier, this might have afforded a direct access to the final ridge. Now, it was too lively with falling stones for us to think of trying it, and it was crossed with as great expedition as possible.



Drawn by E. T. Compton, from a Photograph by Harold Raeburn.

Swan Electric Engraving Co.

THE SÉRACS OF THE COLLE DELL' APE LOOKING TOWARDS THE
BECCA DI NOASCHETTA.

The tongue of ice that comes down from the Col de l'Abeille (the Glacier de l'Abeille) hangs its final ice cliffs and beautiful séracs somewhat threateningly over the lower part of the Col de l'Abeille route. By keeping on the rocks of the W. bank, quite easy where we struck them, all danger from this source can be avoided. We ascended the W. bank of the couloir some way and then traversed back to W.—a good many patches of ice here caused some delay—and still keeping to the E. reached the final arête at the third tower S. of the summit. Probably we followed partly the same route as that followed by the Italian party, in the first ascent from the Noaschetta glacier.*

At several places on the 'band' there were tracks of a chamois, and we also arrived on the arête, by a neat little ledge bearing numerous traces of use by these animals. The weather was close and warm, and the snow leading up to the final peak extremely soft and fatiguing, so we kept over the rock towers on the ridge to the top, which was reached at 2.15. The weather was now too threatening to allow of the intended descent by the N. ridge and the Piccolo Paradiso. As we finished lunch, the electric disturbances suggested as speedy a retreat down the easy glacier to the Victor Emmanuel hut as convenient. The rocks were 'singing' loudly, as were also the ice-axes, and even our hats. Our hairs rose up 'like quills upon the fretful porcupine,' and the breath felt almost solid, as it issued from our lungs in thick visible vapour. It was evidently time we were off the ridge.

We were some little way from the cairn. Ling had gone down a snow slope leading off the ridge, here composed of ice and snow. I was just leaving it, and about 20 ft. above him, when a blinding flash blazed in our eyes. At the same time a shriek, like the rending of an acre of silk in a giant's hands, was heard, and simultaneously I received a violent blow on the top of the head, causing me to stagger on to my knees. The electricity evidently ran along the wet rope, for Ling also received a shock, though much slighter. I was dazed for the moment, and could only gaze stupidly at my hat, to see where the hole was. I recovered in a few seconds, and for the next five minutes we were trying our best, in spite of the heavy going in the soft snow, to beat the record down the Gran Paradiso.

The electric storm burst with extraordinary rapidity and great fury, accompanied by heavy hail. Looking back at the

* See *Climber's Guide to Cogne*, p. 102.

jagged arête, we could see flash after flash darting in and out of the piles of frost- and lightning-riven rock which forms the towers on the arête. Nothing further occurred to us except that ten minutes later, as I put my ice-axe under my right arm, in order to gather in a dropped loop of the rope, I received a sharp shock on the under side of the arm. Lower down, where one passes along a narrow ice arête between two branches of the glacier, the axes again became so noisy that we left them sticking in the snow, while we retired down the slope a little way, till their 'song' ceased. It was curious to note that the electric current seemed to pass in gushes. Gradually the phenomena would begin, increase in intensity, then die away to recommence again.

The storm was also very local. Only on the Paradiso and only on the summit did the thundercloud lie. The peak is of course like Mont Blanc, the highest for many miles around. We reached the hut in a little over an hour and a half, and stopped there for afternoon tea before walking down to Pont. This, by the way, is a capital little hotel, very clean and comfortable. Next day, with a young porter, Elisée Dayné, we crossed to Val de Rhêmes. The weather again threatened storm, so we gave up the intended traverse of the Cime de l'Ouille, and took the Col de l'Entrelor instead. As the whole party were passing along a ridge leading to the col, we all received a decided but harmless shock. The lightning—a thunderstorm now raging—seemed this time some way off. We, however, deemed it prudent to deposit the axes, and retire below the ridge till their singing and that of the rocks ceased.*

From Val de Rhêmes we traversed the Bec de l'Invergnan by the E. ridge, this time in fine weather. A few days later we traversed Mont Blanc by the Rocher route from Courmayeur; but though we crossed on August 15, the day of the great storm, the lightning, of which there was a great deal, this time kept away from us. It, with the bitter wind and driving snow, hastened our pace from the top considerably, however, and landed us in Chamonix, instead of the Midi Cabane, in 4½ hrs. from the summit.

* For notes on the effects of lightning, see *A. J.* vol.vii. p. 191.

A FACE CLIMB.

By G. WINTHROP YOUNG.

MR. GODLEY recently, in a delightful paper,* pricked with sophistical points, refined to soothing gold on the philosopher's stone of his wit, the bubble sentimentalism of those of us to whom the new route is an inspiration or the luncheon-refuse anathema. It would be mere bludgeon work to argue that there is little of the 'desperate counsel' he imputes—hardly even a 'moderately severe course'—to be found in a retreat to Ida or Olympus; or to protest that the sop of a 'depopulated' perambulation from the Grimsel to the Gothard is a poor compensation for his cheerful surrender of the great monarchs of the Alps to the dominion of the 'railway guide' and the fixed 'excommunication cords.' We can only appeal for a kindly indulgence towards pilgrims whose poverty of imagination needs the stimulus of external circumstance, the unbottled summit and the lonely sunset, to revive that spirit of romance which happily seems to palpitate unaided for the philosopher even in the omnipresence of the Polyglot or the Polytechnic picnic party. At worst we are guilty of the pathetic fallacy; and we will accept the charge unrepining, if only, as the inevitable lines, railway or clothes, tighten round our solitudes—laid by philistinism and lauded by philosophy—we may be allowed the privilege of the losers, to withdraw to our tents, or sleeping-bags, and protest in peace a moral superiority over the triumphing tripper tribe. An irreclaimable sentimentalist by conviction, it is now some years since, as the outcome of a long apprenticeship to the craft of climbing and—equally vital—to the nature of guides, I registered a vow that when the proper period for the great Pennine peaks should arrive they should be ascended with every adventitious aid of pomp and circumstance. The experienced guide who knows his Alps, and in whose sophisticated mind the details of a climb are salted down and ticketed as 'Here I haul the Herr' and 'Here I haul him harder,' would knock the 'moral support' to romance out of a mountain range. On the other hand the good guide whose notions of the usual ascents of the Zermatt peaks should not have been prejudiced by experience or report would have to be re-exhumed, at the present date, from the congenial company of the dodo. No alternative remained but to contrive for each summit some new line of approach or fresh combination,

* *Alpine Journal*, vol. xxiii. p. 448.

which might reduce professional infallibility to a human level of speculation and invest the ascents with the romance of uncertainty and the semblance, at least, of contributory effort on the part of the amateur. Earlier generations, with a wealth of new high-class ridges to draw or be drawn upon, could afford to uphold general rules, that may fitly be termed 'rigid,' with regard to the propriety of visiting, much more of leaving their cards upon, so called 'face climbs.' But a modern climber, with a dislike for peasant predestination, has to exercise a more independent and individualising scrutiny. There are good faces and bad faces, and nearly every face, however evil its reputation, will be found, if properly investigated, to have its sound points and salient ribs free from the defects of its general character. The more pronounced the stonefall the easier for the seeing eye to trace out the protuberant wrinkles. A face generally looks evenly insecure from below, and a side view tells us nothing but the general angle, suggesting a false rib with every new skyline as we shift. But stones prefer to fall down depressions and betray the lines of the real profile. There is, of course, the unrecon-usable risk of flank attacks from rocks bursting as they strike; but this is a peril shared by many accepted arêtes; the irregular flight in any case is short, and the dominant lines of the slope soon regulate the traffic again. The steepness of a face is also its own protection; a very small projection gives adequate cover for a considerable distance, and often the angle alone bars all but very fancy 'drop' shots. An example might be found in the lower part of the E. face of the Rimpfischhorn, the climb upon which this year was not only mapped out on these principles but considerably conformed to them in execution. It is, perhaps, worth mentioning that out of some thirty successful face climbs the only occasion on which our party has encountered real risk from a rockfall was on the Zinal side of the Gabelhorn, a popular ascent that would be classed by most with the ridge climbs. The 'single stealthy block' that has occasionally stalked us elsewhere is an importunist common to all types of ascents. On a blunt rib the consequences of stones released by an ill-handled rope or an unpardonable foot are clearly more widely spread than on a laterally-drained spinal ridge; but these climbs are, in any case, only for the excessively cautious and never for 'trippers.' A greater measure of care and pre-examination is called for on a face, but no popular ridge is sufficiently 'cleared up' to allow of these being neglected. It was, I think, Giraldus Cambrensis who first remarked on this mountain phenomenon, after

apparently fruitless attempts to get the Snowdon gullies into a decent state of repair: 'It is wonderful that when, after diligent search, all the stones have been removed from the mountains, and no more can be found, a few days after they reappear in greater quantities to those who seek them!' Face climbs have an additional merit in affording chances of further advance by a lateral escape on to alternative ridges. Of course one would rather not cross couloirs on faces, just as one would rather not traverse top-heavy towers on knife-edges or run over policemen on motors; but the obstructive position of each makes it often inhuman to avoid them, and they all serve at least one useful purpose in concentrating into an almost negligible compass the terrors of irresponsible laws of motion and inertia, which were never intended for the purposes for which we break them. Design, caution, and above all pace are a rule of three that can deal as securely with the fractions of falling faces as with the square roots, or boots, of gendarmes on arêtes, or on duty.

It will be seen that there has been a certain reasoned quixotism of motive inspiring our efforts to release these mountain faces from their unmerited ostracism, not exclusively a desire for originality or for a subversion of the equilibrium of the guide mind. It is hoped that the respectability of the Weisshorn, in all its aspects, has been to some extent established; and if I take the south face of the Dom as the present illustrative instance it is only because, in defiance of all proof, its east face still labours under the suspicion of assault and battery, and it is eminently desirable that one at least of its surfaces should be discharged without a stone upon its character.

Mayor and myself had a few days to spare at the end of last season, and the Dom looked irresistible from our Monte Rosa tea table. Joseph Knubel was still handicapped, or rather knee-capped, by an injury got on the S. face of the Weisshorn, not the result, old-alpine-traditionally, of a falling stone, but of trying too hurriedly to get raspberry jam out of a tin. So we took Gabriel Lochmatter to help. We should probably have strengthened the party in any case. It is hard to envisage the S. face of the Dom without including the Täschhorn, and memory was still busy with the fearsome occasion when Ryan and myself, with some professionals in 'walking' parts, were overmuch interested spectators of an extraordinary ascent of its southern precipices by Franz Lochmatter. *Hinc illi Lochmatteri!* We got to the new Dom hut with the usual dissatisfaction; it is impossible to time one's weary ascent of

these eastern slopes of the valley so as to keep always behind the climbing shadow; some objectionable pass is certain to let a glare of hot light leak through upon one's back on the least sheltered zigzags. The night in the hut was as indescribable as all such nights are when one has the starlight and the straw to oneself. I do not remember when we started, nor yet when we reached the top; our times are decently buried in Mayor's official memory and the back numbers of the 'Journal.'* We put on the rope sufficiently prematurely to colour the whole day with the glowing consciousness of having done the right thing. The so-called central couloir, for which we were aiming, is really what is left of the flat S. face by the projecting intrusions of the western and southern arêtes. A previous party† had made a route up it inclining back to the left and reaching the summit by the W. arête. We attacked it on its right side, not from any contrariness but on principle, because a subsidiary ridge, protruding on the right from the S. (Dom Joeh) arête and turning downwards almost through a right angle, offered a convenient route up the face and a secure shelter from the discharges of the couloirs. The strata sloped outward and the rocks were loose, but the climbing was dry and easy. The arête, as we mounted, gradually drew itself up off the face, until, at the corner where it turned back toward the S. ridge, we were climbing on a shaky and fairly sharp edge with a sheer fall on our right into a secondary chasm. A gradual descent on its left upper side brought us back into the central couloir or 'flat,' and we skirted up its right wall, keeping in the shadow of the buttresses of the S. arête, until they in turn retreated and the couloir developed into a big semi-circus or amphitheatre, the meeting place of four or five slantingdicular gullies. This was the one unattractive section of the ascent, since in order to reach the lower ends of the ribs descending into the top of the circus it was necessary to traverse an open and slabby arena commanded by at least two couloirs, the angle of whose possible artillery admitted of no nice calculation. We collected the party and our breath, and then took the danger zone at a hand and foot gallop. In a bad year, with snow or ice to check the acceleration, this passage could not be academically upheld; in fact, given such premises, several portions of the climb which were easy enough in sunshine and bareness might induce plenty of time and a superfluity of matter for thought. We struck a prominent rib curving down in

* *Alpine Journal*, vol. xxiii. pp. 390-1. † *Ibid.* vol. xiii. p. 413.

a westerly direction from the summit and skimmed up its corrugations to our first halt and breakfast. On principle I had negatived all previous suggestions of pause, and we were well ahead of time and of its debilitating effects upon sun-swept slopes. The few small stones that fell passed down the upper fork of the big couloir to our left, and below followed the left-hand (W.) side, where we had located them to our satisfaction from the first. We were now free of all external considerations and could enjoy at leisure the sombre view of the splendid walls that enclosed us on either hand, with the northern snows of the Täschhorn shivering in the first rush of morning light before us, and the Rimpfischhorn smiling frostily across the beautiful jet and foam curves of the Dom Joch, obviously proud of its promotion, and thankful for even a temporary divorce from the virtuous but bourgeois society of the Strahlhorn.

The further rib was sound, if steep, with minute but gentlemanly holds. Where it merged in the final face of the peak the rock deteriorated, and the leader's intense anxiety to keep religiously up the centre of the narrow, triangular face, and not to be drawn by any soft options on to the trodden paths of the now adjacent W. and S. arêtes, induced the performance of some remarkable gymnastics up overhanging and dissolute crags. This is a form of childish indulgence which we all condemn in each other, and most of us, I suggest with diffidence, in our own performance condone. No well polished ridge in the neighbourhood of a popular hotel but has its small pinnacle to be ascended 'absolutely for the first time.' No cunning old local guide but knows and profits by our unconfessed but universal weakness for the 'true and new' arête. Mayor and I had secure front seats and the knowledge of a broad margin to the time sheet; and while we divided an upward smile of lofty superiority it was noticeable that it was the tail which refused to move, when we reached the final snow-crest, until the leader had made certain by tentative peeps that the steps were going to be kicked on to the exact summit. The view was a rare one even for the Alps on a day that proved the hottest in an exceptional year. With regret we renounced the tempting descent on Saas, out of regard for the early closing of our holiday, and prepared with set teeth and much 'pomade Séchehaye' on our faces to brave the glaring monotony of the usual way. I have only once felt anything approaching the scorching oppression of the passage of these tracts of white heat, on an occasion when Mackay and myself, after

being tricked on to the Trugberg, climbed the Mönch at midday with the successive detachment of each of our accepted seven cuticles. We fled faster and faster from the furnace, hunted by puffs of hot breath, and our expressions might have suggested to an onlooker a more than usual sensitiveness to the ingenuity with which all sub-alpine paths elude the tantalising shadow of the fir trees. Two hours and fifty minutes stands for the first man's time from the summit to the door of the Randa bathroom, and little less should in justice be recorded for the passage thence to the tea table.

It will be remarked that the climb, like most proper climbs, was thoroughly dull, uneventful, and unworthy of record, which makes it all the pleasanter to recall and the better illustration of my thesis. As the last-named appears to have got involved with several others in the course of the ascent I shall not, by restating it, risk the sort of questioning pause which usually follows the striking of the keynote by a conscientious pianist after an unaccompanied verse. It may be sufficient to put a problem to the gentle protagonists of 'fine old crusted routes' and rather over 'full-bodied huts.' 'What could be the comparative pleasure of the other parties thronging up the usual ascent of the Dom on that fierce day? And to suggest the solution by a trifling misquotation from the 'Traveller'—

Some sterner Virtues o'er the mountain's breast
May sit like falcons cowering on the nest;
 But all the gentler Morals, such as play
 Through life's more cultured walk, and charm the way,
 These, far dispersed, on timorous pinions—come
 To sport and flutter in a kind-o'—'scrum'!

SOME EXPEDITIONS IN DAUPHINÉ: A NIGHT ON THE MEJJE.

By O. K. WILLIAMSON, M.D.

DURING the summer of 1906 I was able to carry out a long cherished plan of spending part of a climbing season among the high alps of Dauphiné.

On July 2 an evening walk up the Lautaret road from Bourg d'Oisans brought me late at night to the Hôtel Juge at La Grave. The following day was spent in repose, and in the evening old Alois Pollinger joined me. On the 4th a training expedition was decided upon, in accordance with custom; and what more suitable object could be chosen than the Aiguille du Goléon, 11,251 ft., that fine view point to the



Photo by O. K. Williamson.
SOUTHERN AIGUILLE D'ARVES, FROM AIGUILLE DU GOLFEON.
Swan Electric Engraving Co., Ltd.

N. of La Grave? Starting at the unseemly hour of 10 A.M. we walked up the high road until just above the first gallery. After diverging up a side valley to the left we traversed its flower-carpeted slopes to Pramelier, and continuing up the treeless uplands lunched at the foot of our peak. We then struck up the slopes of friable rock of which the mountain is composed to the S.E. arête,* which we followed without difficulty to the top (about 4 P.M.). The Pelvoux group was unfortunately clouded, as the view of these peaks must be exceedingly fine. However we were consoled by the striking view of the Southern Aiguille d'Arves and the distant lower hills, with the ever changing cloud shadows of a stormy sky. Descending the same way to Pramelier we now skirted the hillside, here rich with fields of corn, until directly above La Grave, which we descended upon, losing our way in an important thoroughfare of that city (which, I am sorry to say, my companion designated as a 'Saustrasse'), and so reached our hotel just before 9 o'clock.

The following day H. Symons and our second guide, Edouard Charlet, of Chamonix, joined me. On the 6th we yielded to the magnetic influence of the words 'not yet ascended,' which we read in the 'Central Alps of Dauphiny' as the sole description of the central peak of the Chamoissière. Although we succeeded in starting from La Grave 10 m. earlier than for my first expedition yet it was past midday when we arrived at the Chalet de l'Alpe, where we proceeded to examine our peak.

Roughly speaking the three peaks of the Chamoissière are points on a ridge which stretches northwards from the Pic de Neige Cordier. Ascending the slopes towards the western summit we turned off eastwards and traversed slopes of hard snow, where we roped, and thus reached the lower end of a couloir at the foot of the N. face of the central peak. We now went up the rocks on the true left of this couloir, and so directly to the summit (10,007 ft.), having an easy but pleasant climb.† We had seen nail scratches on the way up, so were hardly surprised when, on reaching the summit, we found a stone-man. The view delighted us. The rock scenery in the foreground was striking, but we were especially impressed by the great rocky wall which stretches from the

* There is an error anent this expedition in the *Central Alps of Dauphiny* (second edition). On p. 20, in 5th line from top, 'l.' should read 'r.'

† *Alpine Journal*, vol. xxiii. p. 340.

Grande Ruine to the Pic de Neige Cordier, with the ridge of the Écrins towering behind. The Chamoisière is placed with regard to the neighbouring ridges in a position comparable to that occupied by the Pic du Tacul in the Mont Blanc group. We went down the same way, halting a few minutes for milk at the Chalet de l'Alpe. My companion was only prevented from bathing in the stream here by the proximity of a red calf. This was doubtless due to the recollection of an incident with a similar bovine animal in North Italy, for on that occasion, owing to the dietetic idiosyncrasies of the creature, he only narrowly succeeded in rescuing his clothes. We returned in the late evening, revelling in the sweet air and fine moonlight effects, to La Grave. This small expedition certainly deserves to rank among the many attractions of La Grave.

On the 8th, leaving the hotel about 7 A.M., we crossed the Brèche de la Meije to the Promontoire hut, intending to traverse the Meije on the following day. The view of the stately towers of the great mountain revealed to us above the mists I shall not soon forget—

The wild rocks shaped, as they had turrets been,
in mockery of man's art.

We reached the comfortable hut after an easy half-day at about 3 P.M. This is undoubtedly a far pleasanter route, and moreover not a great deal longer, than that through the stone-filled Val des Etançons from La Bérarde. Next morning the weather was not sufficiently settled to justify a start, so we spent the greater part of the day on a rocky platform close by the hut, admiring the stately Grande Ruine and the Pic Bourcet.

On the morning of the 10th we started betimes for our peak in magnificent weather. The south face of the mountain was in a condition as near perfect as possible, and taking a variation of the Pas du Chat we reached the top in good time. On starting down the gully leading to the Brèche Zsigmondy we soon found that the east ridge was likely to be in a condition as bad as that of the south face of the mountain was satisfactory. There was much *verglas*, necessitating careful moving and frequent hitching of the spare rope. After walking along the level crest of the Brèche Zsigmondy Pollinger started up the well known crack of the first great tooth, whilst we waited in the shadow of the peak, enlivened at intervals by seeing small avalanches of snow, ice, and stones dislodged by the prowess of our leader, although,



Photo by O. A. Williamson.
THE ÉCRINS, PELVOUX, AND AILEFROIDE, FROM GLACIER CARRÉ.
Swan Electric Engraving Co. Ltd.

as he was out of sight, the only other signs of his proximity were sundry remarks. At length the time came for us to follow one by one. I cannot judge of the difficulty of this part of the climb under good conditions, but on this occasion, owing to the exceedingly unfavourable circumstances, it was certainly of first-class difficulty and quite the hardest part of the whole climb; moreover the fixed rope hanging from the top of the tower was not placed in the position where it is of most use. We now climbed over the crest of the second and third teeth, and along the ridges and northern slopes of the snowy fourth and fifth. Wonderful were the retrospective views of the great ridge revealed in fleeting effects by the mists wafted across by the light north wind, the graceful snow crest and gaunt rock towers in part bathed in the rays of the setting sun, in part wrapped in purple shadow. By the time that we reached the foot of the Pic Central it was 7.30 p.m., and it was evident that our chance of getting off the peak by daylight had disappeared. I suggested staying on the ridge for the night; but Pollinger was strongly averse to this plan and in favour of attempting the descent, and, as he had the advantage of previous knowledge of our route, I did not feel justified in insisting. We now traversed along the northern slopes of the peak. The face here, in part ice and in part rock, was covered by fresh snow. By the time that we commenced to descend the slopes immediately beneath the summit of the peak it was dusk, and moreover freezing; and moving carefully one at a time we descended so slowly that night had set in ere we had descended, I should say, 100 ft. I well remember my regret at leaving the safe anchorage afforded by a firm projecting knob to descend a smooth wall of rock below, some 20 ft. high, which landed us on the top of a short snow slope. At the upper edge of this we anchored ourselves as well as we could whilst Charlet, the last man, climbed down the rock. This was an anxious moment for us, as, had he slipped, I do not think we could possibly have held him. The problem of our further movements had to be now seriously discussed. The snow slope merged a short distance to our right in a couloir or slope of snow or ice by which it is customary to make the descent. After Pollinger had examined this, and brought us word that it consisted of 'blankes Eis,' we agreed that in the night it was undesirable to attempt to cut steps down it, and so decided upon the direct descent. Below the short slope on which we stood was a smooth, steep rock-face, which terminated below at the top of the long ice slope which falls away to end at the berg-

schrund above the névé of the Tabuchet glacier. Pollinger busied himself in finding and fixing securely a suitable stone on which to tie our spare rope, held meanwhile by Symons, who was himself firmly placed against a rock, whilst Charlet and I above contrived to find good footholds. Meanwhile my thoughts frequently wandered to La Grave, the lights of which were visible near 8,000 ft. below. The night was clear, but the little moonlight had been merely sufficient to show us the Tabuchet glacier below, and even this had now disappeared. We had, however, a certain amount of help from our lantern. At last the spare rope was securely fixed to the knob, and one by one we slid down in the darkness to the top of the ice slope below. Without its aid we could not have descended the rock face, as, whatever may be the case by daylight, on this dark night no hold of any sort could be found on it. To judge by the complete absence of ice steps which Charlet and I found awaiting us on arriving at the foot of the rock, Pollinger's faith in our natural powers of adhesion to ice must have been considerable. He believed that by untying ourselves and passing our rope through a noose in the end of the fixed one we should now be enabled to reach the bergschrund. This procedure we adopted, and Pollinger, holding the doubled rope, disappeared into the depths below. 'Wie gehts?' was our anxious inquiry. 'Ich kann gar nichts sehen,' was the answer, and we learned that the schrund was still far below and out of sight. As a final expedient we tied the end of our rope to the fixed one, and were thus able to use its 100-ft. length. Even by the aid of this device, however, Pollinger could only reach a point some distance above the schrund. We now in turn let ourselves by the help of the rope down the ice slope. This was not easy, as we had to depend almost exclusively on arm-hold, and Symons's grip gave way before he reached the lower end of our rope, and he slipped into Pollinger's arms below.

It only remained for us now to wait where we were until day-break. After a bit the men summoned sufficient energy to cut a shelf on which we could sit, and I think we were all agreeably surprised when some 2 hrs. after reaching this spot day began to dawn, for, owing to our constant occupation, the night had quickly passed; and most fortunately for us, doubtless on account of the complete absence of wind, it had not been cold. As soon as there was sufficient light the guides commenced step-cutting. They quickly arrived at rather soft snow, and traversing to the right soon came to a point where the bergschrund was easily jumped, and we thus reached the easy



Photo by O. K. Williamson.

Swan Electric Engraving Co. Ltd.

WEST PEAK OF AILEFROIDE, FROM THE SÉLÉ GLACIER.

slopes of the Tabuchet glacier. After casting a last look at our rope we proceeded down the glacier. We had intended to descend the whole length of this, but, owing to our ropeless condition, thought it better to go down by the ordinary route, and therefore crossed the ridge which runs N. from the Bec de l'Homme; and soon the hooting of motor cars on the Lautaret high road announced our impending return to civilisation.

It is stated on the authority of the 'Central Alps of Dauphiny' that the Pic Central is known in the Monestier valley as the Doigt de Dieu. However this may be, historical accuracy compels me to record the fact that Pollinger spent the last part of our walk to La Grave in diligently searching for the most disrespectful epithets to apply to the peak, and further that his efforts in that direction met with a considerable measure of success.

At 11 A.M. on July 11 we re-entered La Grave after an expedition of 31 hrs.

A day or two later we left La Grave. We did so with considerable regret, as we had spent some very pleasant days there, and had found the Hôtel Juge exceedingly comfortable, and I may here remark that its management contrasts very favourably with that of the hotel at La Bérarde. In unsettled weather we walked over the Col de l'Alpe to Venosc, a beautiful spot, and from there up the desolate Val Vénéon to the charmingly situated St. Christophe. Next day we strolled up to La Bérarde.

On the 16th we traversed Les Ecrins from S. to N. We found the rocks above the Col des Avalanches very extensively glazed; in fact never before had I met with anything like the same extent of *verglas* as we came across in Dauphiné last summer. On the impressive summit ridge we met Messrs. Bartleet and Douglas, with their guides, this being the only party which we encountered on any of our Dauphiné climbs. For the descent we gladly profited by their steps down the ice slope.

Two days later in perfect weather we left La Bérarde in order to cross the Col du Sélé (10,834 ft.) to Ailefroide, an enjoyable expedition affording many fine views, that which struck us especially being the Ailefroide, Pic sans Nom, and Pelvoux, as seen from the Sélé glacier, the only unpleasant part of the day being the abominable slope of shifting débris, or so called 'clapier,' which had to be crossed before we reached the beautiful lower valley, the walk down which was perhaps rendered more enjoyable by contrast. Everything at the

little hotel at Ailefroide pleased us except the enormous number of flies.

Next morning, July 19, we started at 4.40 A.M. with the intention of traversing the Montagne des Agneaux (12,008 ft.) to the Chalet de l'Alpe. After a false start up the right bank of the stream, which wasted some minutes, we walked up to the Tuckett hut, taking the route on the right bank of the icefall of the Glacier Blanc, consoled for the hot grind up the hillside by the grand view of the Pelvoux and its neighbours and by the vista down the valley, with the hills beyond

Mellowed and mingling, yet distinctly seen,

rising above an Italian haze.

The hut is finely situated above the left moraine of the Glacier Blanc. From here, after halting about 1½ hr., we ascended the hot, stony slopes which lead to the small glacier which descends from the Col Tuckett, and passing to our right beneath the icefall as quickly as possible, so as to escape the risk of falling stones, we struck up a thoroughly sound face of rock, followed by a ridge on the true left of the glacier as remarkable for the opposite characteristics, and ascending a short snow slope reached at 2.15 P.M. the col (11,484 ft.). The route described in the 'Central Alps of Dauphiny' passes over the upper basin of the small glacier above mentioned. At 2.45 P.M. we started up the N.E. face of our peak. The rocks, at first loose, very soon improved, and a pleasant scramble brought us at 3.15 P.M. to the top of the Montagne des Agneaux. The reputation of the summit as a point of view is well deserved; Les Écrins is particularly imposing from here. Starting on our descent at 3.45, after again reaching the col we traversed along the base of the highest or eastern summit, and climbing up rotten rocks reached the col between it and the point immediately to the west. N.W. of this point is a snow summit, from which a ridge extends northwards. Traversing snow slopes we soon reached this ridge. The way down to the Chalet de l'Alpe, we gathered from the description in the 'Central Alps of Dauphiny,' lay in this direction, but it was not obvious, and the guides were unable to help us in finding it. We therefore returned in our steps, climbed the snow summit by an ice slope and loose rock with the view of finding a route on the W. side, but as soon as we saw them gave up all thought of descending the steep icy northern slopes of the ridge which stretches to the W. The amateurs of the party then decided that the wisest plan would be to descend from the Col Tuckett to the E. and if possible reach

Monestier that night. We accordingly retraced our steps to the col, and after descending a short steep slope reached the névé of the Monestier glacier. Leaving on our left the ridge of rocks which crops out from the glacier we descended rapidly, and soon had a wearisome step-cutting job down the steep icefall for some hundreds of feet, reaching the level glacier below, and so the left moraine, in the gloaming. Descending the stony slopes, at 8.30 p.m. we reached a spot where it was decided to bivouac, as the guides were of opinion that it was undesirable to attempt to cross by night a certain stream over which lay our way. I have never passed a more uncomfortable night. We lay as close together as possible on snow and rock, partly under an overhanging boulder and close to a glacier stream. We suffered considerably from the cold—indeed, far more so than when, nine days before, we had been benighted on the Pic Central. At dawn next morning we continued our descent, and at once found that we might easily have proceeded the night before. After traversing moraine slopes pleasant walking down the left side of the Tabuc glen brought us to the chalets of Grangettes, where we halted for a breakfast of milk and bread, and a gradual descent amid pleasing scenery led us in about 2 hrs.' actual walking from our sleeping place to Monestier and a temperature worthy of the Italian plain. From here we took the diligence over the Col du Lautaret, deriving pleasure from the contemplation of the Agneaux and Meije, and so to La Grave, where we bade farewell to the Dauphiné Alps, leaving the same afternoon *en route* for Chamonix.

We had been favoured by weather above the average, and indeed during our last week it had been almost perfect.

THE CUILLIN HILLS.

BY THE EDITOR.

WHEN we are on the point of celebrating the Jubilee of the Alpine Club it would seem that 'the true mountaineering centre of the British Isles' deserves at least a brief recognition, seeing that it is more than twenty years since Mr. Charles Pilkington expounded to the Alpine Club what excellent ascents there were to be made in the 'Black Coolins,' and how he himself and his party had made many of the best of them; while it is more than sixteen years since Mr. Dent in that delightful style of his sang the praises of the 'Rocky Mountains of Skye' in these pages. Since then

the Cuillin Hills have charmed hosts of climbers, and our colleagues of the Scottish Mountaineering Club have explored most of the ridges and corries and many of the faces of the more noteworthy peaks. They have also laid the mountaineering brotherhood under no small obligation by publishing in the last number of the 'S.M.C. Journal' (with a map) a guide to the mountains of Skye by Mr. Douglas, the editor of that journal. The work has been excellently done, and the popularity of the district is shown by the fact that the number is already out of print.

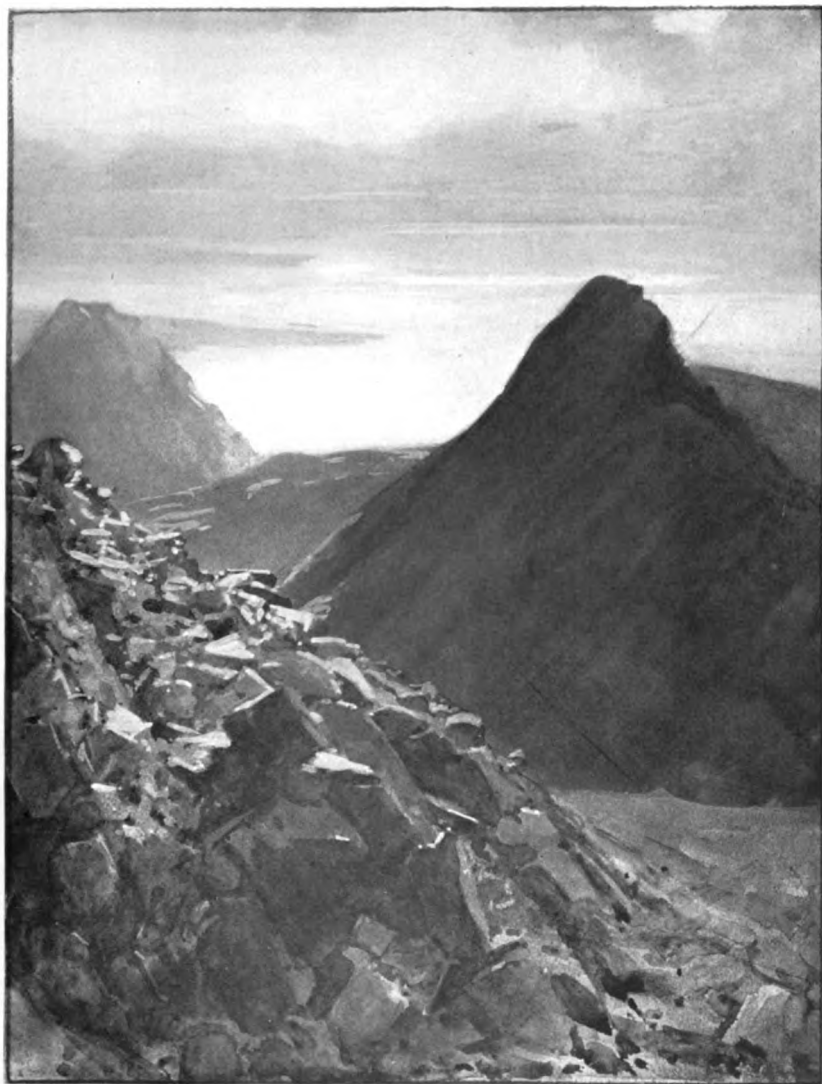
Dr. Tempest Anderson and I arrived in Skye—to be exact, at Broadford—on August 22, 1907. Just as the visitant to Chamonix may stop a day at Geneva, we had spent a day in Aberdeen in examining its garden city developments. We had embarked on the 'Fusileer'—name well deserved by its state and anciencey—at Kyle of Loch Alsh, and I at least was not long in discovering how climbers who go to Skye are of necessity

Servile to all the Skiey influences ;

for, sitting on a chance-found chair under a nondescript tarpaulin, I received full in the face such stinging rain as made me glad to shut my eyes. The voyage, I need not add, was rich in beautiful sights. Anderson showed, I thought afterwards, excellent judgment in choosing this method of approach to the 'Black Coolins,' for the drive from Broadford to Sligachan has a picturesqueness to which the road thither from Portree can advance no claim.

I must say at the outset that I have no new climbs to describe, for the weather could not be called favourable ; indeed, 'to speak wi'oot prejudice there was some watter.' But I had one capital expedition with Donald Mackenzie to Sgurr na h-Uamha. (The spelling is correct, but, as Mr. Dent says, 'gives no clue whatever to the right method of pronunciation.') The peak was first climbed by Mr. Charles Pilkington's party in 1881.

The S.M.C. guide marks the route we followed, with a query as to whether it should be labelled 'easy' or 'moderately difficult.' I regret that I cannot solve the question in the manner more honourable to the mountain, though in such weather as we encountered some would very possibly be inclined to do so. We followed the path for Coruisk up the Sligachan glen to about the foot of Marsco, and then turning to the right crossed the big burn and went up to the gap to the right of the first peak in the ridge S. of Sgurr nan Gillean. In the



Drawn by A. D. McCormick, from a Photograph by Dr. Tempest Anderson. Swan Electric Engraving Co. Ltd.

**SGURR NA H'UAMHA,
FROM SOUTH RIDGE OF SGURR NAN GILLEAN.**

mist and rain every crag assumed a grandeur of a good deal of which no doubt bright sunshine would have robbed him. We then traversed the flank of Sgurr Beag, on the Lota Corrie side, to the depression at the N. foot of Sgurr na h-Uamha.

With a wind fresh from the Atlantic now roaring his war cry, now shrieking with furious laughter, now whirling the tortured mist in savage glee, even an easy mountain grows impressive. We waited a few minutes to see if the wind would lessen its fury, whilst our view, if not perfect, was at any rate a study in mountain gloom. We then tackled our peak. Donald said that never in the summer had his hands been so cold, and seldom had the wind been higher. In fact it was thought advisable to put on the rope.

The glimpses we got from time to time of Lota Corrie, and of the great slabs (such slabs are now known as boiler plates by up to date conversationalists) of dark rock on the other side of it, streaming with rain, were worth all the discomfort; and I must own that to me the appearance of the sea, albeit furtive and fitful, in the distance beyond Coruisk helped to remind me of the volcanic origin of the hills, for occasionally, though not on the day we were on Sgurr na h-Uamha, it shone with a splendour of colouring which recalled the days I spent with Anderson on Lipari and Vulcano and Stromboli. And if the grim rocks and gaunt cliffs were reminiscent of Vulcan it would have been hardly a shock to have seen towards evening his smiling consort rise from the golden stillness of the evening sea.

The sea, indeed, had a way of suddenly appearing in narrow gulfs, or wide expanses between islands, and gave an air of distinction even to such walks as the traverse of the Red Hill or the dome of Glamaig.

We soon returned to the foot of the final peak, ate our lunch in what was by comparison fine weather, and then varied our route by descending towards Glen Sligachan by the gap at the N. foot of Sgurr na h-Uamha. We kept on the left side of the Sligachan main stream and so reached the Struan road.

The next day, with G. T. Glover, I went to Loch Coruisk. My companion knows the Cuillin Hills thoroughly, and consequently our walk was most enjoyable, notwithstanding the persistent attacks of the rain. He pointed out to me many of the best climbs—not only among the Cuillin Hills, but on Blaven and Clach Glas—most of which he had made himself—from the top of Druim nan Ramh (1,622 ft.), on which we found several little bits of enjoyable rock-work.

Sgurr na h-Uamha as we returned to Sligachan showed

finely at one time like a miniature Eiger, at another like an Aiguille Rouge in shape, though dark in colour. The ridge of Sgurr na h-Uamha, which came down towards us, has not, I fancy, been climbed, and we did not think that it was probable that it would prove at all easy, to put it mildly. Two places at least looked likely to demand all the skill that good climbers can command. We passed the Bloody Stone, which Glover showed me how to climb. If the 'red rain' from Macleods and Macdonalds had not made the harvest grow it had apparently done something to develop the ferns, which were abundant.

The weather was for much of our time in Skye rainy, misty, windy, chilly; but the rain raised the burns to the dignity of rivers, the mist clothed the mountains with raiment that enhanced their splendour, the wind with a matchless skill lifted or wrapt close the flowing folds of drapery that clothed the mountains. The chill of the storm lent appreciation to the sunshine, when it came, and the wind and the chill between them dispersed the midges; for midges there were many, minute but maddening. Somehow—I don't know how—bad weather in Skye did not affect me in the same way as it generally does elsewhere. A philosophy (possibly endemic in Skye), whence derived I know not, always acquiesced in the work of the storm.

What is decreed must be, and be this so.

'And pray, sir, how did you spend your wet days?' I hear an interrogator cry. Why, in the rain I walked along first one and then another of the three roads that meet at the Sligachan Inn. If I went towards Struan there was always a possibility that the curtain might lift and disclose the grandeur of Sgurr nan Gillean; if I went towards Portree I was pretty certain as I returned to see Glamaig, or Beinn Dearg Mhòr (*hoc prætexit nomine collem*, as Calverley might have said, for it only means 'Red Hill'), in some new and fascinating aspect, which made me forget that they were but easy walks; and if I wandered Broadfordwards there was Sligachan Loch below me, with sea fowl at their fishing avocations or engaged in choir practice, or sheep fording a river channel with a judgment which gave the lie to their character for stupidity, or other sheep hunted by collies from the recesses of Glamaig at the bidding of a shepherd who loomed far larger than human on the misty mountain ridge.

On a fine evening there was always the ravine of the White Burn to visit to count the varieties of trees and shrubs that



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PHOTO BY DR. TEMPEST ANDERSON.
VIEW LOOKING NORTH, TAKEN ON THE WAY UP SGURR SGUMAIN. SGURR DEARG IS SEEN
ON THE EXTREME LEFT.

clothed its sides; to mark down the honeysuckle in flower, though it seemed a shame to gather it when a wade up to the knees would have been the necessary preliminary to its acquisition; to delight in the heavy scent of the hay fern, which grew there in abundance. I hunted out the leaves of the primroses which earlier in the year had made it a delightful garden. I watched the dogs, which generally followed me from the inn, jump from stone to stone, pausing now and again to summon up resolution till they had crossed to the other side. To the midges, which seemed to enjoy the beauties of the spot as much as I did, though that did not prevent them from biting their very best, I of necessity devoted considerable though unwilling attention. They must, as a deftly bitten visitor remarked, have been teetotallers, for they dined early and dined often.

Even on days when rain was pitiless and persistent we had our excitements; for when all the mountain-sides were striped with waving lines of white, and the torrents were as full of passion for the watery renown of the Sligachan river as Lancelot's kith and kin for the name of Lancelot, one of the side streams grew so swollen with pride and spate as to submerge his bridge and cut off a lingering fisherman. And so, instead of a rescue party being gathered for some poor storm-bound climber, volunteers were whipt up for a flood-foundered fisherman. But let me not be thought to be a flouter of the rod and the skilful wielders of it, who so unstintedly produced trout for breakfast and dinner. No—the memory of 'chamois,' as the menu spelt it, so regularly supplied in old days at certain mountaineering centres, is wholly eclipsed by the trout of Sligachan—trout which provided a double satisfaction, for, regularly exhibited as they were in the entrance hall, they gave at once a gentle stimulus to the pride of the angler and to the appetite of the general public.

On September 3, Glover having left us, much to our regret, Anderson and I, with Archie Mackenzie, went up Sgurr nan Gillean by the easy south ridge. We saw Highland stirks as you might see chamois in Val Ciamosoretto and deer (eighteen) as you might bouquetin in Val Savaranche in the Graians, and I found *Arabis petræa* and *Silene cucubalus* in flower.

The weather for once was all that could be wished, and though I dismiss our pleasure in a brief paragraph you must not think that I wish to belittle it, for we returned from our mountain with memories of the glories of the Cuillin Hills which will long remain with us.

On September 9 a large party of us drove to Glen Brittle.

It took three hours. We were very late both in leaving Sligachan and in starting from Glen Brittle, for nobody could be found to carry Anderson's camera, till at last our driver was magnanimous enough to undertake the task.

Our party consisted of Dr. D. W. Inglis and Messrs. G. M. Lloyd and E. T. A. Phillips, our two selves, and Archie Mackenzie. We made across the moors for Sgurr Sgumain, enjoying very fine views, both mountainwards and seawards, on the way, the day being all that could be desired ; for if the weather in Skye when bad is horrid, at any rate when it is good it is very, very good. Once on the top we examined the great chimneys on the Corrie Labain side, and Anderson took photographs. The panorama from the top impressed us much, especially the north side of Sgurr Alasdair, the head of Corrie Labain, and Corrie Ghrunnda. Our original intention had been to go on to Sgurr Alasdair from Sgurr Sgumain, and the younger members of the party were, I fear, a little disappointed when a council of war behaved as such councils proverbially do and decided not to fight.

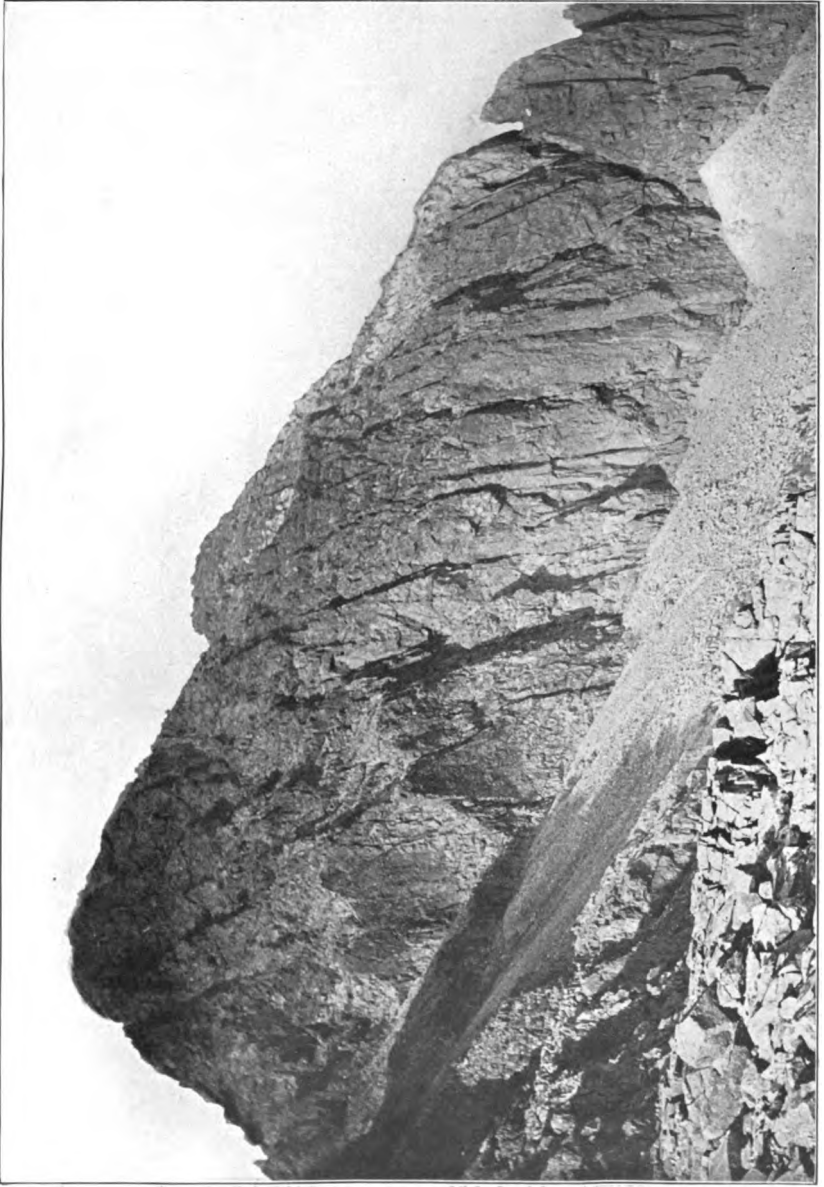
The time left us was in fact so short, owing to our late starts both from Sligachan and Glen Brittle, that we should have been benighted if we had persisted in our original plan. As it was we did not get back to Sligachan till half-past ten. Yes, we enjoyed Sgumain, 'but for Alisander—alas! you see how 'tis—a little o'erparted.'

We had a pleasant walk back to Glen Brittle, a pleasant call on Dr. Norman Collie and Mr. Colin Philip, who were in residence at Glen Brittle House, and a pleasant drive back to our quarters at Sligachan.

Anderson and I had proposed a visit to the Quiraing before leaving Skye, but the weather said us nay, so on September 14 in wind and rain we took the steamer from Portree to Oban. We might fitly have bidden good-bye to Skye in the words of Antigonus :

Farewell ;

The day frowns more and more ; thou'rt like to have
A lullaby too rough : I never saw
The heavens so dim by day. A savage clamour !
Well may I get aboard.



Swan Electric Engraving Co. Ltd.

SGURR ALASDAIR, FROM THE SHOULDER OF SGURR SGUMAIN.

Photo by Dr. Tempest Anderson.

MOUNTAINS FROM A PAINTER'S POINT OF VIEW.

By ALFRED EAST, A.R.A., V.R.B.A., R.E.

(Read before the Alpine Club, May 7, 1907.)

A PAPER dealing with 'Mountains from a Painter's Point of View' may perhaps be regarded as an innovation in this Club. Alas! as an artist member, I have no thrilling adventures to relate, no physical feats to rouse your admiration, nor am I concerned with the geological structure or the topographical details of mountainous regions; no, I must content myself with falling back upon their æsthetic aspect, and such qualities as are not usually dealt with in papers chiefly concerned with the technicalities of climbing.

The difficulties of mountaineering lend themselves to dramatic description, and readily fire the imagination, but the painter's difficulties are of another order; they often lie too deep for words, they are of so personal a nature that they elude description and can only be understood by brothers of the brush. But just as in scaling great heights one needs physical courage and a clear head and calm judgment, so in the realm of painting one requires strong moral and mental courage to put down the emotions which the mighty forms and forces of nature inspire.

We artists, I am afraid, hold what is to this Club a heterodox opinion, that mountains are better seen from afar, that 'distance lends enchantment to the view;' and I am sure no member will disagree with me when I say that they possess qualities disassociated from physical exertion, which stimulate the mental capacities of man and find expression in poetry and music. Without depreciating in the least the part they have played in the art of painting, I venture to think that the arts of literature and music have received greater stimulus, and have gathered fuller inspiration from them, than the art of painting.

When one sees mountains for the first time in one's life (and who does not envy the man who has yet to see them?) they seem so unrealisable, so surprising in their magnitude, so gigantic in their proportions, that one feels that one's whole view and conception of the universe must be readjusted; the sudden widening of one's horizon seems to throw one's whole preconceived notion of the earth out of all perspective. And apart from the effect of their immensity, we are overawed by the sense of their majesty and mystery, we are conscious of that 'sense sublime of something far more deeply

interfused,' and we feel we must make some effort to express their effect upon us. It is this craving to express the truth that is in him which impels the painter again and again to attempt the impossible, and lures him on to sacrifice himself on the rocks of his self-esteem.

There is a proverb which says 'we cannot paint the lily,' yet if you go to any current exhibition of pictures you will find many attempting it; and how many a tourist with an eye for colour, and a light-heartedness born of blissful ignorance, will sit down gaily with a sketch block before him, ready to drag down the eternal giants to the dimensions of his little sketch!

Well, gentlemen, I am speaking to you as a painter, and as one who knows full well the difficult passes, the steep and perilous ascents, and the fearful humiliation of defeat, just as you mountaineers know them, in their physical aspect, and I know what awaits the man who attempts to realise the stupendous grandeur of nature with paint. When a sketcher approaches the question of mountain painting, it may be he has never carefully considered whether the subject comes within his power of expression at all; whether it is ever possible in his Art to suggest the dignity and solemnity of the scene before him. He is so impressed by the view that he feels he must make a record of it, and he forthwith gets a sheet of paper and endeavours within the limits of its area to paint mountains 14,000 feet high! He fails. Yet he cannot tell why he fails to convey a just idea of the majesty of the scene. It may be he has overlooked the fundamental principle of relation. We see certain objects, and we can only ascertain their actual size by comparison with other known objects. We see a picture of a mountain standing alone, there is nothing to indicate its height, and it is only by comparison that we are able to get any idea of its real dimensions. You would get a truer sense of the height of Mont Blanc by painting it just as a little bulge of white as it appears to you in the extreme distance, than if you filled the whole area of your canvas with its form, because at that distance you are better able to judge of its height in relation with other peaks, and, besides, something is left to your imagination; it is by suggestion, rather than by an attempt to realise the actual fact, that the artist is able to convey any idea of the majesty of these mountain heights.

It must be a solace to all who try to paint mountains to know that in looking back upon the whole range of classic painting you have never known a painter succeed in painting

a mountain *qua* mountain—to give the same qualities as literature can express—its dignity, its solemnity, and its grandeur. I would like you to consider that point carefully. It is much better to make your sketch and add your notes rather than attempt those peculiar qualities which are almost if not quite impossible to describe by paint.

I am reminded of Fuji-Yama, the sacred mountain of Japan, round which have gathered the song and story of a thousand years. It is some seventeen years ago now since I first made the acquaintance of that wonderful peak. I was on my way to My-anoshita when through the clouds which drifted across the face of the blue I saw a piece of glistening white, stationary amid the movement of the vapour. It was so high, so remote, so far beyond the earth; for all below was curtained off by the warm grey of the lower clouds, which completely isolated it from the intermediate hills. This perfect cone of gleaming snow gave me such an impression of dignity and grandeur as I shall never forget. It realised all that I had heard and read of it. But one clear morning, having settled down to work in the domain of his kingdom, I looked to the sky expecting to see the 'incomparable one,' as the Japanese call it; but I saw, low down, a peak of snow depressed as by some great convulsion of nature to a very ordinary object. All its majesty seemed to have vanished, and no longer was I stirred by the feelings of admiration such as I had experienced when I first saw the solitary peak amid the sunlit clouds. Before me rose the mountain, the same yet not the same, for it was stripped of its regal garments, its vestments of state and majesty; and all the glory of its colouring and the accessories which had given it such dignity and authority had disappeared. And so it is with Art and Life. It is not the actual fact which is so significant to the poet or the painter, but rather the glamour which his own personal feeling casts about it, the associations so linked with his individual experience. The expression of the actual cannot convey the emotions which we associate with that actuality. The grandeur of a scene, the associations which are gathered round it, frequently form its chief interest; and the predominant qualities of mountains—their size, their majesty, their mystery—are qualities which the painter and the poet always associate with them. They are the legitimate habiliments by which he clothes them, and without which they would be poor indeed. The fact that a certain peak is some 20,000 feet has no special interest for him; he would not trouble to dispute any such statement,

nor does he care whether or no he can ascend it. No; all he is concerned with is the predominance of such qualities as I have mentioned, and which arouse within him emotions which he endeavours to convey in his own fashion.

Most of you have seen Mont Blanc at the foot of the St. Bernard Pass at Pré-St.-Didier. Here the noble mountain is apparently raised in height by the foreground of foliage. On the day I saw it, it did not depend on the garment of clouds but by the comparison of nearer objects; for between the noble trees and in the intersection of intermediate hills I saw the white peak hard against the blue, small in quantity—a mere bit of white in comparison with other objects of the landscape. But it was the life and soul of the scene; all objects, although so fine, seemed as mere accessories to it. It was the vitalising point of the composition, the artistic *raison d'être* of their existence. Here it was possible to paint it and to convey some idea of its authority.

You have probably travelled over the plains of Lombardy when the long strips of warm tones of spring green are interspersed with newly ploughed land or manured earth, and through the flowering almond-trees caught sight of the distant Alps; you may have noted their subtle colour through the interstices of the blossoms of such exquisite quality that no painter could do it justice. They did not seem to be less wonderful nor lose their sense of grandeur because they were seen from a distance, yet had you photographed them, the camera would certainly have diminished their grandeur and exalted the manure in the foreground. The painter, having a free hand, would not have done so, even though he could not fully convey to your mind just the sensation you might have received from nature. He may have given you a truer impression than the camera could convey, even though he was not able in common pigment to touch that exquisite colour-chord of the juxtaposition of the distant mountains with the blossoms.

As I have already said, 'the predominant sensations' aroused by mountains are the real facts to be recorded: there is an instinct in human nature to express either by writing, painting, or in music everything that makes a strong impression on the mind. And we do not always stay to consider if the subject is possible to illustrate by any of these mediums, but we rush at it with an uncontrollable enthusiasm, often to discover later, in the bitterness of defeat, that we have taken the wrong medium to express the particular object we had in view. There is no excuse for the

littérateur or the painter if he select the wrong material to express the beauties of nature. If the artist wishes to paint mountains, he must, like Turner, have sufficient faith—that is, they must be subservient to his will—if by their alteration he obtains some of their greater qualities. You will see how unfaithful the artist may have been to the actual facts if you compare his picture with nature; you may see that the mountains in his picture appear as mere accessories, yet you cannot dispute the success of his treatment, even if you dispute his authority to transpose nature to suit his purpose. You may call him a sublime liar, yet if his method conveys to you a truer idea of the scene than the photograph you may be inclined to withdraw that drastic assertion. Turner in no instance painted mountains as mountains, but rather the setting of them, the associations of forms and effects, and the countless accompaniments which he used to further the end he had in view—the qualities which are never to be demonstrated by mere feet or fact.

I remember painting in 'the hills of the Sun's brightness,' as the Japanese call them, so beautiful indeed they are that it is said that 'he who has not seen Nikko must not use the word "beautiful."' Two Japanese artists were painting the same subject. The pictures were all alike in the sense that they represented the hills, but the treatment was very different, because I as a European had expressed one quality, and they as Orientals had expressed another. How interesting is this difference of treatment resulting from difference of birth, education, environment, and ideals!

I fear that to-day there is too much of the literary feeling in our painting, and I am not so sure, on the other hand, that the *littérateur* does not trespass too much on the artist's domain. We must never lose sight of the fact that the art of painting has a sphere of its own, a particular sphere, not necessarily inferior to literature or music but different. We do not want in music the imitation of natural sounds such as the thunderstorm, for the real storm is much more impressive; but there are beauties in nature which seem to call for the interpretation of music, and such as these are its true *métier*. And it is so with literature; what is suitable to the literary theme may not be adaptable to the painter. Each art has different qualities to express. For instance, the beauty of progression can be best expressed in writing. The charm of the changing light, the progress of the dawn to daylight, or the beautiful suggestion of the progress of life with its innumerable incidents: all these are for the pen

rather than for the brush. The artist must be content to take one particular moment in the progression. It is in the painter's power, however, to give you an emotion which the poet cannot convey by words; he can give you the actual pomp and circumstance of the conjunction of form and colour, which will suggest to your mind ideas impossible to be obtained from words alone.

The association of mountains with literature is far greater than with painting. A written description goes farther than a painting in giving us a clear conception of those qualities which we always associate with such a subject. Who can ever forget Olympus, the home of the gods; or 'the last peaks of the world beyond all seas' whereon the old Greek poets staged their immortal dramas; or who can think of Dante without calling to mind the way he piled up his mighty rocks and mountains; or who can forget the beauty of Sir Walter Scott's 'Sentinels to enchanted land'? All of us are familiar with those lines of Shakespeare in that sonnet where he says:

' Full many a glorious morning have I seen
Flatter the mountain-tops with sovereign eye,
Kissing with golden face the meadows green,
Gilding pale streams with heavenly alchemy.'

Note Shakespeare says, 'Flatter the mountain tops.' Why flatter the noblest and most sublime things on earth, why not salute them as equals? It is evidently to show the sovereignty of the morning that he can *flatter* the mountains with his smile of patronage, and *kiss* the meadows where the children play without loss of dignity.

' Kissing with golden face the meadows green,
Gilding pale streams with heavenly alchemy.'

Such is the beautiful description of the progress of the morning's light. We can trace it as it first touches the mountain tops, as it rises above them, leaving them in the effulgence of its glory, till from its greater height it kisses the meadows which lay in the shadow of the hills, and at length gilds the pale streams with its heavenly alchemy, and so on till the day is done. This is the beauty of progression which no painter can express. No, he must be satisfied with other subjects wherein the poet cannot venture; but which may yet reveal qualities as great, though of a different character, so that when we attempt to paint mountains we must remember that we are to convey something approaching the sublimity

that Shakespeare suggests in his sonnet, though our means are different from his. We must clothe our mountains with all the accessories that will suggest the majesty and dignity with which nature has endowed them. But again I say the painter can never succeed in arousing the emotions which we feel in the presence of these lofty peaks. No man who is susceptible to the beauties of nature can be indifferent to the effect of mountains on the imagination, their all-absorbing sense of things great, their solitude, their solemnity and magnificence, these which the painter cannot adequately express. He can, however, suggest the splendour of the colour along the distant hills, or the mystery of distance when the sunset reveals them against a glowing sky. He may produce pictures of different effects and incidents in the progress of a day amidst the mountains, each good, each conveying some of the charm of nature; but the writer can in one poem express the whole round of the day's events. The painter, however, cannot afford to be less observant of each passing event, he must be ready with his brush to catch just those effects which are possible to reveal the character of his subject and in its best mood. If he assumes either the exactitude of the photograph, or the progressive quality of the changing light from dawn to sunset, he will fail to convey the impressions the thoughtful man enjoys when in their presence. Above all things, if he attempts to paint mountains, let him beware of that fatal materialism that endeavours to imitate their structure. The fact of their material will never give anyone the sense of their dignity and style. Let him be content to treat them as a medium to express grandeur, rather than attempt to realise their actual constitution. The sense of scale can never be obtained by the aggregation of little things, however interesting. Facts such as chalets, trees, &c., do not make up the real qualities we seek for in mountains. The insistence on the exactitude of the details in a scene is not consistent with the greater qualities we look for. A thousand truthful details may yet suggest one great untruth.

THE NEW EDITION OF BALL'S 'ALPINE GUIDE,'
'THE CENTRAL ALPS,' PART I.

WE congratulate Mr. Valentine Richards and his fellow labourers on the appearance of this volume. In *format*, type, and, as far as possible where there are so many different writers concerned, in its general lines, it follows its prede-

cessor, the 'Guide to the Western Alps.' Of that volume all who have consulted it, and most those who have consulted it oftenest, speak in terms of enthusiastic praise.

We cannot wish the present volume any better destiny than that after abiding our questions for eight or nine years we may be able to speak of it as we can of its predecessor.

The delay in the appearance of the book is fully accounted for in the preface.

It does not seem necessary to offer here any lengthy criticism. The maps are on what Mr. Tuckett, when reviewing the 'Guide to the Western Alps,' described as 'the very useful scale of 1 : 250000.' They are taken from the general map of Switzerland by Herr Ravenstein of Frankfurt on the Main, and will, we think, be found very useful by those who are planning tours in any particular district of the mountains which are treated of in this volume. In a by no means exhaustive examination of the book the account of the Tödi and Titlis regions have struck us as among the most helpful and suggestive. Geologists will be delighted to find that all information in connection with geology has been brought up to date by Dr. T. G. Bonney.

In a volume of 306 pages which covers so much ground it can hardly be expected that all errors have been eliminated. We notice, for example, a mistake (p. 110) in the date of Mr. Tuckett's ascent of the Aletschhorn, which should be 1859, not, as stated, 1860. Again, on p. 79, is a statement that a church bell, which is said to have belonged to a chapel of St. Petronella, may still be seen in the village of Grindelwald. This bell was melted in the fire of 1892.* More minute flaws will no doubt be detected.

But though it is said that the critic's duty is to criticise, it seems to us in the present case a more urgent duty, and it is a far greater pleasure, to thank all those who have, in the interest of their fellow mountaineers, undertaken as a labour of love and at much cost of time and trouble to themselves, a task of which only those who have tried can appreciate the difficulties. We shall therefore conclude this brief notice by offering our best thanks to Mr. Valentine Richards and his fellow helpers for their self-denying labours.

* *A.J.*, vol. xvi. p. 272.

IN MEMORIAM.

J. W. ROBINSON.

THE death of this well-known Cumberland man at the early age of fifty-four will be felt as a great loss to many of us.

It may be doubted whether any other man outside the Club had more or warmer friends within it. Though it fell to his lot only once to enjoy a season among the Alps, he had all the qualities which go to the making of a fine mountaineer—great strength and activity, vast endurance, cool judgment, keenness of observation, and an unusually retentive memory. It was his unrivalled knowledge of his native hills and rocks, and his constant readiness to place his knowledge and his time at the service of every genuine inquirer, that brought him into contact with so many of our members, of whom literally hundreds must have at one time or another learned what a delight it was to have a day's climbing with him.

Brilliant powers as a rock-climber, great natural intelligence, and a keen sense of humour, combined with a singularly gentle and loveable disposition to make him the most delightful of companions.

W. P. H.-S.

THE MOUNTAINS OF DANTE.—II.

By DOUGLAS W. FRESHFIELD.

I CONTRIBUTED to the tenth volume (pp. 400-5) of this 'Journal' a short article with the above title. It attracted at the time some attention in Italy, and led in that country to a further and more detailed discussion of Dante's references to mountains and mountain scenery.

I now return to the subject because I believe myself to be in a position to solve a particular problem which then baffled me and has, so far as I know, baffled most commentators since.

In the 'Inferno,' canto xxxii. line 29, Dante, in order to impress on his readers the thickness of the ice in the innermost circle of Hell, says that if 'Pietrapana' or 'Tabernicch' were dropped on it it would not even crack :

che se Tabernicch
Vi fosse su caduto, o Pietrapana,
Non avria pur dall' orlo fatto cricch.

'Pietrapana' is, of course, easily recognisable as the Pania della Croce, the Carrara peak visible from Florence. But 'Tabernicch' has hitherto proved a puzzle. I will first quote what I wrote twenty-five years ago about its attempted identifications.*

* *Alpine Journal*, vol. x. p. 402, n.

'I accept provisionally—because I suppose they had some grounds for it—the commentators' identification of Tabernicch as a mountain in Hungary, though I can find no support for their assertion in geographical works. Mr. J. A. Carlyle somewhat cautiously says that Tabernicch is the name of a district containing a mountain, and a village called Tovarnich is found near the Lower Save in atlases. The only Taburnus known to Boccaccio is Virgil's Taburnus in Southern Italy. Massa was anciently Ad Tabernas Frigidas; the mountain behind, now Monte Tambura, may have been Mons Tabernicus. There is also an Avernich Kofel above the Predil Pass near Tarvis on the ancient amber route from the Baltic. Signor Giuliani of Florence, whom I have consulted, refers to a mountain near Adelsberg known in the middle ages as Tavorney. But, he justly adds, no identification of the least certainty has yet been produced.'

On looking again into the matter I find recent editors content, as a rule, to say that Tabernicch is probably a high mountain in Slavonia. Mr. Tozer more wisely writes that it still remains to be identified. Mr. A. J. Butler alone comes near the mark in suggesting, on an authority he cannot now remember, that there is a mountain of this name in Bosnia. I believe that I now hold the clue to the exact situation of the mysterious mountain. It is to be found in the district of Focha, on the frontiers of Bosnia, Herzegovina, and Montenegro. This district has recently been transferred from the Herzegovina to Bosnia by the Austrian Government.*

In the course of a tour in Bosnia and Herzegovina last autumn rode and drove for four days on or alongside the old paved caravan track which was once the commercial route from Constantinople to Ragusa. From the green valleys of the tributaries of the Drina it climbs up to the bare highlands of the Herzegovina through an extraordinarily picturesque limestone gorge, now known from its stream as the Sutjeska Defile. At the head of this gorge the mountains almost meet, rising on either hand in great cliffs crowned by fantastic horns and pinnacles, while so narrow is the opening that the track is carried on a wooden platform overhanging the stream.

In his paper on 'The Ascent of Maglich,'† M. de Déchy furnishes the following details as to the former importance of this natural gate. 'Even in the Middle Ages this route was extremely important, since—despite the descriptions which Ramberti (1533) gives us of the ill-treatment of travellers here, whether at the hands of custom-officers or of robbers pure and simple—the merchants of the Adriatic coast transported by it their wares from Ragusa to Bosnia, to Servia, and even to Constantinople, and it is astonishing to read how in the sixteenth and seventeenth centuries the French

* Mr. A. Evans, writing in 1880, assigns it to the Herzegovina. See *Encyclopædia Britannica*.

† *Alpine Journal*, vol. xiv. p. 420.

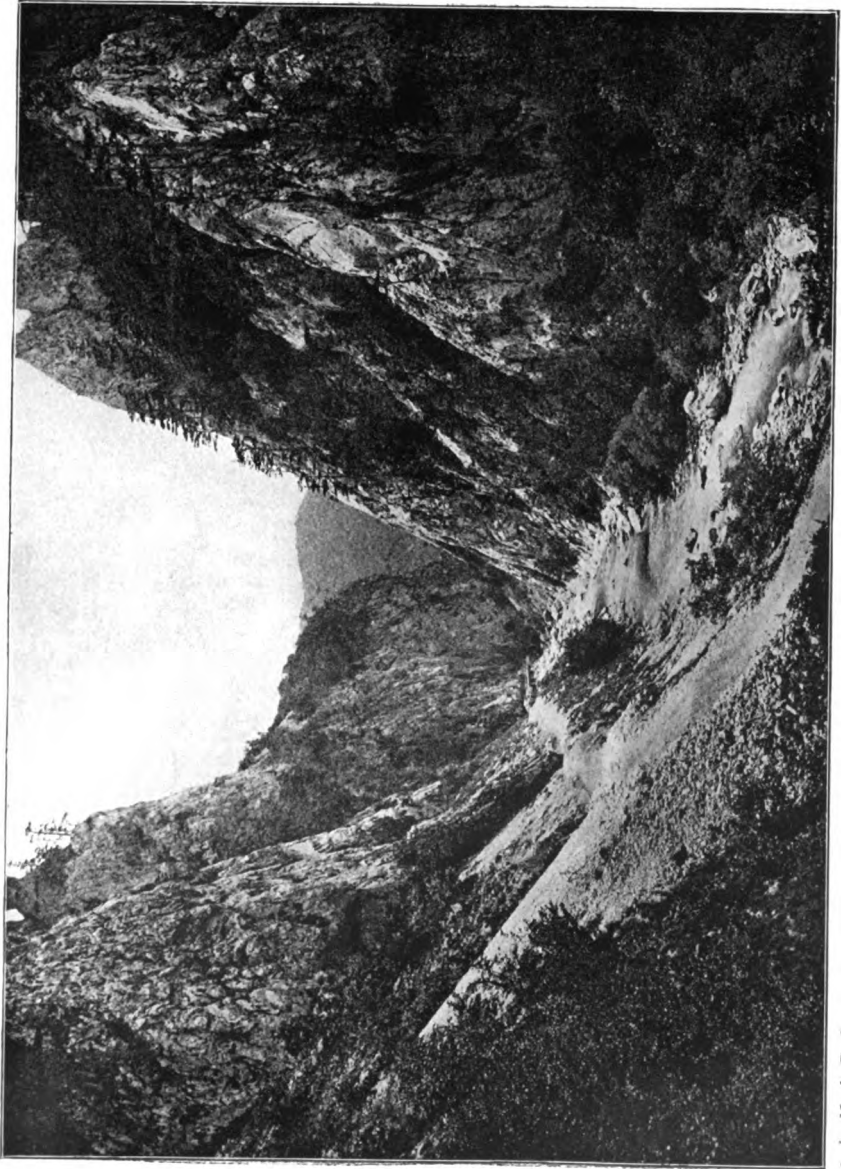


Photo by M. de Decly.

THE ROCKS OF TOVARNICH.

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Swan Electric Engineering Co.

A. Mathews,

ambassadors to the Sublime Porte reached their destination by taking this route from the coast.'

Again, 'There is scarcely room, beside the waters of the river, for the small path between the walls of the gorge which are scarcely fifty paces apart. On the left hand in particular the bare rock precipices were terribly grand and descended nearly perpendicularly to the stony bed, along which bubbled the clear waters of the stream. This gate once possessed its "keeper" or "guardian" "Vrata in Sutiska"—a name given in fifteenth-century documents to the castle the ruined walls of which can still be seen on the edge of a cliff of the Volujak. Opposite this castle and on the left bank of the stream was another smaller one perched on a projecting spur. Duke Stephen (1435-1460) established a customs station here, and bitter complaints were made by the men of Ragusa of attacks made by its occupants on the silver treasure which was being transported by the merchants of that great town. Both castles were hewn out of the living rock and accessible by a rugged path along which one person only could pass at a time. A couple of men, armed only with boulders of rock, could easily hold this defile against a whole army, and it was also customary to bar the way by means of a huge iron chain.'

In the collection of photographs presented by M. de Déchy to the Royal Geographical Society are two of this gate. He has written under them as a title 'Felsenthor Tovarnica.' On the Austrian Ordnance Map (1 : 75,000) the mountain on the left (N) of the gorge bears the name 'Tovarnich,' and the gorge itself is called Prosjecinica Vrata (vrata = gate).

It is surely obvious that a barrier presenting such remarkable natural and artificial features, and lying across a high road of commerce (which had probably existed from Roman times) was likely to impress itself on the memory of passers-by and to be a matter of description and discussion among the merchants of the Adriatic. The fame of its rocks might very easily have reached Dante's ears. He mentions the tombs at Pola, which, unless he made some unrecorded journey towards the eastern shore of the Adriatic, he must also have known of only by hearsay. Need we search any further for his Tavernicch? I think not.

THE MEMORIAL TO THE LATE C. E. MATHEWS.

WE are indebted for the following account to the 'Birmingham Daily Post' of August 24, 1907.

An interesting ceremony took place on Tuesday last in the garden of Couttet's Hotel at Chamonix, on the occasion of the unveiling of a memorial to the late Mr. Charles Edward Mathews, erected by the English Alpine Club. The monument takes the form of a block of granite hewn to the shape of a frustum of a pyramid on a rectangular base, on one side of which a facet has been cut for the

following inscription, written by the Right Rev. G. F. Browne, Bishop of Bristol, the present president of the Alpine Club :—

CAROLO EDVVARDO MATHEWS
 MONTIUM AMATORI
 AMATORES
 FRATERNITATIS ALPINÆ SODALI
 SODALES
 E FUNDATORIBUS SUPERSTITI
 FRATRES
 AMICO JUCUNDISSIMO
 AMICI
 OBIT VALDE DEPLENDUS
 AS MCMV AET LXXII.

The principal figure in the ceremony was Professor Clifford Allbutt, of Cambridge, who had been specially deputed to represent the Alpine Club.

Professor Allbutt said that as unfortunately the Bishop of Bristol, the president of the English Alpine Club, had found it impossible to be present, the bishop and some senior members of the club had requested him to unveil the monument on behalf of the president of the club. Although as a mountaineer he could not for one moment compare himself with Charles Edward Mathews, yet in respect of a long and almost unbroken series of seasons in the Alps he might consider himself not unworthy of the honourable duty thus entrusted to him. He referred also to the Climbers' Club, founded for climbers in the hills of Great Britain, of which Mr. Mathews and he himself were original members. Charles Edward Mathews came of a climbing family. His elder brother, William Mathews, had been president of the English Alpine Club; his younger brother, George, promised to be a very expert mountaineer, but after a few seasons found himself unable to continue his visits to the Alps; a cousin—Mr. Attwood Mathews—was an active climber, and an original member of the English Alpine Club, and Mr. Myles Mathews, the son of Charles Edward Mathews, was following successfully in his father's footsteps. Mr. Mathews was president of the English Alpine Club for the years 1878–80, but this stone would give a very imperfect idea of the invaluable services rendered by him to the club and to mountaineering during a period of some fifty years. Of these many and great services time would permit him to speak of two only. He would speak first of Mathews's climbing career as one of true devotion to the mountains for their own sake, and of true enjoyment of what he was wont to call a noble pastime. Thus it was that in his mountain excursions there was no spirit of unworthy rivalry, no petty jealousy, or any theatrical achievements. And it was due largely to the example of Mathews that Alpine sport has hitherto been pursued, to speak generally, in a disinterested spirit. The second service—one which mountaineers owe more, perhaps, to Mathews than to any other of the pioneers of the Club,

was that with his large experience, his strong good sense, and his keen and vigorous style of speaking and writing, he was able to impress upon one of the youngest of the sports a body of custom, and to establish a sound tradition of rules and precautions which have served to educate the rising generations of climbers, and if not wholly to prevent rashness and ignorance, yet to diminish these errors, and to make them less and less excusable.

THE SPELL OF MONT BLANC

The monument to be unveiled that day was more than welcome in Chamonix, and was erected there with a peculiar fitness. The strange, the mighty enchantment which all mountaineers had felt in the presence of Mont Blanc had laid its spell upon Mathews so deeply that he had ascended the mountain no fewer than twelve times, and, in his admirable 'Annals of Mont Blanc,' he had offered an imperishable tribute to the monarch of mountains. Thus his name would worthily stand with those of Balmat, Couttet, Paccard, Simond, Saussure, Bourrit—to name a few only of the Alpine pioneers of France and Savoy. Among many eminent names which time forbade him to record, he must, however, add that of one whom even in Chamonix he must venture to call the 'doyen' of guides—Melchior Anderegg; indeed, Mathews could not be fully commemorated without a like honour to his faithful and venerable comrade. Nor was Melchior Anderegg without claim to a place among the pioneers of Chamonix, for was it not he who, with the speaker's deeply-lamented schoolfellow Charles Hudson (and Mr. Hodgkinson) made practicable the route to the summit of Mont Blanc by the Bosses? And once again, he would remind the audience that at the present time another memorial was being erected in Chamonix, in the old churchyard, to the late François Dévouassoud, who might be called the type of modern guide as Mathews was the type of the amateur mountaineer.

Of Mathews's high qualities in other spheres than that of Alpine sport there was no time for him to speak fully. His energy in the mountains was, however, but one expression of his vigour and efficiency in many other fields. As a public writer and speaker he was incisive, effective, and interesting, and, as a critic, as keen as he was kindly. He had many other intellectual interests also, including a genuine love for the best English literature. And last, if not least, in the recollections of his friends he was a most genial and interesting companion, and an incomparable host.

At the conclusion of Professor Allbutt's address, Miss F. M. M. Browne, daughter of the Bishop of Bristol, stepped on a raised platform and unveiled the monument.

A BIRMINGHAM TRIBUTE

Professor Allbutt then called upon the Rev. E. F. M. MacCarthy to address the gathering. The reverend gentleman said that, in
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the presence of that assemblage of eminent mountaineers, he was shy of the prominence given to him, but he would respond to Professor Allbutt's call because he had enjoyed the friendship of Charles Edward Mathews for a long series of years, and, in fact, had stood in that very garden forty years ago with him, and had made his early climbs under his guidance. As no other representative of Birmingham, Mr. Mathews's native town, was present, he would like to tell that assembly that Charles Edward Mathews was a strong man mentally as well as physically, and, like all truly strong men, was as earnest and strenuous in the more serious activities of life as he was in its pleasurable ones. As Town Councillor, Governor of King Edward's School, Clerk of the Peace to the Justices, and legal adviser to the School Board, he gave of his best in time and powers to promote the welfare of the community among which his long life was spent, and on his death, two years ago, the Lord Mayor and prominent citizens of Birmingham, most of whom knew only remotely of his physical exploits, had attended a memorial service in the Parish Church to testify to the value of his municipal and social activities. Such was the massive man whose physical prowess was borne witness to by that massive granite pillar. The snows of 'Sovran Blanc' would know his footprints no more; but this was a fitting moment to record that Charles Edward Mathews had left a more enduring impress, not only on the tablets of his comrades' memories, not only on the pages of his own painstaking history of the monarch whose devoted subject he was, but also on the records of his native town.

M. Loppé, the eminent Alpine artist and mountaineer, then spoke on behalf of Savoy and France in terms of cordial acceptance of the monument erected in Chamonix to the memory of his dear friend and the best of good fellows, Charles Edward Mathews. He had known Mr. Mathews almost for a lifetime, and admired him as a disinterested lover of the mountains, as a successful and indefatigable climber, and as a master of the art of mountaineering. No one had done more than Mathews to establish this noble pastime, and to teach how its risks were to be foreseen and prevented. He lamented in him also the loss of a genial and interesting companion and friend.

PROTEST AGAINST THE PROPOSED MATTERHORN RAILWAY.

So long as there seemed any possibility of action from external quarters being unwelcome in Switzerland, the Alpine Club, although feeling strongly on the subject, refrained from making, either through its Committee or in this 'Journal,' any representations in favour of the preservation of the scenery of the High Alps from the assaults threatened by speculators in the tourist industry. But last spring our Committee, having been invited by the Swiss Alpine Club to express

their opinion in the matter, forwarded to that body a strong protest against what was then the last of these proposed violations—the scheme for piercing a shaft in the Matterhorn and converting its summit into a series of grottoes with glazed windows and balconies. On October 30 last this protest was endorsed at a general meeting of the English branch of the Swiss Ligue pour la Conservation de la Suisse Pittoresque, held at the Society of Arts, Sir W. Martin Conway in the chair.

The following is a summary of the proceedings :

The Report, having referred to the opposition which the Ligue offered a year ago to the attempt of the town of Zürich to draw off a large body of water from the Rheinfall at Schaffhausen, continued: 'It is satisfactory to record that this claim has been rejected by the Federal tribunal and that the danger may be regarded as past, and strong hopes are entertained that by next year the efforts now being made to save the Matterhorn will have resulted not merely in the defeat of that scheme, but in the firm establishment and recognition of the principle on which the petition of the Ligue against it is based as a bulwark against all similar projects. The heading of the petition is as follows:—"The high summits of our Alps are the ideal possession of the whole Swiss people and the symbol of Swiss freedom. They are not for sale. Relying on this principle, the undersigned declare their agreement with the protest which the special commission appointed by the Ligue is presenting to the Federal Council." On August 31 more than 40,000 signatures had already been received in Switzerland. Mention should be made of the gratitude evoked among the guides by English support. They express the deepest obligation to the English branch for working in their cause.'

The chairman, in moving the adoption of the annual report, said the two matters of greatest importance with which it dealt were the proposed tunnelling of the Matterhorn with a lift or railroad for the purpose of hoisting tourists to the top, and the still more atrocious proposition to lay down on the virgin snow of the Aletsch glacier a kind of sledge railroad which should traverse the whole length of that marvellous solitude. Against both these proposals they entered the heartiest possible protest, and they would be asked to express their strong hostility to the Matterhorn scheme.

Mr. F. W. Bourdillon seconded the motion.

Professor P. Ganz, in supporting the motion, thanked the branch heartily in the name of the Schweizerische Vereinigung für Heimatschutz for their most valuable assistance. The formation of an English branch of the Ligue had brought them an ally who would be very unwelcome to their opponents, for it was principally on behalf of the foreign visitors to Switzerland that it was proposed to build the many mountain railways and luxurious residences in the Alps.

Mr. Hart-Davies, M.P., having also supported the motion, it was carried unanimously.

The Bishop of Bristol then moved the following resolution :

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'That this meeting fervently echoes the numerous protests of the Swiss people against the construction of a railway or lift up the Matterhorn, believing that, in the eyes of the great majority of English visitors, and of all to whom the sublimity of nature appeals, it would be an act of profanation and spoliation, and that the sacrifice of such a mountain to sectional interests and the materialism of the age would involve an irreparable loss to humanity and a wrong to succeeding generations.' He said that on that occasion he spoke for the Alpine Club, which was absolutely at one on this subject with the branch of the Ligue. The branch desired to be completely courteous to the Swiss Parliament, which, he was told, would have this matter before it next month. He suggested that they should urge the desirability of a *Freiheit* from invasion by railways for all Swiss mountains above the limit of perpetual snow (cheers), or, if this could not be conceded, then that there should be a *Freiheit* for the greatest of the Swiss mountains, which would, of course, include the Matterhorn.

Sir F. Pollock seconded the resolution, and said the suggestion of the watchword 'No railways above the snow line' appeared to be most sound and practical.

The chairman read a letter received from Mr. J. Bryce, in which he expressed his 'cordial sympathy with the efforts of the English branch of the Ligue to elicit a declaration of opinion from lovers of the Alps against the scheme to construct a railway up the Matterhorn.' A letter was also read from Mr. Whympfer, in which were the following passages: 'The project of a railway up the Matterhorn is not a new one. It was formulated more than a dozen years ago, and has been held back until what is deemed a favourable moment. It is a scheme of a small group of company promoters. My opinion is that the project of a railway up the Matterhorn is injudicious and undesirable. I think that it will not benefit Switzerland, and will be injurious to the guides of the Zermatt valley and to those of the Val Tournanche.'

The resolution was carried unanimously, and the meeting ended with a vote of thanks to the chairman.

THE ALPINE CLUB LIBRARY.

The following additions have been made to the Library since April:—

New Books and New Editions. Presented by the Authors or Publishers.

Alpine Gipselführer. 8vo, ill.

- Stuttgart u. Leipzig, Deutsche Verlags-Anstalt, 1907. M. 1.50 each
12. L. Humpeler, Der Grossvenediger. pp. 78.
 13. A. Witzenmann, Sesvenna u. Lischanna. pp. 78.
 14. G. Becker, Die Hochwilde. pp. 67.
 15. H. Biendl, Die Jungfrau. pp. 84.
 16. A. v. Radio-Radiis, Der Rosengarten. pp. 68.
 17. K. Bindel, Die Marmolata. pp. 75.

An excellent series of monographs.

- Baedeker, K.** The Eastern Alps, including the Bavarian Highlands, Tyrol, Salzburg, Upper and Lower Austria, Styria, Carinthia, and Carniola. 11th edition. Leipzig, Baedeker, 1907. 10/- 8vo, pp. xxiv, 574; maps.
- Switzerland and the adjacent portions of Italy, Savoy, and Tyrol. 22nd edition. 8vo, pp. xl, 551; maps. Leipzig, etc., Baedeker, 1907. 8/-
- Baillie-Grohman, W. A.** The land in the mountains, being an account of the past and present of Tyrol, its people and its castles. London, Simpkin & Co., 1907. 12/6 net 8vo, pp. xxx, 288; plates.
- Beraldi, Henri.** Balaitous et Pelvoux. Notes sur les officiers de la carte de France. Paris, privately printed, 1907 Sm. folio, pp. 205; plates.
- Monsieur Beraldi, who has already placed in his debt by his seven delightful volumes on the Pyrenees every lover of mountain literature, has made them further indebted to him by this most interesting volume on a portion of the range.
- Conway and Coolidge's Climbers' Guides.** The Bernese Oberland. Vol. iii. Dent de Morcles to the Gemmi by H. Dübi. London, Unwin, 1907. 10/- 32mo, pp. xxiii, 136.
- Illustrierter Führer auf die Gipfel der Schweizer-Alpen.** Vols. 1-3. Obl. 8vo, 52 plates and text in each. Luzern, Speck-Jost, 1905-7
- Guide Illustré des Alpes suisses. Vols 1-2. Lucerne, Speck-Jost, 1906-7 Obl. 8vo, 48 and 30 plates with text.
- The idea of these volumes is good, and it is fairly well carried out. A picture of a mountain is given, with routes marked on it, and a short description of the routes. The contents of the French and German editions differ in arrangement and occasionally in matter. The price of each volume is Fr. 3.
- Lorenz' Reiseführer.** 8vo, maps. Freiburg i. Br. u. Leipzig, Paul Lorenz, 1907-8
- Führer durch die Vogesen und die elsässischen Jura. pp. 100. M. 1.50
- R. Noë. Die Schweiz in 15 Tagen. 4te Aufl. pp. 74. M. 1.50
- Kleiner Führer durch die Schweiz. pp. 127. M. 2
- H. Grabow. Savoyen und die Dauphiné. pp. 88. M. 2
- R. Noë. Tirol und die angrenzenden Alpengebiete vom Vorarlberg, Salzburg und Salzkammergut sowie das bayerische Hochland nebst München. pp. 92. M. 2
- A handy series of guide-books.
- Pyrenees.** The Picturesque Pyrenees. Pall Mall 'Handbook.' 8vo, pp. 143; ill. London, 'Pall Mall' Press, 1907. 6d.
- Russell, Comte Henry.** Mes voyages 1856-1861. 3me édition. Extraits de . . . '16,000 lieues à travers l'Asie et l'Océanie.' Pau, Vignancour, 1906 8vo, pp. 69.
- Thomé, Dr.** Flora von Deutschland, Österreich und der Schweiz. Zweite, vermehrte und verbesserte Auflage. Gera, v. Zezschwitz, 1903-1905 4 vols, 8vo; 612 coloured plates.
- Published in 57 parts at 1.25 M. each; 71.25 M. for the whole work.
- The plates of this second edition of this standard work on the mid-European flora are very excellently drawn and coloured. They make the work thoroughly useful and complete.
- Whymper, E.** Chamonix and the range of Mont Blanc. A guide. 12th edition. 8vo, pp. xvi, 206; maps, ill. London, Murray, etc., 1907. 3/- net
- The Valley of Zermatt and the Matterhorn. A guide. 11th edition. 8vo, pp. xvi, 224; maps, ill. London, Murray, etc., 1907. 3/- net
- Zimeter, K., und andere.** Führer durch Jenbach, Achen-, Ziller- und Unterinntal. Jenbach, Verschönerungs-Verein [1907] 8vo, pp. 80, ill.

Older Books.

- Beattie, William.** Switzerland illustrated. London, Virtue, 1834-6 4to, 6 parts in green cardboard covers as published.

- Smith, Albert.** Ascent of Mont Blanc. In 'Travel, Adventure, and Sport from "Blackwood's Magazine,"' vol. 4. 8vo, pp. 1-61. Edinburgh and London, Blackwood [? 1900]
- Travels.** A compendious view of the most recent and interesting travels . . . Europe and Asia. London, Darton and Clark [c. 1840] Sm. 8vo, pp. 109-130, Switzerland and Mt. Blanc.

Club Publications.

- Akadem. Alpenclub Bern.** 1. Jahres-Bericht. 8vo, pp. 21. 1907
- Akadem. Alpen-Verein München.** Satzung. 8vo, pp. 11. 1905
- Akademischer Touristen-Klub zu Strassburg.** Statuten. 8vo, pp. 16. 1904
- Alpine Gesellschaft 'Edelraute,' Vienna.** Statuten. Folio, pp. 3.
- Appalachian Mountain Club.** Index to the Journal, 1-10, 1876-1904. 1906
- Register. 8vo, pp. 84. 1907
- Austrian Tourist Club, Wiener-Neustadt.** Touren-Verzeichnis. 8vo, p. 16. 1907
- C.A.F.** Commission de topographie. Procès-verbaux des Séances des quatre premières années. 8vo, pp. 69. [1907]
- C.A.I.** Bollettino, No. 71, vol. 37. 1906
- 8vo, pp. 351; ill.
- The articles are;—
- L. Brasca, Le montagne di Val S. Giacomo.
- V. Gayda, In Savoia; Pte. de la Glière, prima ascensione italiana; alla Grande Casse; traversata del Dôme de Chasseforêt; ecc.
- G. Rovereto, Geomorfologia del Gruppo d. Gran Paradiso.
- A. Brofferio, Quindici giorni nelle Dolomiti; Cima di Val di Roda; Saas Maor; La Rosetta; Cima d. Pala; Torri di Vajolet, prima traversata italiana; Fünffingerspitze; Croda da Lago; Kleine Zinne.
- G. V., Carta d. Colonia Eritrea.
- A. C. F. Ferber, L' esplorazione d. Passo Mustagh nel Karakorum-Himalaya.
- **Monza, Stazione Universitaria.** Vade Mecum dello Studente Alpinista. Sm. 8vo, pp. 48. 1907. L. 1
- Notes on equipment, books, maps, &c.
- **Venice.** Osservazioni meteorologiche eseguite al rifugio 'Venezia' (M. Pelmo) e a Col di Zoldo negli anni 1901-02-03-04, pubblicate per cura del socio Dr. Giulio Ceresole. Venezia, Tip. Emiliana, 1905
- 8vo, pp. vii, 41; plates.
- Club alpino bassanese.** Bollettino annuale, 1893-4, 1895, 1896. 3 vols, 8vo, pp. 78, 122, 108. 1895, 1896, 1897
- All yet published.
- **Colonia alpina bassanese Umberto 1°.** Annuari. 1902-1907
- 6 numbers, 8vo, about pp. 20 each.
- Club alpino fiamano.** Statuto. Folio, pp. 8. 1907
- Club Ascensionniste Grenoblois.** Revue montagnarde, 1-5. Quarterly. 1907
- Club Monti Berici, Lonigo, 1881.** Statuto. 8vo, pp. 14. 1881
- 'Ha per iscopo di promuovere tra i giovani le escursioni nelle regioni montuose, per rinvigorire il corpo con alpestri passeggiate ed ardue salite e per arricchire la mente di utili cognizioni.'
- Club des Sports alpins, Chamonix.** Statuts. 4to, pp. 3. 1902
- Founded 1902, now 130 members: President, Dr. M. Payot. 'Il a pour but de favoriser les excursions sur nos montagnes et d'attirer les alpinistes dans notre vallée.'
- D.u.Ö.A.-V. Bamberg.** XIX. u. XX. Jahresberichte. 1905, 1906
- 8vo, pp. 47, 50.
- **Barmen.** Erster Bericht 1896-1901. 1902
- 8vo, pp. 48; ill.
- **Wie gelangt man zur Barmer Hütte.** 1904
- 8vo, pp. 15; map.

- D.u.Ö.A.-V. Barmen.** Barmer Hütten-Triller. Festspiel. 1903
8vo, pp. 28.
- **Berlin.** Jahresbericht für 1906. 8vo, pp. 230; ill. 1907
This contains papers read before the Section;—
E. Hahn, In den Savoyer Alpen.
F. Kronecker, Aus d. Bergwelt Japans.
O. Mohr, Aus dem Parzin m. d. Allgäuen Bergen.
— Aus d. Dauphiné.
C. la Quiante, Der Unfall am Zermatter Weisshorn.
F. Klinitz, Ueberschreitung d. Königsspitze, des Zebru u. d. Ortler.
- **Bozen.** Statuten. 8vo, pp. 4. 1904
— Jahresberichte 36. u. 37. 8vo, pp. 34 each. 1906, 1907
- **Braunschweig.** Bericht f. 1906. 8vo, pp. 24; ill. 1907
- **Breslau.** IX. Bericht, 29. Vereinsjahr. 8vo, pp. 27. 1906
- **Brixen.** Verzeichnis d. Wegmarkierungen im Arbeitsgebiete der Sektion.
3. Aufl. 8vo, pp. 23; map. 1906
- **Donauwörth.** Bericht 1896-1906. 8vo, pp. 12. 1906
- **Dortmund.** Jahresberichte 1905, 1906. 8vo, pp. 12, 14. 1907
- **Frankfurt a. Oder.** Jahresbericht für 1906. 8vo, pp. 20.
— Satzungen. 8vo, pp. 4. 1900
- **Garmisch-Partenkirchen.** Jahresberichte 1905, 1906. 8vo, pp. 16, 24.
- **Gmünd.** Führer-Tarif der Sectionen Gmünd, Osnabrück u. Villach.
8vo, pp. 14. ? 1898
- **Hochpustertal.** Rundschau von dem Dürrenstein von F. Burger.
Nuderdorf, 1896
- **Höchst a. M.** Verzeichnis d. Bibliothek. 8vo, pp. 12. 1906
- **Inner-Ötztal, Sölden.** Statuten. 8vo, pp. 7. 1882
- **Innsbruck.** Bericht für 1905. 8vo, pp. 54. 1905
— 1906. 8vo, pp. 74. 1906
Tariffs, huts, path-marking, library additions, list of members, etc.
- **Küstenland, Gau Gmünd.** Gmünd in Kärnten und Umgebung.
8vo, pp. 192; map, ill. 1893
For earlier edition see Gmündner Gebirgsverein.
- — Jahresberichte, 1893, 1894.
- **Landau, Pfalz.** Satzungen. 8vo, pp. 4. 1903
- — 9. Rechnungs-Abschluss. 4to, pp. 4. 1906
- **München.** 37. Jahres-Bericht. 8vo, pp. 64. 1907
- **'Oberland,' München.** VIII. Jahres-Bericht f. 1906. 8vo, pp. 66. 1907
- **Starkenburger.** Statuten. 8vo, pp. 4. 1885
— Bericht 1896-8. 8vo, pp. 13. 1899
— — 1899-1901. 8vo, pp. 24. 1902
— — 1905. 8vo, pp. 23. 1906
- **Stettin.** Satzungen. 8vo, pp. 7. 1886
- **Strassburg.** Jahresbericht 1904 u. 1905. 1906
8vo, pp. 28; 2 plates.
The plates are 'Strassburger Hütte gegen d. Panüler Schrofen' and
'Oberzalimhütte.'
- **Traunstein.** Jahresbericht. 8vo, pp. 20. 1907
- **Tübingen.** Satzung. 8vo, pp. 4. n. d.
— Jahres-Bericht f. 1906. 8vo, pp. 15. 1907
- **Vorarlberg.** Statuten. 8vo, pp. 8. n. d.
— Rundschau von der Scesaplana. Gezeichnet v. A. Baumgartner. n. d.
- — Jahres-Berichte, xxv.-xxxvii. 8vo. 1894-1906
- **Waldenburg.** Jahresberichte, 3. 8vo, pp. 7, 7, 9. 1903-4-5
— Statuten. 8vo, pp. 4. 1901
- **Wiesbaden.** Fest-Schrift zur Feier des 25jährigen Bestehens der
Sektion. Wiesbaden, 1907
8vo, pp. 65; 11 plates.
This is a finely illustrated number, chiefly concerned with the Wies-
badener Hütte on Piz Buin.

- Derbyshire Pennine Club.** Rules. 4to, p. 1. 1906
This Club was founded in Sheffield on November 30, 1906, for 'the organisation of rock-climbing, cave-exploring, and hill-walking, and the collection and dissemination among the members of information, literature, maps, etc., relating thereto.' There are 20 members.
The Hon. Sec. is H. Bishop, Avon House, Fieldhead Road, Sheffield.
- Dundee Rambling Club.** Notice and list of members. 1906
This Club was formed in April 1886 with the object of encouraging climbing of the Scotch hills, and monthly meetings were organised. In 1889 the summer meetings were discontinued and three winter meetings substituted. The same year the Dundee Institution Club, formed in 1879 by Mr. James Brebner, a member of the Alpine Club, was incorporated with the Rambling Club. The qualification for membership was till 1889 nominal, but is now a regular climbing qualification.
The Hon. Sec. is Mr. T. H. B. Rorie, 83 Albert Terrace, Dundee.
Mr. Harry Walker, A.C., has kindly furnished the above information.
- The Fell and Rock Climbing Club of the English Lake District.**
Rules and list of members. 1907
This Club was formed at Conistone on November 11, 1906, with the intention at first of its being a local Conistone Club. There is a membership of over 100. Its objects are 'to encourage rock-climbing and fell-walking in the Lake District, to serve as a bond of union for all lovers of mountain-climbing, to enable its members to meet together in order to participate in these forms of sport . . .' The Hon. Sec. is Mr. E. Scantlebury, 11 Clarence Street, Ulverston.
- Gmündner Gebirgsverein, 1879-1890.** Gmünd in Kärnten und seine Umgebung. 8vo, pp. 117. 1883
This Club became in 1890 a 'Gau d. Sektion Küstenland,' and in 1897 the Sektion Gmünd d. D.u.Ö.A.-V.
- Grazer Alpen-Klub.** R. Wagner, Die Gruppe des Hochlantsch. [1903]
8vo, pp. 98; maps, ill.
- Hochtouristen-Club München.** Statuten. 8vo, pp. 12. 1902
'Der Club verfolgt den Zweck, die Kenntnisse d. Alpen zu erweitern . . . die bergsteigerische Tätigkeit, sowie die Hochtouristik auszuüben u. zu fördern.'
- Japanese Alpine Club.** Rules. 1906
A typewritten copy of the Rules, translated by the Rev. Walter Weston.
- Kyndwr Club, Derby.** Rules. 8vo, pp. 4. 1899
This Club was founded on November 28, 1899. Its object is 'to encourage rock-climbing and rambling in the wilder parts of Derbyshire and mountaineering generally.' At present the membership is only 22. Cave-exploration has been an important part of the work of its members.
- Norwegian Club, London.** Yearbooks 1904, 1905, 1906, 1907.
8vo, ill.
- Rucksack Club.** Journal, vol. 1, no. 1. Edited by Geo. T. Ewen. Issued yearly. Manchester, Barber, 18 St. Ann St., February 1907
8vo, pp. 62; plates.
This first number opens with an article 'Round Pralognan,' by Mr. Chas Pilkington. This is followed by articles on 'The N.W. climb, Pillar Rock,' 'British Alpine Plants,' 'A Traverse of Mont Blanc,' 'Upper Valley of the Wharfe,' followed by notes on Club proceedings and reviews of the various numbers of the 'Climbers' Club Journal.'
We heartily wish success to the new venture.
- S.A.C. Basel.** Jahresbericht für 1906. 8vo, pp. 52. 1907
Beilage: R. Thommen, Die Eroberung d. Leventina d. d. Eidgenossen.
— Jahresbericht für 1905. 8vo, pp. 60. 1906
Beilage: C. Egger, Vom Géant zum Léman.

- Sierra Club.** Seventh Annual Outing. Yosemite, etc. June-August 1907.
8vo, pp. 28.
- Società alpinistica e turistica 'Liburnia,'** Zara. Statuto. 8vo, pp. 10. 1899
This Society was founded in 1899 to promote mountaineering and touring in Dalmatia. In a letter accompanying the Rules, the Secretary kindly offers the services of the Society to any members of the Alpine Club who may visit Dalmatia, adding the useful information that a number of the members can speak English.
- Società Rododendro.** Statuto. 8vo, pp. 16. 1904
- Société de la flore valdôtaine,** Aosta. Bulletin, no. 3. 1905
In sending this, M. l'Abbé Henry has very kindly communicated the following information with regard to the various Societies at Aosta connected with mountaineering;—
(1) *La Petite Société alpine de Cogne* was never regularly constituted as a Society. It was composed of MM. Chamonin, Vescoz and Carrel, chiefly for the purpose of preparing and publishing 'La Géographie du pays d'Aoste,' which first appeared in the 'Feuille d'Aoste' for 1870. The *Club alpin d'Aoste*, sometimes referred to, is another name for the *C.A.I. Sezione Valdostana* or *di Aosta*. This was formed on May 3, 1866, as a 'Succursale du C.A.I.,' and as a section on March 10, 1873. (2) The above *Soc. de la flore valdôtaine*, formed in 1878 and re-constituted in 1884. (3) *L'Association pour le mouvement d. Etrangers*, formed January 7, 1906, which has published a guide to the valley.
- Société de Géographie,** Paris. *La Géographie.* Bulletin. Tome xiv.
8vo, pp. 426; map, ill. Paris, Masson, 1906
Nov. pp. 261-274; W. Kilian, L'érosion glaciaire et la formation du terrain.
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Items.

The C.A.I. Stazione Universitaria, Monza, has kindly sent one of their brooches, a silvered ice-axe, 2 inches long, with the name of the section on the handle.

Studer, G. Copies of the panoramas from the following drawn by G. Studer between 1850 and 1859 have been presented to the Alpine Club by Mr. Rickmer-Rickmers;—

Aegischhorn, Mt. Brévent, Mt. Vélan, Piz Languard, Seelisburger Kulm, Uri Rothstock, Saasberg, Sentis, Piz de la Padella, Rinderhorn, Gornergrat, Mt. Pers, Höhe d. Sustenpasses, Gemmenalphorn, Gemmi-höhe.

ALPINE ACCIDENTS IN 1907.

ANOTHER season of broken weather has produced a lamentable loss of life amongst the mountains, for which the weather cannot be held alone responsible.

To climb without guides—though we have nothing to say against it when undertaken under proper conditions—must always demand particular experience and precaution on the part of the climbers. To attempt the ascent of a great mountain *without guides in bad weather* must be exceptionally dangerous. Climbing in bad weather at all inevitably involves great risks, and, where there is no professional skill to fall back upon, it is not to be wondered at if lives are lost. Climbing alone, if, as would appear, it offers to some climbers exceptional satisfaction, also involves exceptional risks—we have before spoken of it only to condemn it.

Instead of further comment of our own we quote the following remarks from an article by a well-known mountaineer, which under the title 'Mountaineering in 1907' appeared in the 'Times' of September 24 last. After pointing out that as far our countrymen are concerned no serious climbing accident has occurred in the past season, not because their achievements have been less, but because guideless British climbers, recognising that mountaineering is not only a sport but a craft that must be mastered, have thoroughly learnt on their native rocks and on Alpine snows the laws of the game and observe them, the writer says—

'We might be content to congratulate ourselves upon our white season. But a mountaineer who climbs in the Alps assumes, together with his share in the delights of the mountains and the resources of the huts, a part in the responsibility for the general repute of Swiss mountaineering. Consequently it is his duty to call attention to a serious feature of the past season—the dangerous increase in the numbers of unqualified, guideless parties attempting the great peaks. We have no quarrel with guideless climbing. An expert has every right to choose for himself, and there is far more of mountaineering and of holiday in crossing a small pass with tried friends for pleasure than in being treated as an item in the business of a big climb by an unsympathetic peasant. Guides are not the demigods the early explorers found them. They are

very human, very limited, and entirely professional. With a few hopeful exceptions their notions of climbing travel on iron rails of convention. Yet guides are a necessary insurance policy, a reserve of physical endurance and native instinct. The more the climber knows, the less he is inclined to dispense with them on ascents where his experience tells him that the balance of strength and chance is not largely in his favour. The guideless parties of this August were not experienced. They consisted chiefly of students, Swiss or French boys fresh from school, to whom climbing has recently come to fill the place our games occupy with us—fine, manly fellows, brown as the rocks, with a minimum of vest, knickerbockers rolled up and stockings turned down, to intensify this boyish vanity. The Austrian students set them the example in the past, and on the Dolomites and small rock peaks of East Switzerland, where little is required beyond strength and agility, the practice had more justification; but, even so, their death-roll has been ominous. Now the fashion has changed. The rosy narratives of big guideless ascents, published by gentlemen who learnt little wisdom from their experiences, have had time to reach the least qualified enthusiasts. Emulation is stirred, and the check of the cost of guides, formerly deemed indispensable on such peaks, seems attractively removed. Whereas the aspiring *Rasselas* found "all the summits inaccessible by their prominence," the very prominence of a peak seems now its principal attraction. The consequences were seen this year in the crowd of young climbers clinging round all the notable summits, and the further consequences in the tragic weekly and almost daily notices in the local papers.

'Youth and strength are only of secondary importance in the great Alps. Time is the secret of all security and success. The saving of time, with all its chances of night and change, demands pace. Pace implies the ability of all the party to move rapidly and with the mutual disregard that confidence begets over places of all but exceptional difficulty, the power of the leader to negotiate the awkward passages without undue pause, and the power of the weakest to last out the day. These can only come as the result of practice and experience. That each member of the party should possess them, and should feel that the others possess them, is the first condition of guideless climbing. Pace is not only the policeman of time, it is a seven-foot lifeguard in the contest with chance. But it is just this regard for time and chance which the new fashion neglects in its often calamitous inexperience. In the space of ten days this season we encountered on one morning three separate guideless parties descending from involuntary bivouacs on the Grépon; on another two parties descending over the Mont Maudit after a night on Mont Blanc; on another two couched in chilly lairs near the top of Monte Rosa, almost within hail of a refuge of which they were ignorant; on yet another three parties benighted on the shoulder of the Matterhorn. To all appearances they accepted the incident as an integral part of their climbs, and in the event of a warm night no harm might ensue. But the great

peaks cannot be played with like bricks or Dolomites. A change of wind after sundown, a cloud hardly noticeable from the valley, and in an hour the belated party may be fighting for the warmth that means life, with the prospect of iced rocks for numbed limbs on the morrow's descent. They are fortunate if partial frostbite is the worst consequence. In such hazards of endurance youth and warm blood are the first to succumb. On the most culpable of these ventures this year, an attempt on the Matterhorn in bad weather, persisted in against every dictate of sanity or mountaineering, of the two younger members of the party one died of exposure and the other was maimed for life by frostbite; the responsible and older leader alone escaped. The mountaineer can only feel sorrowful resentment that such disastrous folly should be graced with the name of mountaineering.'

The writer goes on to point out that a somewhat similar development in a different form is taking place in our own islands, and to suggest precautionary methods by which its most serious consequences may be guarded against.

THE ACCIDENT ON THE MEIJE.

On July 10 three Italian mountaineers, SS. Bertani, Moraschini, and Rossini, slept at the Promontoire Refuge with the intention of climbing the Meije on the morrow. On the morning of the 11th, as S. Rossini was unwell, his comrades started to make a reconnaissance with the intention of returning to the Refuge at an early hour. Towards evening, as his friends did not arrive, S. Rossini went up some considerable way above the Refuge in search of them, but no voice replied to his cries. He eventually returned to the hut and spent a night of cruel suspense. On the morning of the 12th S. Rossini made two journeys—the second a very plucky attempt indeed—alone in search of his companions, but to no purpose.

At 9 o'clock the guides of La Grave, Hippolyte and Emile Pic, on their way home by the Brèche de la Meije on reaching the Glacier des Etançons heard S. Rossini's call for help and hastened to join him. Shortly afterwards the guide J. B. Rodier, of La Bérarde, and his son also arrived.

The whole party of five then started *en reconnaissance* by the usual route for the Meije. Above the 'campement Castelnau' a little way from the *bonne route* they saw an axe, *accroché à une aspérité du rocher*. But as the axe might have been left there to be recovered on the way down they continued their search. But their investigations were vain, and they came to the conclusion that a disaster had happened. From the position of the axe it was clear that if an accident had occurred at that point the bodies would be found at the bottom of the couloir which falls to the Col du Pavé branch of the Glacier des Etançons. On proceeding to the foot of the couloir, above referred to, they found the two bodies. The funeral took place at Saint-Christophe on the 15th.

This account is taken mainly from the 'Revue Alpine' for August 1907, pp. 352-3. A longer narrative, written by S. Rossini, the survivor, will be found in the 'Rivista Mensile' for July, pp. 317-20.

THE ACCIDENT ON THE COL DU GÉANT.

On the morning of Saturday, July 13, 1907, I was at the Rifugio Torino, on the Italian side of the Col du Géant, intending to start for the ascent of the Aiguille du Géant. Owing to strong wind and great cold in the early morning I was not called until 7.30, when one of my guides informed me that the weather and the condition of the Aiguille rendered the ascent impossible. He added that Mr. Sillem, a Dutch gentleman, whose acquaintance I had made at my hotel at Courmayeur, had just arrived at the Rifugio.

Mr. H. Sillem, of Amsterdam, had had, I understand, considerable climbing experience, not only in the Alps but in the Himalayas, Andes, and New Zealand. On the morning in question he was on his return to Courmayeur after ascending the Aiguille du Midi from the hut at its base. He and I had arranged to start together on Sunday, the 14th, for the Grandes Jorasses.

By the time I had dressed and had come downstairs, Mr. Sillem had left the Rifugio alone, telling his two Courmayeur guides, Joseph Petigax and Laurent Croux, to finish their meal, as there was no hurry for them, and to follow at their leisure. He said to my guides, 'Be sure and start with your monsieur and me for the Grandes Jorasses to-morrow.' Nobody beyond the four guides was present, the hut-keeper being in another part of the building.

Mr. Sillem then, my Swiss guide informs me, started down alone by the ordinary route to Courmayeur, his hands in his pockets and his ice axe under his arm. The weather was then cold and windy, but quite clear, and remained so, though the high peaks clouded up later in the morning. The time was roughly 8.30 A.M. Five minutes later, Mr. Sillem's guides followed him. I saw the two men start, as I was dressing, from my window; but Mr. Sillem's departure I did not witness.

At 9.30 A.M. I started for the Aiguille du Géant, but, as we expected, the wind, which was both strong and cold, rendered the ascent impossible, apart from the fact that there was too much snow on the peak. We turned back at the base of the rocks, descended to the Rifugio, and quitted it at 1.5 P.M. for Courmayeur.

At 1.40 P.M. we were nearly off the steep and rocky part of the descent, and were a few minutes above the wooden building where the mule path begins, when my guides suddenly drew my attention to the Glacier du Mont Fréty. On the snow of the glacier, some 200 yards to our left and on a level with us, was a body, which we knew at once must be that of Mr. Sillem. It lay, face downwards, at the foot of the steep snow couloir, the head of which abuts on the route some ten minutes below the Rifugio.

We were, of course, horrified in the extreme, and could hardly

believe that such an experienced and careful climber could have fallen in so easy a descent. I determined to go down on to the glacier and ascertain if life were extinct, but my guides pointed out to me tracks on the snow leading to and from the body, evidently those of Mr. Sillem's guides. We then walked down for a few minutes until we reached the wooden hut where the mule path starts. Here we found four men who had been mending the path, and they informed us that the guides had ascertained that Mr. Sillem was dead and had gone down to Courmayeur for help.

We estimated the fall at from 1,200 to 1,800 ft., down the hard and steep snow of the couloir. I satisfied myself that nothing could be done, and, after 40 minutes' halt, went down to the inn at Mont Fréty, where I waited until 4 P.M., expecting that a party would arrive from the village and that my guides' services would be needed. No party could be traced through the telescope, although we could see one man ascending rapidly below the pine trees. I then continued the descent with my Swiss guide, leaving the second man, the son of one of Mr. Sillem's guides, at the inn to help the party on their arrival.

The man we had seen was Mr. Sillem's second guide, Laurent Croux, and he told us that the authorities had been applied to for permission to bring down the body. The necessary authorisation arrived quickly, and the body eventually reached Courmayeur by midnight of July 13.

I was informed that the chief injury was a blow on the head, sufficient of itself to cause death. The body was, I understand, comparatively slightly injured externally.

I remained in Courmayeur for two days, during which my guides were questioned by the police as to their knowledge of the occurrence. My Swiss guide tells me that the general opinion was that Mr. Sillem, who, as I have said, started with his hands in his pockets and with his axe under his arm, presumably owing to the cold, stumbled from some cause very shortly after leaving the Rifugio and fell from the rocks into the steep couloir at the foot of which we saw him.

The snow in the couloir must have been very hard on the morning in question, and there would have been no possibility of Mr. Sillem arresting his fall, even had he been uninjured when he reached the couloir. There seems to be some probability that his hands were in his pockets at the time of the fall, and, if this were so, his axe would have been lost at once. It had not, at the time of my leaving Courmayeur, been found.

The fall must have occurred a very few minutes below the Rifugio. Otherwise the two guides, who were only five minutes behind, would have shortly overtaken Mr. Sillem. As it was, they did not know that an accident had happened until they saw the body, although they must have suspected it.

Mr. Sillem was buried in the cemetery at Courmayeur on July 17.

R. R. HOWLETT, A.C.

THE ACCIDENT ON THE SOUTHERN AIGUILLE D'ARVES.

The brothers Dr. Robert von Wyss and Dr. Max von Wyss, Messrs. Paul Montandon and Th. Rangé, accompanied by a porter, reached, on July 31 last, at about 9.30 a.m., the big slab at the foot of the Mauvais Pas, half an hour below the summit of the Southern Aiguille d'Arves. The fixed rope mentioned in Coolidge's 'Central Dauphiny Alps' has been removed from that place by a guide, but a big wooden *piton* driven into the rock helps much. Dr. R. von Wyss, mounting, with the assistance of his comrades, upon the shoulders of the porter, stepped from there upon the *piton* and climbed, apparently without special difficulty, somewhat higher. A very good hold, having the form of an egg-cup, is said to be near there, and when once this hold is in hand it is 'tout facile,' as the guides say. Dr. von Wyss did not find this hold and climbed higher up, apparently too much to the right, where the rocks are rotten. He lost hold—exact reason unknown—and fell backwards 5 or 6 mètres down upon the slab (not 50 mètres, as the papers said). He was instantly retained there from right and left by the two ropes to which we had attached him. He had unfortunately fallen on his head and died 45 minutes later, without having regained consciousness. None of his comrades were hurt. His body was brought down to La Grave on the morrow by two guides and four porters.

Dr. Robert von Wyss was a very bold and experienced mountaineer. He had climbed without guides all the great summits of the Bernese Oberland and of Zermatt, many of them several times. The traverse of the Schreckhorn by the N.W. and ordinary route, of the Jungfrau from the Wengern Alp (twice, up and down), of the Matterhorn (twice), the ascent of the Mönch from the N., the traverse from the Blümlisalhorn to the Weisse Frau, the first ascent of two peaks of the Kleine Lauteraarhörner, and other first climbs in the Gotthard group were among his most striking feats.

As a doctor he was exceedingly appreciated at Steffisburg, near Thoune, where he practised.

PAUL MONTANDON.

Glokental, Thoune: August 8, 1907.

THE ACCIDENT ON THE PIZ BERNINA.

On the morning of August 5, SS. A. Kind and A. Weber, both members of the Turin section of the Italian Alpine Club, left the Tschierva Cabane to ascend the Bernina without guides. There had been a storm during the night. On the same day between 2.30 and 3 o'clock P.M. they were seen by a number of people from the Diavolezza climbing the north ridge of the Bernina. After that nothing more was seen of them. On August 7 a large party of guides and travellers found the bodies at the foot of the wall about midway between the Monte Rosso di Scerscen and the Bernina. The writer in the 'Rivista' thinks it probable that at the moment of the accident they had given up the ascent of the

Bernina as being too hazardous in the bad condition of the snow after the storm of the previous night, and that in returning either crest or cornice gave way under them.—'Rivista Mensile,' August 1907, p. 359.

THE ACCIDENT ON THE MATTERHORN.

On August 14 Dr. R. Helbling and Herren K. Imfeld and Spörri left the Schwarzsee above Zermatt to traverse the Matterhorn from the Italian side. After crossing the Furggloch they went up to the Col du Lion, where they spent the night. On the 15th they got as far as the Pic Tyndall, where they were stopped by a furious *tourmente*, which raged all night. Spörri was overcome by the severity of the cold and perished in the arms of his comrades, who did all they could to save his life by administering restoratives and rubbing him. On the morning of the 16th, having placed the body under the shelter of a rock, they continued the ascent, thinking that it would be easier to descend by the Swiss side. But, exhausted as they were by the terrible night which they had passed, they did not reach the summit till 8 P.M., and were compelled to spend the night on the shoulder on the Swiss side. On the morning of the 17th they continued the descent, which was very slow and painful, owing to the state of exhaustion in which they found themselves. Presently Helbling, utterly knocked up, and with his hands and feet frost-bitten, stopped, incapable of movement, while Imfeld went on to seek for help. Eventually he fell in with some guides, to whom he told his story. The guides went up and brought Helbling down to the Schwarzsee, where in a terribly exhausted condition he rejoined his companion. Both had passed four days and three nights on the mountain at a distance from all help and in bad weather.

A body of guides went in search of the dead body of Spörri, but, owing to the excessive difficulty of carrying the body in their arms, they were compelled to throw it down to the Zmutt glacier tied up in a sack and bound with many folds of rope. It arrived below in a shapeless mass. This account is extracted from the 'Rivista Mensile' of the C.A.I. for August 1907, p. 364.

OTHER ACCIDENTS.

A large number of other accidents also took place. We mention a few of them. On July 5 M. Walther Stempel was killed in descending from the Grand Som. On July 29 S. Giuseppe de Gasperi was killed when attempting alone a very difficult climb on the Monte Civetta. On July 31 Mlle. C. Beyerinck was killed by a falling stone at a spot called La Pilliaz, near the Montenvers. On August 9 M. G. Gauthier, becoming giddy near the summit of the Aiguille du Gôüter, slipped and fell: his body was found 500 mètres below. On August 16 Signorina A. M. Costamagna died of exposure on the Punta Gran Bagna. Herren E. Biedermann, Lehmkuhl, and H. Lehmann, said to be experienced

climbers, were killed on the Jungfrau on the descent on the Roththal side. Bad weather was the probable cause. We are sorry that we cannot give a full account of this accident.

NEW EXPEDITIONS IN 1907.

Dauphiné.

PIC SANS NOM (3,915 m. = 12,845 ft.). FIRST ASCENT FROM THE COL DU PELVOUX.—On June 20 Mr. E. L. Strutt and the guides Alois Pollinger, senior, and Joseph Pollinger, of St. Niklaus, left the Lemercier Club Hut at 8.35 A.M. and reached the Col du Pelvoux at 5.15 A.M., where a halt was made till 5.50. They then climbed up the E. arête of the Pic Sans Nom, keeping on the N. (Glacier Noir) side at first; they then turned on to the S.E. face and climbed a steep ice and snow couloir just to the right of the first buttress, descending towards the Sans Nom glacier. After ascending some 100 ft. they found themselves cut off by cliffs from regaining the arête, and were forced to descend and to traverse to the left on to a second buttress, which was gained by climbing a very difficult chimney, the rocks being iced, rotten, and overhanging in one part. They then continued traversing to the left over easy but very rotten rocks till the E. arête was regained. This again proved quite impracticable, and the traverse of the S.E. face had to be continued, in the course of which three more buttresses were crossed, the arête being then regained at a higher point. Being here of snow instead of rock it was followed for a very short distance. The party then, on reaching a very conspicuous tower, which may be mistaken for the summit, again turned left, and after crossing another buttress and excessively loose rocks were able to reach a conspicuous steep snow couloir, which they followed till it merged into easy rocks, by which they attained the summit in a few minutes (9.5 A.M.) They descended at 9.20, and being ignorant of the usual route, which according to Mr. Coolidge seems only to have been accomplished four times, preferred to go down the aforementioned conspicuous snow couloir till it ended in the rock rampart which cuts off the entire S.E. face from the Sans Nom glacier. They then traversed to the left, turning all the buttresses at their lowest extremities just above the rampart, without difficulty, but in pretty continuous danger from falling stones, till the last buttress—the first one traversed in the ascent—was reached. There they found themselves apparently cut off, though there seems to be somewhere a small couloir and ‘rock crevice’ by which Messrs. Coolidge and Gardiner effected an ascent on July 13, 1880, and accordingly were obliged to climb straight up the buttress about 300 ft. over difficult rocks, till they regained the chimney which had given trouble in the ascent. This was descended, and the Col du Pelvoux regained at 12.20 on the N.

side. The 100-ft. rope proved rather short for the descent of the last man, as of course it had to be used doubled. The ascent does not seem in the opinion of the party one to be recommended.

Mont Blanc District.

L'EVÊQUE (11,274 ft.). W. ARÊTE AND S. FACE.—On August 8, in ignorance of the route followed on the first ascent by the Messrs. Pasteur, Carr, and Wilson,* Messrs. G. Winthrop Young and C. D. Robertson, with Joseph Knubel and Heinrich Pollinger, effected an unconscious variation of their traverse. On reaching the foot of the couloir, ascended by the first party, between La Nonne and L'Evêque, they forced with difficulty a passage on to the foot of the W. arête to the left of the couloir. They then traversed to the left on to the N. face of the ridge, and up an easy chimney out on to a conspicuous 'epaulet' overhanging the Charpoua glacier. Thence a splendid granite chimney led them back on to the crest of the arête and through a window to its S. side. By some interesting traverses, keeping below the crest, they rejoined the couloir some 100 ft. below the col to the S. of the peak. From here, by a depression in the S. face, the S. arête, and finally the W. arête (doubtless the line followed by the first party), the summit was reached. The climb is hardly less pleasing, and certainly sounder, than anything on the Petit Dru in its present condition. It is, however, expedient to call attention to the fact that the easy but rickety couloir used by both parties on their subsequent descent to the Glacier de Talèfre was observed to empty its whole contents on to the glacier some fifteen minutes after the party had passed down it.

AIGUILLE DU MIDI (12,609 ft.) TO AIGUILLE DU PLAN (12,051 ft.).—No record appears to exist of a traverse of this ridge, although it has been crossed at various points and its two ends form parts of the usual ascents of the two Aiguilles. It deserves more notice. The ascent of the Aiguille du Midi by itself is too short for a day, that of the Aiguille du Plan, by the rational route, too long for its interest. The combination of the two forms a very fine expedition of varied but not exacting character. From the Cabane du Midi, or better the Col du Géant Refuge, it would make an excellent 'return' day to the Montanvert. In the reverse direction the long snow ridge of the Midi, ascending from the so-called Col du Plan, might be found laborious.

On August 10 Joseph Knubel and myself left the Montanvert at 8 a.m., and reached the top of the Col du Géant séracs at 5.30. A happy route up the icefall of La Vallée Blanche, and a novel but rather disreputable scramble straight up the rocks of the S.E. face of the peak, brought us to the top of the Aiguille du Midi at 8.30 (5½ hrs.). Descending by the firm rocks of the E. ridge, we hurried cheerfully down its snow continuation until the appearance of ice, an all too prevalent phenomenon this season, introduced an hour or so's hard

* *Alpine Journal*, vol. xvi. p. 265.

step-cutting down to the Col du Plan. This should rightly have been called the Col des Pèlerins, the name Col du Plan belonging properly to the little pass between the Glaciers du Plan and des Pèlerins, immediately below the Aiguille du Plan. The mistake may have arisen from a belief that the indeterminate mass of rock, an aiguille spoilt in the making, marked on the Kurz map east of the Col but given no height, forms part of the Aiguille du Plan. Under this impression, I believe, its inadequate summit was first ascended by Mr. W. E. Davidson. For distinction I should suggest for the mass the name of *Pointe des Pèlerins*. To previous examination—on an ascent of the Plan and Requin three days before—its 'rise' at either end from the arête had looked formidable; but an easy loosely-built couloir on the Chamonix face, into which we turned whenever the arête proved too stiff, gave quick access to the senile stone man on the summit. From here by a delightful granite ridge, sharp edges, short steps, and interesting cracks we reached the second col (*de jure* Col du Plan) at 12.5, and the top of the Aiguille du Plan at 12.45 (9½ hrs.). The unpropitious weather throughout the day, fine driving snow with occasional mild thunder, here broke in a veritable snowstorm, and prevented the prolonged halt which public opinion now demands of climbers anxious to avoid the charge of 'hurrying back to hotels.' The chilly step-cutting, necessary this year down the final wall of the pass, gave time, however, for the day to recover itself. A burst of sunshine promised drying rocks, and the ascent of the Dent du Requin (11,218 ft.), an afterthought, offered occasion for getting warm. The ascent from the glacier to the summit took 52 minutes, and the descent 38 minutes. [The trustworthiness of 'times' is illustrated by the fact that last year our party spent some 16 strenuous hrs. on the same peak.] After a dutiful bask in the sunshine we reached the Montanvert at 5.45 P.M. (14¾ hrs.). The whole expedition, though shorter in time and less gymnastic, is of a finer mountaineering character than that undertaken on August 6, 1906, to which it formed a complement, and of which a note appeared in the 'Alpine Journal,' vol. xxiii. p. 342. G. W. YOUNG.

THE ROCHER DU MONT BLANC. SOUTH SUMMIT.—On the map of the chain of Mont Blanc the Rocher du Mont Blanc is marked as a single peak of 3,873 mètres: it really consists of a ridge with four peaks of almost equal height, the highest being the third from the south, which is about 5 mètres higher than the first. On June 27, 1907, Messrs. O. Eckenstein, A. E. Bellars, and H. O. Jones started from the Quintino Sella hut and traversed the steep snow slope horizontally in an easterly direction to the rocks, which were ascended, at first straight up and then to the left, until the upper snow slope was reached in 1 hr. The steep slope, partly ice and partly snow, was ascended in a northerly direction until the ridge overlooking the Mont Blanc glacier was reached; this was then followed until the couloir on the (orographical) left of the peak was reached in 45 min. A rudimentary chimney on the right was ascended for about 20 ft.; the couloir was then traversed

horizontally, and after a short time it was again traversed in an upward direction over loose débris to the rocks on the right, which were followed to the crest in one hour. The crest of this ridge was followed over several minor summits and the tops of small couloirs to the foot of the south peak. The first pitch, which was vertical, was ascended by the aid of some handholds conveniently placed, after which an easy scramble led to the top, on which a cairn was erected, in about 50 min. from the top of the large couloir. The same route was followed in the descent, which occupied 3 hrs. and 80 min., as the snow on the slope next the rocks required care. Crampons were worn and saved much time which would have been spent in step-cutting. The expedition is interesting and is free from danger of stone-falls.

Zermatt District.

DENT D'HÉRENS.—On August 27 Mr. J. W. Wyatt and the Rev. W. C. Compton, with Joseph Lochmatter and Léon Truffer, of St. Niklaus, with whom, on a separate rope, was also Mr. W. H. Gover with J. Peter Perren and Joseph Marie Julien, ascended the Dent d'Hérens by the west face, descending also by the same route. In 1906 Joseph Lochmatter took Mr. Ryan down the face through the séracs by the same route as that followed by the above party this year; but he asserts that it would then have been impossible to ascend, owing to the 'Abhang' of the glacier. The conditions proved this year very favourable for the ascent. The party had hopes to avoid the stones of the Tiefenmatten Joch by cutting up the ice wall of the col to the left (E.) of the couloir. On approaching, however, it was evident that the ice would be in an unfavourable condition, and Lochmatter declared for the ascent through the séracs of the west face of the mountain, *i.e.* between the W. and N.W. arêtes. Sixty-five minutes from the foot of the Tiefenmatten Joch, first under overhanging séracs and finally up a very steep snow slope (in good order), brought the party to the ridge over which the ordinary ascent is made just below the last group of gendarmes. From here to the summit required $1\frac{3}{4}$ hr. After a very enjoyable $1\frac{1}{2}$ hr. on the top in magnificent weather the descent was made to the base of the face in $2\frac{1}{2}$ hrs. The party reached the Staffel Alp at about 5 P.M., the whole expedition having taken 15 hrs.

It may be noted that the ice-fall above the Stockje has since last year receded so far as to necessitate a very unpleasant passage of the rock-wall on the west side of the glacier. The rock is here exceedingly steep, smooth, and in places very loose, so that one party must wait for another to avoid risk from falling stones. If this ice-fall could be forced without having recourse to the rocks, as seemed not impossible, the only disagreeable portion of this expedition would be avoided; and the route can be recommended as a comparatively short means of reaching the summit from the Zermatt side.

RIMPFISCHHORN (18,790 ft.) BY THE EAST FACE.—On August 14 Mr. C. D. Robertson and myself, with Joseph Knubel and a porter, left the Riffel Alp at 2.15 a.m. and reached the Adler Joch at 7.40. Thence the usual Adler Joch route slants up the southern end of the E. face to the summit. Descending from the pass we circled round the foot of the E. face to a point somewhat N. of a direct line to the top from the E. In a hot sun the rotten rock of the face was already demonstrating the routes which it uses for its refuse. Very careful examination revealed a blunt, precipitous rib, starting from a broad band of snow which traverses across this face from the Adler Joch some 200 ft. above the base of the cliff. The rib forms the northern wall of a fairly defined couloir, identifiable by a huge icicle-draped cavern at half its height. Subsequent observation confirmed our impression that this buttress is the only line by which the exceedingly steep cliffs can be attacked, for a very considerable distance, with any hope of success or with immunity from falling stones. In order to secure early lodgment upon it we took the lower, broken rocks rapidly, getting pleasing shelter from some overhanging crags. A dawdling, rather indolent block that passed within hail caused some professional agitation at this point. It was our only visitant during the day. After crossing the snow-band the first step of the rib was climbed—at the second attempt—almost in the couloir itself. Above, a projecting shoulder made a good basis for more serious climbing. The first 150 ft. proved decidedly stiff, very steep, with poor holds and rocks that required careful treatment. The next 200 ft. eased gradually off, and renewed our failing hopes of success. Some 150 to 200 ft. higher the rib ended in a comfortable 'breakfast' shoulder, at the foot of a splayed-out couloir. Here an outcrop of yellow rock gave occasion for a conspicuous cairn. The left-hand side of this depression or couloir, with occasional ice and gradually improving rock, offered no special features. Finally an excellent, firm rock chimney brought us out on the N. arête, just under the snow-capped summit of the second large gendarme to the N. of the peak (at 12.45). The summit was reached in 22 min. from this point (in all 12 hrs.), and the descent made by the ordinary route.

G. W. YOUNG.

ROTHHORN (ZINAL) (18,855 ft.) BY THE EAST FACE.—On August 21 the same party, with Heinrich Pollinger instead of the porter, left the Trift Refuge at 3.15, and breakfasted at 6.50 a.m. on point 8,672 m. (S.), above the Rothhorngletscher. Thence we ran down to the foot of the great couloir that bisects the E. face of the Rothhorn rather N. of the summit. The rib on the right of this we had chosen as, to all appearances, the only reasonable line of attack upon this face. Climbing on the right (N.) wall, with occasional steps in the ice of the couloir itself, we reached the foot of the conspicuous 'pitch' of grey rock which bars direct advance. [Here a broad snow traverse comes in from the left, by which it might be possible to reach the great shoulder high up on the S.E. arête.] Following our predetermined line we started out

and up, on a more faintly marked traverse, on to the edge of the ridge to our right; and here our pleasure was greater than our surprise—for we had marked it from below as the only flaw in the formidable slabs—to find ourselves in a crack deeply cut up the very nose of the rib. By this, and subsequently on the edge of the arête, we mounted comfortably, until progress was interrupted by an uncompromising 'step.' An attempt to scale this ended in defeat and a return by the help of the reserve rope. We then traversed out to the right into an open, slabby couloir, and mounting the snow and slabs, first to the right and then back to the left, we came up on to the slight rib which forms the lower, retaining lip of a small glacier impending from the cornice of le Blanc, and which would, were it properly developed, constitute the true arête between the Rothhorn and the Mominghorn. Following this back to the left we struck up the face of the peak again, and, scrambling up some fine granite slabs, came out on to the N. arête, just under the right ear of the second big gendarme (at 11.50). The summit was reached in exactly 20 min. (12.10 P.M.; 9 hrs.). Descent to Zermatt by the ordinary route. The only stones observed to fall during the day fell to the left of or in the couloir. The first 2 hrs. up the rib give delightful climbing on excellent rock. The rest of the climb is less interesting. Close examination leads us to the opinion that it would be hardly possible to find a more direct route to the summit on the left of the great couloir. In parts it might be feasible, but the higher portions of the face to our left, as of the rib we abandoned, would appear to be traversed by intervals of sheer and even overhanging rock. Since the discovery of the route by the Rothhorn-joch, Zinal has been in possession of its own traverse of the peak, with return to the Mountet. The present climb, which includes the traverse of the most interesting portion of the N. arête, offers the same advantages to Zermatt and the Trift.

G. W. YOUNG.

Saas District.

DOM (4,554 m. = 14,942 ft.) BY E. FACE AND S. ARÊTE.—On August 3, Dr. O. K. Williamson, with Joseph Pollinger and Heinrich Fux, left the sleeping-place on the rocks of the E. face of the Dom at 2.40 A.M.

They ascended straight up snow until they reached, in about an hour's time, the foot of a rock rib which here arises from the face, and which ultimately becomes a well-defined ridge before joining the S. arête of the mountain. This rib was followed throughout its length. Consisting at first of easy rock, higher up it became a snow ridge, which was at first extremely steep. A comparatively gentle portion led once more to rock, and after a short traverse to the left the S. arête of the mountain was reached at a point probably about half-way between the Dom Joch and the summit (6.8 A.M.). Total halts up to this point, 15 min. The summit was reached at 7.25 A.M., after a further halt of 20 min. Randa was reached by the ordinary route, after many and prolonged halts for photography, at about

2.30 P.M. From the time of leaving the sleeping-place until the S. arête was reached there was no sign of falling stones, which may be attributed firstly to the fact that the mountain was unusually snowy, and secondly that the party reached the arête at an early hour. It would seem that the rib by which the S. arête was reached had not before been climbed.

Bernese Oberland.

BIETSCHHORN. TRAVERSE, WITH DESCENT TO THE BALTSCHIEDER GLACIER.—On August 2 Messrs. E. G. Oliver, S. L. Courtauld, and Willoughby Jardine, with Heinrich Fuhrer and Kaspar Maurer, having spent the night at the Bietschhorn hut, ascended the mountain by the W. arête. Leaving the summit at 11 A.M., they proceeded to the snowy S. summit and descended thence by the arête which runs in a S.E. direction down to the Baltschieder glacier. The crest of the arête was followed for about 1 hr., the rocks being rotten and steep. Further progress then became so difficult, owing to an obstructing tower, that the party was forced to traverse to the left into the couloir which descends from between the middle and S. summits to the Baltschieder glacier. The couloir is always the path of falling stones, and on this occasion was composed of mixed rock and ice. This downward traverse into the couloir and back to the S.E. ridge took about $\frac{3}{4}$ hr., and was the main difficulty of the descent.

The party followed the arête for another hour by steep but fairly firm rocks, then finally abandoned it, and turning to the right went straight down rotten rocks into a small couloir which led them down to the bay of glacier between the S. and S.E. arêtes. They crossed the bergschrund without difficulty at 3.10 P.M., and after a long tramp down the glacier and the Baltschiederthal reached Visp at 8.15 P.M. This route appears to be a variation of those taken by Messrs. C. T. Dent and J. O. Maund in 1878 and Herr M. Kuffner in 1892. See 'Climbers' Guide to the Oberland,' vol. i. pp. 69-70.

BREITLAIHORN (12,018 ft.) AND LÖTSCHTHALER BREITHORN (12,412 ft.) TRAVERSED. August 10.—Messrs. G. H. Bullock, H. E. G. Tyndall, and R. L. G. Irving left Ried at 3.20 A.M., reached the Baltschiederjoch at 8, traversed the Aeusser Baltschiederfirn, and ascended by S. face and W. arête of the Breitlaihorn to its summit (9,40). Thence they followed the N.E. arête, turning the first great gendarme by a difficult traverse on the N. face, and the second by a short ice arête which curved round on the N. face. Between the two gendarmes was a splendid sharp edge of rock much like the W. arête of the Bietschhorn above the 'Rothe Thurm,' but longer. They halted twenty minutes (at 1 P.M.) shortly before reaching the lowest point of the arête. They had to make several short and rather difficult traverses on the N. face while passing the level portion of the arête near the lowest point. At 2 they found a bottle at a point obviously accessible from

the Innerer Baltschiederfirn. They followed the arête of loose rocks and a snow-ridge to the top of the Lötschthaler Breithorn (8); thence they passed over the S.E. summit and the Beich glacier to the foot of the Beich Pass (5.40).

ROTHTHALHORN (12,947 ft.) BY S.E. ARÊTE. *August 17 and 18.*—The same party with Mr. G. S. Leach left Ried at 6 P.M. on August 17, reaching the Lötschenlücke at 8.15 A.M. on August 18 (fresh snow). They ascended the Kranzbergfirn between the Kranzberg and the Gletscherhorn, reaching the foot of the Roththalthorn at 10 A.M. They went on by a short steep snow-slope and the left-hand bit of rocks flanking a narrow ice couloir and forming the actual S.E. arête. The rocks were good but uniformly difficult and the 600 or 700 ft. of ascent to the summit required three hours (1 P.M.). Their route is clearly seen in the illustration opposite p. 568 of vol. xxii. of the 'Alpine Journal,' where it forms the sky line of the peak. The descent to the Roththal Sattel took twenty minutes. There was fresh snow, and the bergschrund in the descent from the Sattel was difficult. Grindelwald was reached *via* the Ober and Unter Mönchjoch at 10 P.M. (28 hours).

Bernina District.

PIZ ARGIENT BY THE S.W. ARÊTE.—On July 30 Mr. C. F. Meade, with the guides Christian Zippert, of Pontresina, and Pierre Blanc, of Bonneval-sur-Arc, left the Marinelli hut at 2.30 A.M. to climb this ridge. It is very well seen from the Crast'agiazza, but it should be observed that the sheer drop, which appears to occur near the bottom, is really part of another ridge beyond it further E., and has nothing to do with the main ridge itself, which runs up to the top of the Piz Argient from the point marked 3,237 m. in the Swiss map.

At this point began the real climb at 4.30 A.M., the rocks on the crest being firm and easy. Yet at 5.15 A.M. the weather looked so threatening that it was decided to wait in shelter from the strong S.W. wind in hopes of an improvement. After 2 hrs.' delay these hopes proved vain, but a start was made, and $\frac{3}{4}$ hr. further up the ridge a difficult rock-step was dealt with by Zippert taking off from Blanc's shoulders. Some red rocks were reached at 7.40 A.M., and a traverse was made to the left without difficulty. The steep pitch which threatened to be the worst part of the climb was now above on the right. It was turned by climbing to the left and up a steep faintly marked chimney. The rock was rotten and covered with ice, as well as snow, which was now falling fast. This was the only bad part of the climb, and was formidable only on account of the weather. By 9.45 A.M. the final and more horizontal part of the ridge had been reached, and thence an easy scramble over rickety gendarmes led to the top of the Argient by 10.20 A.M. From the top, down to the Boval hut by the ordinary way, was a glacier tramp of $2\frac{1}{2}$ hrs. in increasing storm.

The traverse of the Piz Argient by the S.W. arête can be strongly recommended as a fine expedition offering no special difficulties in favourable weather.

KASHMIR.

MT. HARAMUKH (16,900 ft.).—On September 4 Major the Hon. C. G. Bruce and Mr. A. L. Mumm, with Moritz Inderbinnen, of Zermatt, and three Gurkhas belonging to the 5th Gurkha Rifles, ascended this peak by the glacier which descends from it to the Gungabul lake. The route by which the few previous ascents have been made was joined at the head of the glacier.

SHIKARA, KAGHAN (about 16,600 ft.).—On September 22 the same party [as on Haramukh], with the exception of one of the Gurkhas, made the first ascent of this peak, by the N.W. arête, from the head of the Batti Kundi valley.

ALPINE NOTES.

'THE ALPINE GUIDE.'—Copies of Vol. I. of the new edition of this work, price 12s. net, and of 'Hints and Notes, Practical and Scientific, for Travellers in the Alps' (being a new edition of the General Introduction), price 8s., can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C.

'THE ALPINE GUIDE,' THE CENTRAL ALPS. PART I.—A new edition of this portion of the 'Alpine Guide,' by the late John Ball, F.R.S., President of the Alpine Club, reconstructed and revised on behalf of the Alpine Club under the general editorship of A. V. Valentine-Richards, Fellow of Christ's College, Cambridge, is now ready, and can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C. It includes those portions of Switzerland to the north of the Rhône and Rhine valleys.

GIFT TO THE ALPINE CLUB.—Mr. T. Howse has presented to the Alpine Club a very valuable collection of dried specimens of alpine flowers and mosses, carefully classified and arranged by him.

MEMORIAL TO CHARLES EDWARD MATHEWS.—This Fund now stands as below:—

	£	s.	d.
First list of Contributors as announced in the 'Alpine Journal' of August 1906	136	3	6
C. T. Dent	1	1	0
Whitworth Wallace	1	1	0
Bank interest to September 1907	4	13	3
Unaccounted for	1	14	0
	£144	12	9

Of these subscriptions 16*l.* 16*s.* have been specially marked for a memorial at ChamoniX, and 14*l.* 14*s.* for one in the Snowdon district.

Forty-eight pounds have been paid in respect of the memorial

erected at Chamonix, which leaves a balance of 96*l.* 12*s.* 9*d.*, the disposal of which will be speedily decided on.

The Climbers' Club and the Yorkshire Ramblers' Club also opened lists, and some of our members have subscribed through them.

Should anyone find that his subscription has been omitted it will be issued in a supplementary list on notice being sent to C. Pilkington, Esq., The Headlands, Prestwich, Manchester.

THE MEMORIAL TO FRANÇOIS DÉVOUASSOUD.—Members of the Club will be glad to know that after considerable delays a most suitable site has been obtained for the monument erected to the memory of François Dévouassoud by a few of his old friends and employers. It stands to the right of the church door in entering, on the platform in front of the parish church, and at the top of the village street. François's grave, which is close by among those of his family at the back of the churchyard, is marked by a single stone with his name and dates.

A description of the monument with the inscription, which was kindly revised and approved by the late Sir Richard Jebb, will be found on pp. 245-6 of the present volume.

THE MEASUREMENT OF HIMALAYAN GLACIERS.—In 1905 Mr. Douglas Freshfield, on behalf of the Commission Internationale des Glaciers, called the attention of Lieutenant-Colonel Sir S. G. Burrard, F.R.S., Superintendent of Trigonometrical Surveys in India, to the importance of recording data for the determination of the secular movements and oscillations of Himalayan glaciers. In vol. xxxv., part 3, of the 'Records of the Geological Survey of India,' we have the firstfruits of the action which, with the sanction of the Government of India, has been taken by that Department. It contains an introduction by the Director of the Survey, Mr. T. H. Holland, F.R.S., and 'Notes on Certain Glaciers in N.W. Kashmir,' by Mr. H. Hayden, F.G.S., illustrated with many admirable photographs, maps, and diagrams. The glaciers examined were in Hunza, Nagir, and Bagrot. Many glaciers in Lahaul and Kumaon have also been examined, and the results will be published in the next part of the 'Records.' The glaciers of Kangchenjunga will shortly be attacked. The Director of the Geological Survey has earned the warmest thanks of all interested in glacial science for the promptitude and energy with which he has taken up a difficult task. We hope to deal with the results of his and his staff's labours in our next volume.

MR. LARDEN'S 'GUIDE TO AROLLA.'—Unforeseen difficulties have arisen in the publication of Mr. Larden's 'Guide to Arolla,' but it will be printed and in the hands of subscribers about Easter 1908.

SKI-RUNNING.—Mr. W. R. Rickmers will be in Kitzbühel during January.

WATCH FOUND ON POINTE DE ZINAL.—When descending the Pointe de Zinal towards the Col Durand on August 18 Backwell, Collins, and I found a broad black belt containing a watch. It was lying in a small niche in the rocks some 200 ft. below the summit.

The spot would hardly be chosen as a resting-place. The belt is weather-worn, but the watch goes well. If the owner will communicate with me the rights of treasure-trove will be waived in his favour.

J. M. ARCHER THOMSON.

THE GIRDLE TRAVERSE OF LLIWEDD.—The traverse of the central zone of the N. face of Lliwedd is a climb of exceptional length, beauty, and interest. The four buttresses, the Far East, the East, the West, and the Slanting, present an intricate labyrinth of slabs and projecting arêtes, the formation resembling a half-opened book set upright on a table. Thus the distinctive feature of the climb is the combination of problems in rock-climbing with the constantly recurring difficulty of finding a fresh line of advance, and the appetite for novelty and variety is fed with perpetual gratifications. The climb indeed affords, with obvious limitations but in a more liberal measure than any other south of the Tweed, the exquisite pleasures we seek in ascending without guides the peaks of the Alps. A 40-foot interval of rope is convenient, but this is best lengthened to 60 ft. for crossing the east and central couloirs and for the ascent of the cave pitch of the Slanting gully. A party of three should allow 9 or 10 hrs. from the Gorphwysfa.

It may interest those who visit the Welsh mountains at Easter to add that a new route awaits them up the Slanting buttress and the east peak of Lliwedd.

These climbs were made in September last with E. S. Reynolds.

J. M. A. THOMSON.

TITLIS JOCH.—On August 29 last I crossed from the Engstlen Alp to Stein by the Titlis Joch with Sebastian Gasser. As far as the so-called Breakfast Place we followed the frequented route to the Titlis, and then turned westward over an intervening elevation to the head of the couloir leading down to the Klein Gletscherli. Here we found an angle at the top of the chimney closed by a jammed boulder, by the side of which was a vertical drop of some twelve or fifteen feet to the floor of the chimney. I looked at it, and did not quite see how I was to get down, but Gasser said cheerfully, 'Oh, you go down; there is a step on this side; and then you can stretch across to the other side.' Thus encouraged I went over the edge, but, as I thought, the step was only a sloping projection which would not hold the boot, and, although I am over 6 ft. high, neither arm nor leg would reach the opposite side of the gully. The result was that I was lowered practically altogether by the rope. Then it was Gasser's turn, but when he came to the point my light-hearted friend found no more resting-place for the sole of his foot than I had, and recoiled. Eventually a yard or two further down the gully, he found a place where he could get a sort of sideways hitch for the rope, and with the help of this and a projection or two on which he could put one toe and his fingers he got down; but if the rope had slipped he must have fallen, and I was much relieved when he landed beside me.

He said the place was worse than it used to be, as a rock over which the rope could be secured had disappeared, and talked of

having an iron holdfast driven in to take its place. The rest of the couloir was easily descended, partly on steep snow and partly in the hollow between the snow and the rock wall. We found no difficulty either in descending the rocks at the foot of the Klein Gletscherli along or close to the watercourse at the extreme S.E. corner of the glacier.

E. CLAYTON.

REVIEWS AND NOTICES.

Den Norske Turist Forening's Aarbog for 1907.

ONCE more the lovers of the wild mountain tracts in Norway welcome the 'Aarbog' and find that the present number fully sustains the high reputation gained many years ago. The success of the 'Aarbog' is a reflection of that of the Turist Forening, which now has a membership of 2,901. Each annual edition, from the small but excellent issue for the year 1868, which treated principally of the three great waterfalls, the Skjæggedal, the Vöring, the Rjukan, to the present number has its own individuality and special interest.

This year there are several papers of unusual interest. Notably so one on ski-running—the true national sport. The scene was in Glitterheim, amongst some of the highest mountains in Norway, and the writer, H. Tönsberg, is one of the greatest exponents of the craft. The paper, which is beautifully illustrated, should lead many votaries of the sport into Jotunheim in the winter. It is indeed rather strange that so few have done this before, though it has been often suggested. The present writer tried it in 1880 under rather unfavourable conditions of weather, and wrote a paper about it in English in the 'Aarbog' for that year.

A paper on the Rondane, a lovely mountain range which suffers from having loftier neighbours, will well repay the reader.

The ascent of Skagastölstind by a new route, the N.W. ridge, forms the subject of a most interesting and modestly-written paper which will some day be considered a mountain classic, and which it is to be hoped will sooner or later be translated into English. The climb, which was one of exceptional severity, was of nearly 4,000 ft. in height from the glacier to the cairn on the summit; it occupied 7½ hrs., and is not likely to be done in less time, as the two men who made the ascent, Herr Egill Rostrup and Kr. Tandberg, are first-rate mountaineers, and the former had carefully reconnoitred the route with the aid of telescope and camera from near and far during five previous summers. Though the route in the main was up difficult rocks, there was yet a sufficiency of ice to be encountered to render the use of ice-axes a *sine qua non*.

The conclusion arrived at by Herr Rostrup is as follows:—'The expedition, which is indescribably interesting, should only be attempted by absolutely safe, very experienced, strong and careful

mountaineers, and not by more than two on the rope. It must be only attempted under perfect and settled weather conditions; as, should a party be surprised by bad weather and cold, and it be necessary to turn, the descent of the N.W. ridge would make the strongest demand on their strength, experience, and care—so strong, indeed, that the adventure would be dangerously near the allowable limit.'

Kaptein K. S. Klingenberg, who is on the Government Survey, has a short paper on the mountains of the Lyngen peninsula, which were so carefully explored some years ago by Mr. Hastings and others. The gallant Captain, speaking of the peaks above the Jægervand, rightly says: 'They are worthy objects for a mountain-climber, but to take up instruments which weigh 30 kg. in their cases was not to be thought of.' However, he and three others ascended the lofty Store Isskartind. 'It was a fatiguing walk, but after 10½ hours' exertion, reckoning from Jægervand, I was victorious, and in the most glorious midnight sunshine there lay the wildest mountain region in Norway before me. The picture from Isskartind will give an idea of the wildness of the mountains.'

No man can climb in arctic Norway without being deeply impressed with the weird grandeur of the mountains and the solemnity of the northern sea and its coast.

A short paper on the island of Moskenæsø in the Lofotens by Dr. Hollander is a welcome addition. Unfortunately the doctor was alone, otherwise he would probably have visited Bunæs and Hermansdal. Reine is indeed a good centre, but better still is it to be encamped on the rocky shore of the Fors fjord or the Bunæs fjord. Amongst other illustrations is an excellent one of the jagged mountains and peaceful waters of the Kirke fjord.

Herr P. A. Øyen gives us an all too short account of the glacier movements during the years 1905 and 1906. Apparently the glaciers near the coast in Central Norway have advanced from 15 to 34 mètres. In Jotunheim in 1905, out of twenty-three glaciers observed, six advanced and seventeen retreated, but in 1906, out of seventeen glaciers measured, seven advanced and ten retreated.

At last tourists have awakened to the fact that on Galdhöpiggen, the highest mountain in Scandinavia, good new work awaits the mountaineer who possesses originality. Herr K. Lous describes an ascent which he made last year by way of the Sveljenosbræ, and is to be congratulated upon his success. The descent of the mountain by this route would have been made in 1874, but for the fact that when it was suggested by two of the party of four 'the faces of our two companions expressed such horror at the bare notion of such a course that we meekly abandoned the project.' It is remarkable that, whilst the noble glaciers and rock faces of the range of Galdhöpiggen are so much neglected, the details of the Horungtinder are being worked out almost as carefully as the fells of Cumberland have been during the last quarter of a century.

A tour of inspection of the huts, bridges, roads, &c., which have been made or are supported by the Turist Forening is described

by Herr E. A. Tholme, the treasurer of the club. As this journey was through 7° of latitude, it was of a very comprehensive nature, and is very well described. Herr Thomle was apparently unusually favoured in the north, as he was able to photograph the Okstinder, a range of mountains which almost invariably veil their faces on the approach of any stranger. Other papers there are, and these are good too.

WM. CECIL SLINGSBY.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, May 7, the Bishop of Bristol, *President*, in the Chair. Mr. W. B. Worthington was balloted for and elected a member of the Club.

Mr. ALFRED EAST, A.R.A., read a paper entitled 'Mountains from the Painter's Point of View,' which was illustrated by lantern slides.

Sir MARTIN CONWAY: I have listened with interest to the remarks made by Mr. East. I am not a painter, and do not think I have the right to express an opinion about mountains from a painter's point of view. I have always been interested to see how mountains are painted. The general desire of mountaineers is to see the way up the peak, and the attempt to satisfy that desire has a very bad effect upon the artist. If you could produce upon paper or canvas a reproduction in colour and in form absolutely truthful, on a tiny scale, of a mountain, you would probably get something entirely ugly, however beautiful the view of the mountain itself might be. It certainly would not produce an effect similar to that produced on the eye by sight of the mountain itself. I may illustrate the difference by a comparison between the elaborate model of a ship and the ship itself. If you look at one such a model, and then at the ship, it will be obvious at a first glance that the effect produced by looking at the two is entirely different. If you look at the ship, the effect produced is of its enormous weight, solidity, force, and volume. Now, the most perfect model on a small scale produces no effect upon the spectator of either force, weight, strength, or any of those qualities which are the impressive qualities of the thing itself when seen. If you wish to tell an absolute lie about anything, you will do so in the most conclusive manner by an accurate reproduction of every detail on a tiny scale. If, therefore, you wish to paint a picture of a mountain in a manner which shall be entirely wrong in every respect, the way to do so is to depict the mountain with absolute exactness in every detail. A small picture, 10 inches high, of the Matterhorn, entirely truthful, in which you can see the way up and point out all details and so on—such a picture will not tell the truth about the mountain, nor truthfully represent the Matterhorn as we know it.

Now, Mr. East has said that no picture of a mountain reproduces

upon the spectator the effect of its majesty, which is the primary effect of mountains. No picture has ever yet been painted which gives that effect. There are numbers of effects which have not been reproduced by translation into paint.

You come nearer to producing on the eye the effect of the mountains which the mountains themselves produce when you have a large and fine lantern slide than in any other way. We have seen on this screen over and over again effects which do to some extent produce upon us something like the effect of the mountains themselves. They are not always the best photographs by any means that do so. It is not easy to say which do and which do not. I think it is partly due to the effect of the illumination. No painting can compare in brilliancy with a slide thrown on the screen. You have some of the fire of sunlight on it. Lantern slides have suggested to me over and over again that there is a future for glass painting. It is conceivable that some effects might be produced by some future development of glass painting which we cannot well foresee. It does not follow that even the effect of mountains cannot some time or somehow be produced by actual paint.

How long is it since the sea was first expressed on canvas? Certainly not any great number of years; and in time many things will be accomplished which have not been done up to the present. I am not without hopes that the day will come when the majesty of the mountains, from which we who have experienced it get such a high degree of pleasure, may yet be transferred even to canvas.

Mr. CHARLES PILKINGTON: I do not know that I have anything particular to say. Every photographer is a nuisance on a climbing expedition, and anybody who paints even worse. I am, unfortunately, not a painter, but I quite appreciate what Mr. East says about painting being hard work. One of the difficulties is to find a place from which to make your attempt. Then it is hard to find a position to sketch from. We mountaineers are under a special difficulty, as we feel obliged to show the exact places we climb, and so it is very difficult to sketch these in accurately. It is a very good thing not to draw the whole thing before you for a time and save unnecessary work. You can then bring out your foreground after. I only wish that we could all attempt some little thing. Mr. East has given us some very good hints.

Mr. DOUGLAS FRESHFIELD: First I have to make a personal complaint. I came expecting to see a beautiful collection of Mr. East's pictures, and was very much disappointed to see nothing but pictures in black and white. When Mr. East spoke of slides, I still hoped that he would show some of his own pictures. It has been alleged that the Alpine Club, by requiring to have the mountains painted with literal accuracy, has exercised a bad influence on mountain painting. This, I think, cannot be said to be true now, if it ever was. The Club has always accepted painting as a qualification for its membership. Nobody could accuse Elijah Walton of being too topographical, or Mr. McCormick of being

unimaginative, while Mr. Watts, R.A., who had been one of our honorary members, in his noble landscapes of the 'Mountains of Carrara' and 'Mount Ararat,' treated mountains from the point of view of a poet. I am not an art critic. Some thirty years ago I did once play that rôle, with somewhat successful results. For I drew three letters from Mr. Ruskin. But I am not sure that I should care to repeat now all I said then. If you would paint mountains properly you must, in the first place, love them. In the next place, go and live among them. I fancy the difficulty many painters find is that they have not lived long enough among them to free themselves from what Mr. East told us were the prejudices caused by their surroundings. I believe that probably the first great painter of the Alps will be a man who spends a large part of his life among them. Again, one of the reasons of the difficulties that painters find is that they are apt to travel during the tourist months. The Alps reserve their most picturesque aspect until late autumn, when the mists are apt to play most delightful tricks and hide the ugly parts of the mountains, and give them wonderful tones of atmospheric colour. I am sorry I cannot add anything more to this discussion, except to express our indebtedness to Mr. East for the very suggestive paper he has given us.

Mr. GORCH: When my brother invited me to be present this evening, and told me that Mr. East was going to speak from the painter's point of view, I could not help thinking of something relating to Ireland, to the effect that there were no snakes in Ireland. The connection is this: that to these painters' minds there are no mountains for a painter's use. They have always seemed to be quite beyond the painter's art. Although we all have the same image on our retina, what we do see is what we choose to see; and I take it that people see in mountains what they look for—that is to say, the mountaineer will see the group of mountains, he will see the places where the paths are, and so on. The hunter will see the places where he can find game. The tourist will see what appeals to him; and the painter will see what appeals to him as a painter; and though we all see the same view, we all look at different things in it, and, consequently, it seems to me it must be very difficult for a painter to satisfy anyone but a painter in his representation of mountains. What the last speaker said seems to be right. His suggestion is that the real painter of the Alps, when he comes, will come from the Alps—a man who has spent his life there, and who has the intimate knowledge necessary to form a picture which will satisfy not only himself as a painter, but contain the things we all of us see; and I suppose, some day, the man will come forward to satisfy all our expectations.

Dr. CLAUDE WILSON: I would like to ask Mr. East one question in regard to showing the height, and also as to showing depth. Could we have views of mountains showing depth as well as height? Many show great height.

Mr. H. V. READE: It is much more difficult to talk about a thing than to do it. It is very much more difficult to paint

a mountain than to climb it. It is also difficult for us as mountaineers to look at pictures of mountains fairly. The painter tries to give truth of effect, and we look for truth of detail, and if he does not show this we say he is wrong. We do not give him a fair chance.

The Rev. G. BROKE: Mr. East might tell us a little more as to whether the difficulty is not one that Sir Martin Conway pointed out to us, when he laid stress on the value of the lantern slide in giving us a true impression, and that is the impossibility in painting of giving the range in any sort of way over a subject which probably includes 5 miles, and may include 150. The lantern, with the power of light behind it, gives such an enormously increased range that there is a possibility that the painter can never hope to express it. This is borne out in some of the pictures, where we see that a great deal of it is done away with by the judicious use of clouds or mist. I remember once crossing a pass about 6 o'clock one morning, and, the sun being exactly behind us, there appeared a sort of movement in the sky to the W., and through a gap appeared a mountain not quite 10,000 ft. high, which appeared to be quite 19,000 ft., of overwhelming magnificence. I was very much struck, and turned to my companion for some explanation, who said he had never seen such a thing, and added, 'Now I understand why so many nations have invaded this land.'

Mr. EAST: I appreciate all that has been said by all the members of the Club, but may I point out that the object of painting is to express something that literature and music cannot—not necessarily better but different? To give the exact expression in painting is difficult. Even if a picture is vague, it may convey a greater sense of joy than when a painter puts down everything he sees. This he does at the expense of truth, simplicity, and dignity. Of course, one cannot go into technical matters with the mountaineer, because he looks at mountains from a totally different point of view from the artist. A lady once went into a studio and looked at a picture very closely to see the details of it, instead of looking at the effect that the painter wished to give, when the artist came along and, seeing her, said, 'Madam, it does not smell.'

You mountain climbers want to look too closely into its details instead of looking at the grandeur of its *ensemble*. The painter treats it with much greater respect.

There is a story of a mountain shepherd, who was rather keen about art, and went to an exhibition of pictures of mountains and said they might have his dog if he was allowed to look round. He was told he might keep his dog, so he tied it to the doorpost and went in. He looked at the pictures from the mountaineer's point of view. He knew them in reality, and he walked round, came out, and said, 'Well, I am glad I kept my dog.' It is a very curious thing that we in London see less of its beauty because we are so used to it. We go to Rome or Paris and say what beautiful places they are. It is because they are fresh to us; and so with

mountains. Instead of calmly considering what is possible you rush into paint under impossible conditions.

In reference to one of the speakers, who talked about painting depth as well as height, I do not care what he does if he realises his object. If he can do this by taking a point of view half-way up the opposite side of the mountain, he can do so. There is no law against it. I have read much bigger lies in fiction than I have ever seen in paint. I have read books written by men who have never visited the places described. What would you say if I painted a picture of a mountain which I had never seen? You demand fact, and because one did not put in that particular detail you feel aggrieved—you never think of the object of the painter.

I would not like you to go away feeling that I have said anything to belittle my own art. The strong man is he who recognises his own limitations, and does not attempt that for which his art is not suitable.

You know as well as I that every mountain has a character of its own. You never see them twice alike, and remember that perhaps a sunset at the back of a mountain has such a rare and beautiful effect that may never be repeated. In the course of a tour in the United States I saw a sunset of such magnificence, I had ever seen such a one before, and not one man looked round. I said to one of them: 'Look here, my friend; if that was a firework display in Central Park you would pay a dollar to see it, and here you see this for nothing; therefore you take no notice.'

The PRESIDENT: We are greatly indebted to Mr. East for the many things he has said. It seems to me that he has touched upon a question that has very often entered my own mind. It has been said time after time that the one thing people care about is the climbing. I maintain that it is the love of the mountain and the sense of its majesty which appeal to the imagination. This is the magnet which draws us to the mountains, and from that point of view the painter and the mountaineer are on the same plane; but it seems to be brought out that the question of the power of enabling us to see what we do see is in the mountains rather than in the various ways of representing them. Mr. East has contrasted the power of literature with the power of painting from that point of view. I am inclined to think that the painter paints with one idea; he tries to put into his picture of the mountain some one idea of something great, something majestic, or it may be something else; and I am inclined to maintain that the painter gives an idea of that particular mountain better than any descriptive literature can possibly give and better than the best photograph can possibly do. To me literature, however well written, never influences me to use my imagination of a mountain anything like as well as a beautiful painting. We all see the same thing in a photograph, but in looking at a good painting we see so many good things there. I have taken an extreme interest in what has been said and the remarks that have been made, and we all thank Mr. East for what he has put before us.

A hearty vote of thanks to Mr. East for his paper was unanimously accorded.

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