

THE
CLIMBERS' CLUB JOURNAL.

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Edited by ARTHUR WESTLAKE ANDREWS.

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CLIMBERS' CLUB JOURNAL.

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CLIMBING IN DAUPHINÉ IN 1906.

I.—A TRAVERSE OF THE MEIJE.

THERE is a special exhilaration in the traverse of ridges. When the Romans drove their roads along the watersheds for miles in a straight line, they showed their appreciation of ridgeways. Historians tell us that the plains and valleys below were covered with forests and marshes, a prosaic explanation of what was really a love of ridges. I append a free translation of the Roman song of triumph which they made for use on ridgeways—

Now new made roads are ruts for toads, girls' ribbons, coilful things,
But the Roman wrought as a Roman ought, a street for the cars of
 kings.

—*Ballad of the Ridgeway Road.*

In the course of our wanderings in Dauphiné in 1906, we finally reached the Meije, and enjoyed one of the most delightful rock climbs that either I or Farmer had ever had. By a mixture of chance and calculation, we succeeded in getting the Promontoire hut to ourselves, and were thus spared the weariness of explaining why we climbed without guides, or the still more active annoyance of being obliged to make an absurdly early start in order to get the mountain to ourselves.

As a matter of fact, we were so comfortable that we did not get off till about 6.0 a.m. The conditions were absolutely perfect, the rocks being warm, and quite free from ice. The route was obvious till we reached the steep wall on the west of the Glacier Carré. We then wound in and out over a series of ledges till we reached a point on the west, where we ought to have continued round the corner of the Pas du Chat, but, missing this, we traversed back to the right to some steep rocks immediately below the west end of the glacier.

A yard of old and well worn rope deceived us into thinking that this was the usual way. Here I silently blessed that forethought which had led to our lading our knapsacks with every imaginable kind of necessity and luxury, for I was doomed to carry two bags, weighing about 24 lbs., up several hundred feet of overhanging chimneys!

Unfortunately the route was too complicated, and stances for the leader too few and far between to make it possible to bring them up on the rope, but by titanic struggles I finally succeeded in joining Farmer on a higher ledge, from which we easily reached the Glacier Carré. We subsequently discovered that we had made our exit by the finish of the Pilkington route, which we had followed by mistake.

I consider this portion about equal in difficulty to the steepest parts of route No. 2 on the Eastern Buttress of Lliwedd, and considerably more exposed. I should certainly never have got up it, laden as I was, without long practice in carrying a heavy camera up steep rocks, and, as it was, it represented the absolute limit of my physical powers.

After a delightful siesta at the edge of the glacier, we put on our crampons, and walked up to the foot of the final peak. The summer had been so dry that very little snow was left, and we should certainly have had to cut a considerable number of steps without them. On the rocks below I had been regretting that we had formed what appeared to me at the time the absurd and unnecessary habit of carrying about 2½ lbs. of iron each on all expeditions above the snow line, but the labour was amply repaid. Owing to our deviation

from the ordinary route, and our long halt, we did not reach the top till about 1 p.m.

After lunch we tackled the ridge. We lost some time through missing the descent into the Brèche, but evidently struck an alternative route. Here I was impressed by the uncompromising attitude of the scientific mind. Farmer having disappeared into vacancy in the direction of La Grave, I was naturally inquisitive as to my method of descending an apparently impossible slab. I therefore asked if I could get down it. Instead of the consoling answer which I hoped for, all that I could elicit was that I might. I then asked humbly if he was in a position to hold me if I slipped, but his response was still more unsatisfying. In fact he replied somewhat in the terms of a physicist of whom I once asked a question, "I can say yes or I can say no, but I don't know."

When I joined him I found that he was stationed on a ledge from which an earthquake could hardly have dislodged him! I had, however, previously had my revenge by nearly impaling him with my axe, which finally attained a position of stable equilibrium on an ice slope some thousand feet below. It was far too late to attempt to reach it unless we made up our minds to spend the night on the ridge, so we regretfully proceeded. In the condition in which the ridge was it was hardly more difficult than Crib Goch, on Snowdon, even the steep ascent from the Brèche being quite free from ice.

When we reached the Pic Central, we looked for the traverse on the side, by which we expected to save at least an hour. The slope was bare ice, at an angle of 45 to 50 degrees, and, after walking down it for some distance round the shoulder of the Pic Central, we found that it steepened rapidly, and was apparently cut off below by steep rocks. As time was too valuable to cut steps, and I had no axe, we went up the slope again, and passed over the top of the Pic Central, and, to our great joy, discovered that some one had excavated soup tureens in the extremely steep slope which leads at this point down to the glacier.

We reached the Rocher de l'Aigle at 6 p.m. We had originally intended to descend the Glacier de l'Homme to Alpe, but the top was somewhat steep, with complicated crevasses, and in addition we found footsteps leading down the Tabuchet towards La Grave, so we turned in that direction. Unfortunately the steps left the glacier for the rocks of the Bec de l'Homme, and, not knowing that that was the usual route, we hesitated to follow unknown rocks, which would have to be climbed in the dark, and made our way instead directly down the glacier.

The ice was steep, and very much crevassed, and we were obliged to wind about a good deal. I have never descended a glacier with the same rapidity, but we were spurred by anticipations of a dinner at La Grave, where we could see the lights beginning to show in the hotel far below. At times we actually ran. As it got dark, my temper, which had been angelic during the day, got worse and worse. Farmer, who has, I believe, eyes like a cat, was quite imperturbable, but it was as much as I could do to keep up with him. I felt very much like one of those small boys whom you meet attached by a string to a large dog who has got out of control. Finally, when we came to a place where I could not tell if the slope in front of me consisted of dirty ice or a wall of rock, I struck, and insisted on getting off the glacier to the side, and in spite of Farmer's attempts to lead me down what I thought was a vertical wall, but which he called an easy ridge, the bottom of which was lost in the black depths below, our career was unduly cut short.

With much thankfulness I discovered that we had reached the moraine. Here I declared my intention of bivouacking, maintaining that it was much too dark to hope to find an unknown path far below, but Farmer was resolute, and we plunged down a loose precipice of rubble until I refused to go any further.

Our rôles were then reversed. Happiness exuded from me. I had reached terra firma; we had food, and it was not too cold. What could mortal desire more? I attempted, when I had

rested, to light the lantern, with the idea of moving gently downwards in quest of water and a sheltered boulder, but my companion took no interest in my efforts. I admit that they were somewhat feeble, owing to the dilapidated state of the framework of the lantern, but I understood later that it was not incapacity for human kindness, but want of food and water. I must admit that he made amends by scenting the latter by some extraordinary instinct, which he explains as due to some intimate connection between mountaineering and botany.

I have read since then an account given by two foreign climbers who traversed the Meije by moonlight of their feelings when they got safely off the mountain. Freely translated, it runs as follows :—"We had thought, searched for, found and conquered the price of our life. We had but just now knocked at the dark portal of eternity, and asked after its destiny, and now a blessed peace and new joy in existence was spreading again from our insides."

I am afraid that, being only matter-of-fact Englishmen, we lost a magnificent opportunity. We did, however, realise to the full the latter portion of their sensations when we imbibed hot sugar and water, soup and cocoa at intervals during the night.

I may mention that I always carry a small aluminium saucepan, a light French stove, and spirit in a rubber flask, the whole lot weighing only a few ounces, so that it is possible to prepare a hot meal at any time on the mountain.

The moraine near the only boulder we could find which was any shelter was too steep to sleep on comfortably, and as it was rather too cold to sleep elsewhere, we told yarns to keep ourselves awake. Farmer supplemented these by sitting on the spike of one of his claws ; he says intentionally, but I believe he was too lazy to move it.

In the morning we found the path quite close, but separated from us by steep moraine, in the form of indurated mud, which, without an axe, I had trouble enough to get over in daylight. Farmer, I believe, actually cut steps. Breakfast

was welcomed by both of us when we at last roused the tardy household at La Grave to a sense of their duties.

We were pleased to find that our movements on the glacier had aroused great interest among the inhabitants of the hotel. They seemed to have been principally struck by the lateness of our arrival on the summit, and the descent which we made by the Tabuchet Glacier, which I understand was considered impassable this year.

Certainly, without crampons, it would have taken us at least six hours, as we should have had to cut an enormous number of steps. As it was, only one was cut during the day by Farmer, to assist me, in my axeless condition, in balancing round a steep corner, and a poor step it was!

II.—PASSES.

When we finally decided to spend the summer of 1906 in Dauphiné, I turned up the maps which I had purchased in 1896, and was amused to find that I had carefully treasured the time table, worked out with elaborate details, showing me how to leave London in the morning and get to La Bérarde on the following evening. I had calculated on having to walk with mule accompaniment from Bourg d'Arud to La Bérarde, but, in ten years, communication had apparently become more simple, and I found that the diligence would convey me as far as St. Christophe.

The natural result was that it took a day longer before I reached La Bérarde! Farmer was unable to get away till a little later, and I therefore had rather more than a week to explore.

For this purpose, La Bérarde is far the best centre. The hotel is comfortable, the cooking good, and the people obliging. We made it our headquarters for a whole month, keeping bedrooms, and wandering over passes into most of the valleys which surround it.

As the majority of climbers who go to Dauphiné are content to do a few peaks, such as the Meije and the Ecrins,

and then move on elsewhere, I think it may be interesting to point out that the passes from La Bérarde to neighbouring valleys are well worth traversing, and that there are many excellent club huts at the end of the day's march, where good food and, in most cases, even comfortable beds can be obtained at a fixed tariff. Such are the Refuge de l'Alpe, the Refuge de la Lauze above La Grave, the Refuge Cézanne above Ailefroide, and last, but not least, the inimitable inn at La Chapelle in Val Gaudemar. Other shelters, with, however, no resident cook, abound at the foot of almost every peak.

I commenced by walking over the Col du Clot des Cavales, with minor deviations. This affords the easiest way of getting to La Grave, though the Brèche de la Meije is the shortest. I had previously walked up to the Brèche with a party of friends, who were going to La Grave, and been rewarded by a superb view of the snows of Mont Blanc. I had then spent a day basking in the sun, in enviable solitude, on the southern ridge of the Meije, which rises above the Promontoire hut. The prospect of having the hut entirely to myself nearly decided me to sleep there, but I eventually tore myself away, and descended to the Châtelleret, which I knew that I should find empty, and which was nearer to the Col du Clot des Cavales.

This comfortable hut is now very little used by travellers owing to the greater convenience of the Promontoire for the Meije, and the fact that the route by the Col du Clot des Cavales is not long enough to require a hut between La Bérarde and La Grave.

The Col du Clot des Cavales can be reached on the western side by an excellent path which has been constructed round the hillside. A short traverse of moraine leads to the rock ridge, which is reached without any climbing proper.

On the way up many fine views can be obtained of the south wall of the Meije. The finest of all, however, can only be seen by leaving the path at its termination, and traversing north on to the shoulder of the northern Pic des Cavales. The deviation takes about two hours in all, and is well worth

making, as I know no other point from which the whole of the south face can be seen from a near standpoint almost directly in front. With a glass one could examine in detail the ledge from which Zigismondy fell, and speculate on possible routes.

I am inclined to think that a way will some day be found, reaching, by a chimney, a broad ledge, which runs across the western part of the mountain, below the Glacier Carré, in dry years, such as 1906, hardly exposed at all to falling ice. The great chimney, which cuts the Meije in two below the Brèche Zigismondy, might then be climbed till a point is reached where it would be possible to break out on the right, and traverse upwards, in a slanting direction, to the other ledge mentioned before, which is usually marked by a broad snow band. On the East this appears to be by no means continuous. Probably the snow lies on slabs, inclined at an awkward angle. From here chimneys seem to lead upward to a point below the second pinnacle of the Meije ridge, counting from the highest point to the Pic Central.

The whole of this route, as far as I could judge by watching it for two days, is free from falling stones, which poured constantly over the eastern portion of the Zigismondy traverse. Unfortunately we had no time to spare in our traverse of the Meije to examine the exit at the top. It may possibly be impracticable, but at any rate the suggestion of an entirely new route up the south face may interest some ambitious climber. I may say in passing that the west ridge of the north peak of the Cavales has some excellent climbing on firm granite, of the most enjoyable kind. On the eastern side of the Col du Clot des Cavales the glacier nearly reaches the top of the ridge, and can be descended with no difficulty. A view of the Meije, taken on the way down the glacier (see Fig 1) is of great interest.

Below the glacier the path reappears, and never is path more welcome, leading as it does through a wilderness, consisting of miles of granite boulders. On the south is a striking view of the north face of the Roche Méane and the ice couloir

FIG. 1.



Photo.]

South Wall of the Meije.

[A. W. ANDREWS.

FIG. 2.



Photo.]

The Agneaux from Alpe.

[A. W. ANDREWS.

of the Col du Diable, which has never been climbed. The junction of the Romanche and the Torrent du Clot des Cavales is interesting, from the mingling of the pure granite stream with the milky waters of the latter. The moraine extends far lower in the one case than the other, owing to the fact that the rock is less soluble.

At this point there is a fine view of the valley which leads up to the Glacier de la Plate des Agneaux, and the ridge which extends from the Roche Faurio to the Pic de Neige Cordier. This, except by the Col Emile Pic, would have been very difficult and dangerous to cross this year, owing to the absence of snow. The Col Emile Pic looked so inviting that I hesitated for the moment as to whether I should not take it, but as I should at the best have only reached the Refuge Tuckett on the Glacier Blanc, which was not provisioned, I set my face resolutely towards the luxury of tea at Alpe, which more than fulfilled my anticipations. With great good luck I got a room to myself. Some French climbers were taking a week end from Grenoble for the Agneaux (see Fig. 2), and I spent a pleasant evening in their company.

In the morning I wandered round the shoulder of the Pics de Combeynot and the Pyramide du Laurichard towards Lautaret, obtaining a magnificent view of the Glacier de l'Homme and the Meije group on the west. It was worth following this path on the way to La Grave to get this panorama. I then descended into the swamps of the Lautaret torrent, which runs in a low valley, bordered, I might almost say hidden, by vegetation of a tropical luxuriance, but unfortunately abounding in venomous winged beasts, from whom I hastily fled to the haven of the high road between Lautaret and La Grave.

La Grave itself was an abomination of motor cars and tourists, hardly less offensive than the more humble, or perhaps less pretentious, pests I had fled from, and I soon left it, and followed the Romanche valley, with the idea of trying to get to Venosc over the Col de l'Alpe.

By the time, however, that I had reached some lead mines about two miles below La Grave, the road had become so intolerable that I embraced the opportunity afforded by a bridge to cross over to the shady hillside, covered with firs and flowers, which forms such a striking contrast to the bare northern slope. The natural consequence was that I more and more disliked the idea of tramping down the dusty road again, and I was also tempted by an alluring path which led upward, and it occurred to me that if I could reach the Refuge de la Lauze that evening, the Col de Lauze might prove more interesting than the Col de l'Alpe, which was, after all, only a grass pass. After some time the path came to an abrupt end, as paths do, and I scrambled up the steep hillside among the trees till I reached a gully which seemed to promise a way through the steep cliffs that crowned the hillside. For some distance this was easy enough, but it gradually steepened, and the upper part possessed several interesting pitches, rather resembling those in the north gully of Tryvaen.

This brought me out to a point on the path to the Refuge de la Lauze, which I might have reached much more easily from La Grave by the ordinary route! I would not, however, have missed the scramble, which had proved such an enjoyable contrast to the moraines and bare hillsides, which are unfortunately too common in Dauphiné.

I noticed on the way several delightful plateaus among the pines, where an ideal spot could be found for a camp, sheltered from wind, close to water, and yet open to the sun, with a western aspect.

The Refuge de la Lauze is a comfortable hut, with beds, kept by an old lady, the widow of a guide. Fortunately, a threatened thunderstorm kept away parties from La Grave, and I enjoyed the luxury of having the hut to myself.

In the morning, about six, I started for the Col de la Lauze, with the good wishes of the old lady, who seemed at first somewhat doubtful as to the wisdom of my solitary ramble. I understood that I should have to traverse a glacier over which the guides never went alone, but I reassured her as to

FIG. 3.



Photo.]

Meije and Râteau from Col de la Lauze.

[A. W. ANDREWS.

FIG. 4.

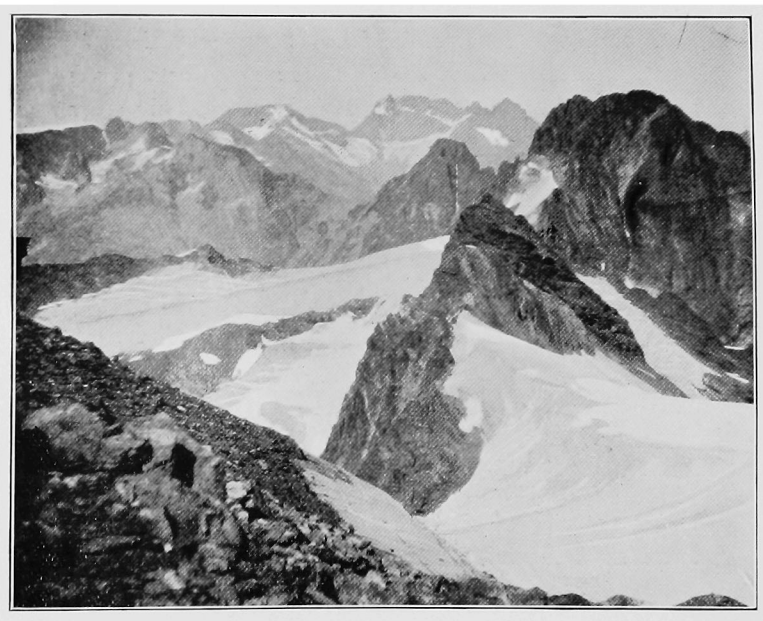


Photo.]

The Meije from the Rouies.

[A. W. ANDREWS.

my extreme prudence. As I anticipated, there was no difficulty at all, the glacier being largely dry. At the Col de la Lauze I halted to cook a second breakfast, and enjoyed a glorious view of the Râteau and the Meije. (The Meije is seen on the left behind the Râteau. The rocks immediately in front on the left are those that hold up the small Glacier du Vallon on the west. Behind the north ridge of the Râteau are the rocks of the Serret du Savon, and beyond them the Bec de l'Homme. Fig. 3.)

Presently a party came in sight who had ascended from La Grave, and were evidently making for the Col de la Lauze. As the Col de la Lauze did not seem especially interesting, consisting of a snow couloir and slopes of debris, I determined to keep along the edge of the great Mont de Lans Glacier to the Refuge de Lac Noir, and from that point descend to St. Christophe. I was rewarded by magnificent views over nearly the whole of Dauphiné. I could distinguish the Pic d'Olan, in the extreme south-west. The Rouies due South, over the sharp-pointed Aiguille du Plat, and the Bans, Ailefroide and Ecrins, behind the Plaret. (The Pelvoux was hidden by the Ecrins.) I consider that this walk along the Glacier du Mont de Lans affords the finest (general) panorama of Dauphiné.

The Refuge du Lac Noir seems to be very little used, but, though somewhat in disrepair, it would form a useful shelter to anyone coming from St. Christophe, who wished to get a general impression of the Dauphiné peaks and valleys. I was much struck by the large number of valleys shut in by steep ridges, which make up the mountain region.

It reminded me especially of the Horunger, in the Jotunheim, in Norway, which possesses similar narrow ridges, in which rock is more prevalent than snow. (See Fig 4. The Meije from the Rouies.) A very steep wall, of over 3000 feet, leads down from the plateau to the Ravine du Diable, on the south. The names on the Duhamel maps are incorrect here, and by mistake I selected the wrong water course, and was, in consequence, some time in devising a way down the cliff. I even feared at one point

that I should have to reascend about 2000 feet. Luckily I found a method of descent to a much desired sheep track which I had seen below, and soon reached the path at the bottom of the valley which led me to St Christophe, where I lunched, and walked up to La Bérarde in the cool of the evening.

I had been away five days, and though I had accomplished no mountain ascent, I had enjoyed an excellent training walk, and seen a good deal of the country. I have described this excursion largely because it may be of interest to those climbers who arrive at La Bérarde, and, while waiting for friends, want to spend a few days in getting fit and seeing something of the country.

One is seldom able to commence climbing at once on arriving in the Alps, after a railway journey, but one has to make a start, and walking over passes is, I believe, the best method. For this La Bérarde forms an admirable centre, but it is not a place to stay at, in the early days of training, like Arolla or Zermatt.

It is true that the magnificent Glacier de la Pilatte is not far away, but the situation is rather enclosed, and the whole valley is very bare. On the other hand, it forms an admirable centre for climbing, as it is surrounded by convenient huts, which can easily be provisioned from La Bérarde.

Farmer was still not due for some days, so I made up my mind to traverse the Col de la Temple to the Refuge Cézanne. I was delighted to find that I should have the company of two friends who had turned up—the Rev. E. A. Aldridge and G. W. Lloyd. We spent a night at the Carrelet, which is charmingly situated among trees at the foot of the Ravine de la Pilatte. (See Fig 5. Les Bans, taken from Carrelet.)

On the way over the Col we climbed the Pic Coolidge, which is all that its discoverer claims as a view point. The south face of the Ecrins and the Pelvoux are very striking from this peak. (See Fig. 6. Pelvoux, from summit of Pic Coolidge.)

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FIG. 5.



Photo.]

Les Bans from Carrelet Hut.

[A. W. ANDREWS.

FIG. 6.



Photo.]

Pelvoux from Pic Coolidge.

[A. W. ANDREWS.

FIG. 7.

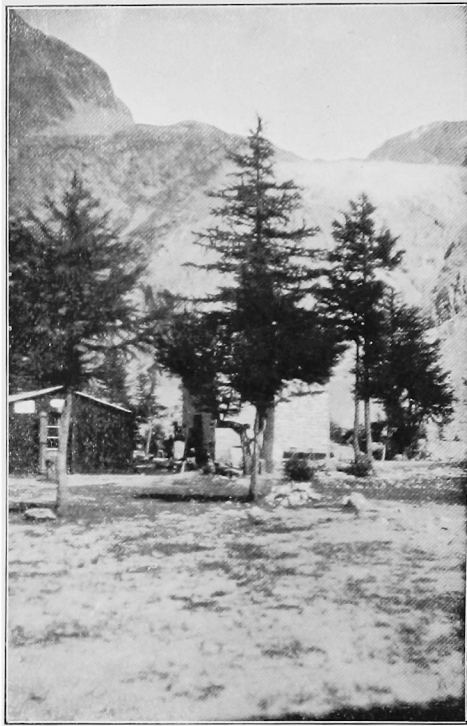


Photo.]

Cézanne and Glacier Blanc.

[A. W. ANDREWS.]

FIG. 8.



Photo.]

Rouies Ice Fall.

[A. W. ANDREWS.]

The Glacier Noir possesses in its lower portion the characteristic Dauphiné moraine, and we were not sorry to reach our haven of rest—the Cézanne. There luxury awaited us. Tea, new-laid eggs and good bread and butter, and later a dinner such as I have seldom equalled in any hotel. The price of this was exceedingly moderate, owing to the forethought of the French Alpine Club, which has organized these admirable huts. I remember that a liberal portion of Pâté de Foie Gras formed one of the dishes! On the whole we were glad the next day was to be one of comparative repose.

We arranged to meet the next night at Ailefroide, an excellent little inn further down the valley. I could not persuade my companions to come with me, but I felt that the opportunity to explore the Glacier Blanc was too good to lose, especially as I had as yet had no serious opportunity of using my crampons. There I found some seracs, which I ascended, to the upper level of the glacier above the Tuckett hut. From the point which I reached the glacier is somewhat flat, but below there is an icefall which rises from the level strip, the top of which can be seen in Fig 7. The seracs here are larger, though less complicated, than on the Rouies. (See Fig. 8.)

At Ailefroide the next morning it was actually raining, the only occasion in the whole of August, but we started for the Col de Sélé, hoping that it would improve. Fortunately it soon cleared up, and before we had left the lower valley had quite stopped. From the Glacier du Sélé there is a striking view of the range from the Pelvoux to the Ailefroide. It is noticeable that photographs taken in August, 1906, show much less snow than usual. In fact, some scenes may be hardly recognizable to those who have only seen the country in ordinary years.

From the Col du Sélé there is a remarkable view of Les Bans. When we reached the lower glacier I left my party, who took the ordinary way off on the moraine on the right, and examined the interesting icefall. At the bottom of this

I met Farmer, who had suddenly arrived rather earlier than I had expected, and who, with a wise knowledge of my habits, had come in search of me on the glacier.

He had already blunted the first keenness of his enthusiasm by making a new route up the Tête du Rouget, and was quite prepared to fall in with my schemes for further examination of the Dauphiné passes. I suggested the Col de La Temple, with return to La Bérarde by the Glacier Blanc and the Col des Ecrins, with perhaps the Ecrins on route.

We had just become the owners of a silk tent, which weighed about 12 ounces. I had tested it in England on the top of the North Downs, and on the beach at Birling gap in Sussex during a thunderstorm, but had not yet tried it in the Alps. As it seemed to me that it would be pleasant to avoid the steep ascent above the Carrelet in the morning, we determined to pitch it on the plateau from which the Vallon de la Pilatte descends to the Pilatte Ravine. We selected the most level spot that we could find, and spent much toil in clearing away the loose stones which covered the ground when they were not too firmly rooted. Having the luxury of a porter to take our superfluous traps back to La Bérarde, we had brought some light poles, a convenient adjunct, but quite unnecessary, for ice axes supplied their place just as effectively.

Farmer was the proud possessor of a Primus stove, and he kindly spent some time and trouble in showing me how it worked. I must in fairness admit that when it got started the results were worthy both of it and him. In addition to our tent we had sleeping bags and air cushions of cunning and novel design. We therefore ought to have passed an extremely comfortable night. Unfortunately, in our youthful enthusiasm, we had forgotten that we had placed the doorway exactly in the line of the down night wind from the glacier, and had failed to remember that the moon, which was nearly full, would shine in by the same aperture.

We had also never before realized the activity of small stones during the night, a fact which must account for the

unreasonable extension of the Dauphiné moraines. Consequently we spent much time in trying to smooth down hard alien protuberances, which had unaccountably made themselves felt beneath our bags. As we could neither of us get at these through the thickness of a sleeping bag and waterproof sheet without disturbing the whole domestic economy of the household, we never succeeded in getting quite comfortable.

When we reached the Cézanne the next evening I was welcomed as an old friend by the hospitable caretaker and his wife. As Farmer, however, wanted a day off after the moraines of the Glacier Noir we thought that we would spend it at Ailefroide. On the way down we met a small girl who had lost her goats. I offered her all the comfort in my power, and assured her that they would turn up all right with that optimism with which we console our friends in misfortune. I am ashamed to chronicle the fact that my companion declined to take any interest in goats with a callousness of which I had not deemed him capable. We spent a delightful day at Ailefroide on the shady bank of the stream, and I indulged in a bathe.

In the afternoon we secured a porter, and once more went up to the Cézanne. The next day we spent on the Glacier Blanc, dismissing our porter at the Carron hut, where we were to spend the night. This, though small, is very comfortable, and is admirably suited for the north face of the Ecrins. We were looking forward to an enjoyable day on the latter peak when we went to bed, but unfortunately a violent gale got up in the night, and in the morning we reluctantly came to the conclusion, after as long a delay as possible, that it would be far too cold for any exposed climb. We therefore made our way by the Col des Ecrins to La Bérarde, as we had promised to meet a friend there that evening. I had seen pictures of the Col des Ecrins as a snow-filled couloir, but the conditions had entirely altered, and nothing was left but a loose rock wall, with many suggestive stones poised at the top, and lower down an ice gully.

The western face of the Ecrins, leading up to the Dôme de Neige des Ecrins, shows up very finely from the Glacier de Bonne Pierre. It ought to afford an interesting new route.

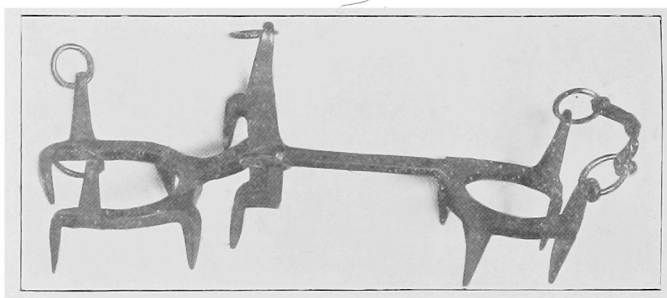
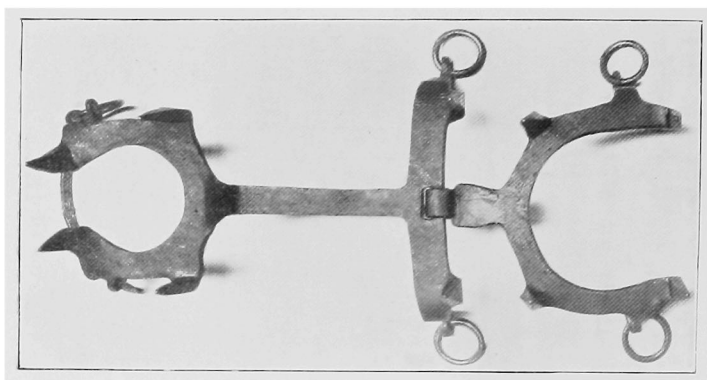
As I am only dealing in this paper with the passes for which La Bérarde forms a centre, I shall not deal with our other expeditions.

We had long wanted to visit the limestone region of the Dévoluy, which is apparently little known to English climbers, and had come to the conclusion in our ascent of the Rouies that the Col du Says would form the easiest route. We spent the night at the Carrelet, laden with all the luggage that we considered necessary, and a bottle of champagne, which the hospitable Madme. Tairraz had insisted on our accepting as a stirrup cup. As Farmer has already described this expedition in the *Climbers' Journal*, No. 33, I need not describe it here.

In conclusion, I should like to point out that all these routes described are easy under good conditions, and, that they represent in each case the easiest ways from La Bérarde to the neighbouring valleys. They would form an excellent training ground for guideless climbers, who have had some glacier experience but have as yet done little in the Alps by themselves. To such and to those interested in topography these notes may prove of interest.



FIG. 1.



A PRACTICAL CRAMPON.

THE USE OF CRAMPONS IN MOUNTAINEERING.

THE use of some kind of artificial aid on ice has been sanctioned by mountaineering custom since the earliest days of the sport.

While in the case of rock climbing true climbers have discountenanced pitons, iron pegs and fixed ropes, etc., except so far as they have been really necessary for the safety of an expedition, ice has never been granted any quarter. It has never been suggested that there are fair or unfair methods of ascending or descending an ice slope. It has been recognized that any assistance, such as ladders, etc., could after all be of such slight help in a long expedition on ice, that no code of honour has prohibited any artificial aids. I think I may summarize the position by saying that a climber, who had used a ladder to cross an inconvenient Bergschrund, might well plead that the incident ought to redound to his credit, either on account of his energy in conveying the ladder to the spot where it was wanted, or his wisdom in making use of some one else's ladder. Certainly we none of us are of a sufficiently Spartan temperament to cut an independent staircase when the steps have already been cut by previous parties! The question, therefore, of the use of crampons in the best and most serviceable manner is not one of the ethics of mountaineering, but of the practical results to be obtained.

In conjunction with Prof. J. B. Farmer and Mr. J. C. Morland, I have for a considerable part of the last four years in the Alps made experiments with crampons made in England, for the improved design of which we are indebted to Mr. O. Eckenstein. These were made of forged steel, and are stronger and therefore more reliable than the usual patterns

obtained from abroad. The spikes are also arranged in a different manner to insure that the heel spikes shall touch the ice in all cases before the boot, in descending. (It is difficult without actually sitting down to touch the ice with the back of the heel of the boot before the spikes.) In ascending, the front spikes touch the ice before the toe of the boot, and in traversing to the right or the left the side spikes are so placed that they naturally bite the ice before the side of the sole can touch it. In addition, the spikes are longer and sharper than in the foreign crampons, so that they penetrate even into hard ice, and the crampons are also made to fit the boot, and very firmly secured. (See Fig 1.)

As a consequence, in any place on ice where a climber can safely maintain his balance, and securely tread his crampons into the ice, he can walk with at least as great safety as when he is stepping from one to another of well cut steps. With the best of the foreign made crampons, a climber can also walk on ice of moderate angles, but he can only do so in safety by the use of the *most unremitting attention*. He must place his foot in ascending, descending and traversing in one of a very limited number of positions, otherwise he will run the risk of touching the ice with his boot before the spikes can penetrate. He will also be compelled to drive his foot hard down on to the ice to make the spikes penetrate, and if the ice is really hard he will be unable to move a step with safety on even a moderate slope.

There is always the additional risk that even if the spikes hold securely on the ice he is never certain that the crampons can be trusted to bear the strain, especially if he is depending, as he conceivably might depend at one particular moment, on two spikes or even one. In addition, the crampons probably do not fit his boot accurately and rigidly.

It would not be unfair to claim that the difference between the two kinds of crampons is comparable to that between efficient and inefficient skates in figure skating.

I have personally tried almost every form of artificial aid which is used on ice—from Mummery spikes to the crampon

ordinarily used, and for hard snow or ice, at a moderate angle, these are sufficiently effective, but for really hard ice, inclined more steeply than say 30 degrees, they would barely provide sufficient grip. I doubt whether climbers who are accustomed to use them would ever think of using them on ice above about that angle, unless it were so soft that it is possible to kick steps with them.

With crampons such as we have used it is possible to ascend, descend, or traverse on a slope of ice of 50 degrees of the hardness of what is ordinarily encountered on an ice slope, using the term in its true sense to mean a slope of hard ice, fairly smooth in character, such as is found in sheltered gullies little exposed to the sun, and especially beneath powdery snow, or at any rate snow which is not in a melting condition. The ice that is found as a rule on glaciers is not smooth but comparatively rough, and it is often much softer than the ice that I am referring to, which represents the hardest ice ordinarily met with in climbing. Even on ice as hard as that which is found in ice caves or the interior of crevasses, it is possible to walk on slopes of 50 degrees, but in that case it is necessary that the crampons should be *extremely sharp*.

I have therefore two points to prove—(a) that it is possible to walk with a feeling of security on slopes up to 50 degrees. (b) That that fancied security is a real one. For (a) I can only point to our experience on slopes carefully measured with an accurate clinometer. Slopes of 50 degrees of hard ice such as I have alluded to are rare in the Alps for any length, but sufficient passages occur at this angle on many expeditions which involve the passage of ice slopes. Wherever we have come across these we have made careful measurements, and have noticed the hardness of the ice.

I emphasize this, as I wish to show that there is what I may call a reserve of possibility in these crampons, and we have found them more than equal to tests far greater than will be required on almost any expedition. Ordinarily in practical climbing they should be judged as regards (a) from

the consideration of their saving the cutting of steps on ice *up to* say 50 degrees. (I take that limit not because it is an actual limit of power of safe or practical use, but because it represents what we consider a safe limit for ourselves on long slopes.)

Probably (*a*) is not a matter that will be questioned. It is, besides, a point that can easily be tested by any climber who will take the trouble to make experiments. (*b*) is quite a different matter. Are we correct in stating that it is possible to walk safely on ice up to 50 degrees without cutting steps? In the employment of any tool, from a motor car to a needle, its use at the extreme range of its capacity is not of the same practical value as its efficiency for the ordinary uses to which it will be put. Our claim for the consideration of crampons is that they add to security in climbing, not only that you can perform certain feats with them. In the first place, as regards security of stance on an ice slope, the grip of the spikes in the ice is so firm that it is extremely difficult to dislodge a climber who is standing above you with his spikes firmly fixed in the ice. So long as his balance is correct, all pulls on a rope drive his spikes still more deeply and firmly into the ice. A man, therefore, standing on an ice slope without steps can hold a man who slips below him with as much security as if he were standing in a deeply cut out ice step or on a rock ledge.

In cases where a sudden shock comes on the leader he is at an actual advantage if standing on crampons, because he has always an equally secure foothold with at least one of his feet, while, if cutting an ice step, or even moving from one step to another, there must be moments when his balance and power of resisting a pull from below is less secure than at others. Actually in the ascent of an ice slope, where one climber is above another, the man in front should be able to check the slip of the man below ; given, of course, that the steps are properly cut, but the margin of safety is not so great as when the man above has the points of one crampon firmly fixed in the ice. The security of a man in that position is far more than that of a man who has one foot in a step.

FIG. 2.



Photo.]

[A. W. ANDREWS.

(2). Ascending on ice slope of 46 (with axe). The slope is just becoming too steep to get the foot quite flat with comfort. Some people can bend their feet more than others. Cf. Wherry, "The Climbing Foot." The toe spikes are quite sufficient to hold, and the back foot can be placed sideways when it is desired to rest.

FIG. 3.

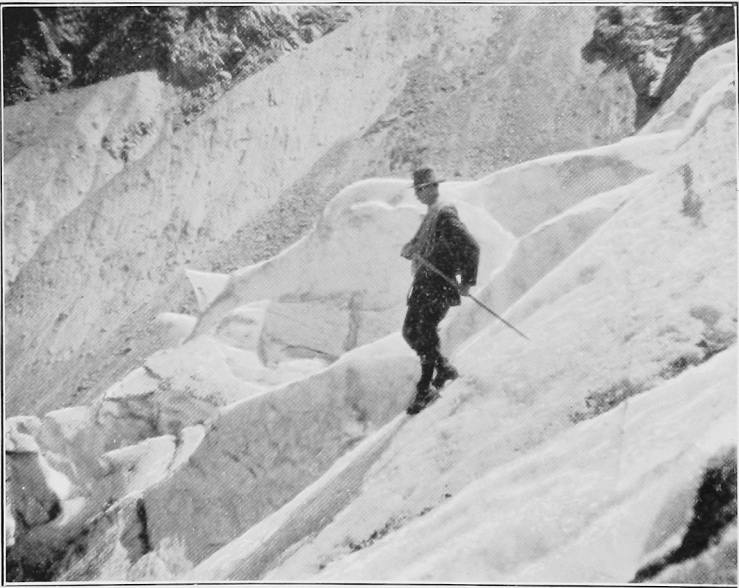


Photo.]

[A. W. ANDREWS.

(3). Descending an ice slope of 46. It will be noticed that the feet can be kept flat much more easily in the descent. The axe is not in any way necessary to assist balance on slopes of this angle.

On a very steep ice slope a single step will secure the leader standing in it on crampons against a much greater shock than if he did not wear them. The steeper the slope the more the shock would come below him, and it would be very difficult to pull him out of his firm position. I mention this because it must not be imagined that an axe can be dispensed with if you have crampons. I am simply judging the security with which a party having them can climb up steep ice. It is obvious that, if this is true, much time can be saved in climbing ice slopes by their use, as the leader can secure his party by cutting an occasional large step. It may be asked, however, how can you secure the leader? What if he slips? Will he not, if he slipped, knock off the man immediately below him whether he is standing on crampons or not? Probably he will, if he is exactly above him, but that is a position avoided by climbers going up steep ice slopes, because (a) it is easier and safer to move the foot slightly sideways, and easier to cut a step at the side. (b) The ice cut tends less to fill up the step below. (c) The danger of a possible slip of the man above, or his fall in consequence of being struck by a stone, is less if the shock comes to the second man from below. The man underneath has more time to prepare to meet the shock by the length of the rope between him and the man above who has fallen, and the shock will perhaps not pull him out of his step. Even in this case of the leader slipping, the man who is firmly fixed below with crampons is more likely to hold, because his danger lies not in having his foot pulled downward from a step but in losing his *balance*. As he can move his feet, he has much more chance of adjusting that balance to the shock.

This applies also to the slip of a man who is traversing on the same level. The climber with crampons will not be pulled out of his stance by the weight of the falling man swinging round and pulling him outwards. He is only in danger of losing his balance, and by standing in a particular way he can be fairly secure against even a slip from the side. It may be said that all this is a *counsel of perfection*, but it is just this

attention to detail that makes careful mountaineering. Slips on ice slopes occur so rarely that the majority of climbers have no idea of the strain that they can support when standing in a step. We made a number of experiments on ice, using steps and crampons separately and simultaneously, and we tried all the positions mentioned, and were convinced by practical demonstration that the crampons add enormously to the security of a man's power of resisting a shock.

In traversing a snow-covered glacier there is much more chance of pulling out a companion if, as is the case with crampons, it is possible to stand quite on the edge of the crevasse, or at anyrate nearer than one could otherwise do.

Let me now take another point—ice covered with snow not deep or firm enough to trust to, where it is essential to clear away the snow to the bare ice and to cut steps in that. If the snow is thin, the spikes of the crampons will securely reach the ice below the snow and bite. If it is too deep, and if, as I remember once on a descent of the Col de La Dent Blanche, it is powdery, it may be absolutely essential to cut steps even with crampons, but it will be far easier to get a secure footing in the step cut even if partly filled up with powdery snow. The points of the crampons take a firm hold in the step, where the climber with ordinary boots would have to clean out each step again before he could get a secure footing. Again, if there is a film of ice on rocks or snow due to bad weather coming on on a climb, crampons enable the climber to find a secure footing where it is almost impossible to the boot. Again, if for any reason speed is essential on a mountain for the safety of the party, either because of bad weather or the necessity of crossing an ice slope or couloir liable to stones, the use of crampons will enable them to move quickly, or, I may add, even the human desire to get home to dinner, as in the case of our descent of the Tabuchet glacier after the traverse of the Meije in 1906.* The foot holds so securely on the ice that it

* Cf. Climbing in Dauphiné in 1906.

FIG. 4.

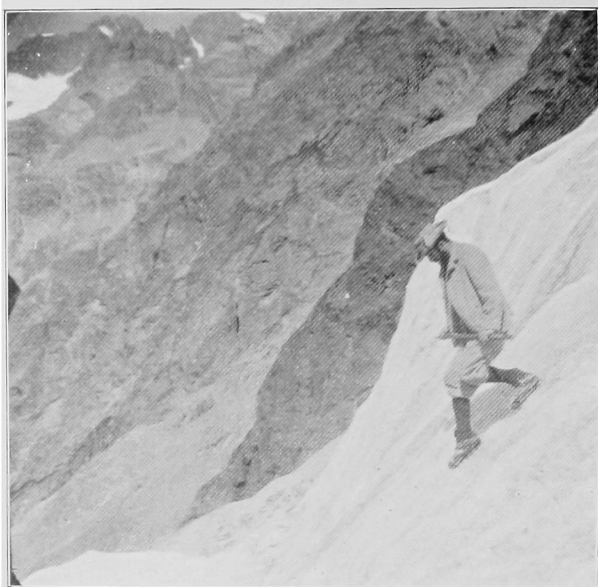


Photo.]

[A. W. ANDREWS.

(4). Descending an ice slope of 44 (without axe).

FIG. 5.

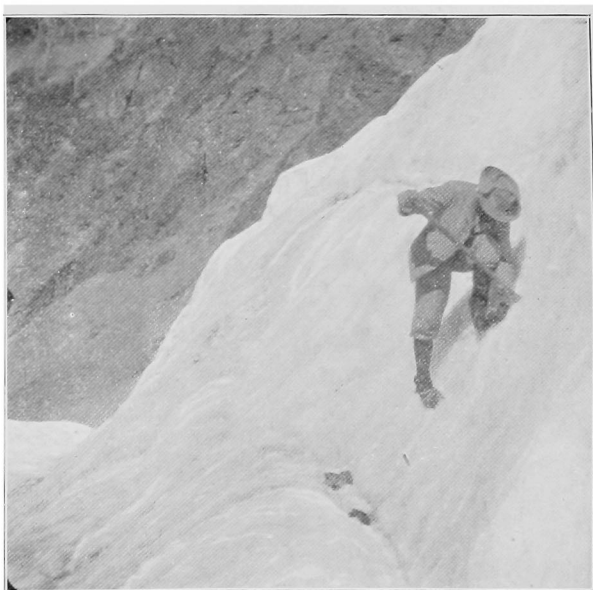


Photo.]

[A. W. ANDREWS.

(5). Traversing to the right on an ice slope of 53. Notice the position of the feet. As many spikes as possible are in contact with the ice. The upper foot is turned up and the lower is at right angles to the side. The climber is here in a good position to resist a shock.

is possible to jump with perfect confidence on to the opposite edge of a crevasse. The impetus, instead of rendering it more difficult to keep the footing, actually helps, as the points are more deeply driven into the ice. Here, I may say that even if *one* member has proper crampons and can use them, the party can move with more *confidence*, and, therefore, more *quickly*, because the man with crampons can assist them by going *last* down, *first* up, and using his crampons to ensure a safe "*belay*." You have, in fact, a "perambulating piton."

I hope that these points may make clear my reasons for stating that the fancied security of crampons may have a real basis.

I pass to another point. It is suggested that they are too heavy to carry. Mine weigh $2\frac{1}{2}$ lbs. the pair. The time saved by crampons is so great that possibly some of the baggage taken for precaution in case of exposure might be left behind. Also, it is argued that most ascents can very well be made without them, and that long periods of step cutting, in the Alps at least, and in ordinary seasons, are the exception, not the rule. Also that they are awkward to carry. In all these objections I entirely concur, but I maintain that on any known expedition which involves the passage of much ice they save hours of time, and, what is to my mind more important still, they are a great help in bad weather on glazed or snow-sprinkled rocks. Half the charm of mountaineering consists in the taking of routes which, if not new, are at anyrate unknown to oneself; and one can never tell on a snow mountain what one may encounter. Crampons also enable the climber to take new routes, choosing ice in preference to rock as a means of access to a mountain, and in that way very often taking a safer route, which one would otherwise be deterred from by the amount of step cutting necessary. This adds enormously to the sport of climbing. It prolongs interesting passages. It opens up, in fact, new possibilities.

Lastly, the objection that will perhaps most militate against their adoption is, I think, that they will perhaps induce climbers who have not learnt to use them properly to climb in places

which they could only otherwise have reached by the laborious process of hewing steps ; that, therefore, more accidents will occur, and their use will consequently be discredited. There are elements of truth in this objection. There is no doubt that the use of crampons necessitates closer attention to the character of ice. It is possible to move so quickly that a climber may not notice that he is walking on ice that is too rotten to be safe, while if he had been cutting steps he would have discovered that by the test of the axe. To this I should reply that the increased knowledge of ice, which should come from more practice on it, ought to more than compensate for that possible risk. If the ice is rotten (to get really rotten ice which has to be cleared away like soft snow to reach the harder ice below you must go to the Andes, near the Equator, or other equatorial mountains), the climber who goes on it must learn to judge its character and cut steps where necessary, even if he has crampons.

The fact that the very facility of movement afforded by the use of crampons tends to introduce an element of risk should not in these days of scientific machinery be any real argument against their use. Climbers are, as a rule, fortunately preserved from accidents by the fact that their limit of safety on ice or rock is also their limit of capacity. A novice cutting steps up an ice slope will hardly err on the side of exiguity of standing places, or, as a rule, get further than he can descend in safety. If he drops his axe, he can usually return by the staircase he has constructed. Certainly a climber whose crampons had broken half way up an ice slope, or who had somehow lost one of them, would, if fate had also removed his axe and he were alone, be in an unenviable position. All the more reason, therefore, to guard against this remote possibility by using more solid crampons which will not break, and by seeing that they really fit the boot in a rigid manner.

Again, it may be said that a climber might catch one of his crampons in some part of his clothing, such as his stocking, while traversing on an ice slope, or might trip up through

failing to lift his foot sufficiently at each step. In ascending this is not a probable contingency, because the foot must be lifted clear of the ice, and the feet are not together at any point. In descending there is little chance of catching the ice with the side of the spikes. Obviously a climber using crampons must accustom himself to the proper method of moving his feet. He will soon find that he is able to walk with no risk of catching either foot. Naturally a climber who wishes to use crampons will take the same trouble to serve an apprenticeship as the climber takes to learn how to make his way safely with an axe over ice. The great ice men have all acquired their skill by long practice. They probably began with a dry glacier, and cut steps up and down the ridges until they had learnt familiarity with ice. They never trusted themselves on steep ice slopes till they had learnt the exact limits of their capabilities, and, lastly, they never lost an opportunity of cutting steps and training their muscles for what is after all a hard manual labour. Personally I think there is much to be said for this training in mountaineering. To wander with an axe over a dry glacier like the Aletsch, and to gradually master at least the elementary principles of ice-craft, is a slow but sure method of acquiring knowledge and physical powers, and the safety that comes from both. One of the reasons why climbers have been as a rule inferior to guides in their ice-work has been that they have not had the same opportunity of using an axe, and have, therefore, not acquired the same power of long continued effort on an ice slope.

If it was desirable to get to the top of a mountain a guide could cut a staircase on ice more quickly, and therefore the task was necessarily his. The other members of a party seldom had opportunity for practice. Climbers who take the step cutting in turn, as the best guideless climbers do, naturally become expert in the use of the axe on ice. But the majority even of guideless parties are composed of men who are very unequal in their ice work. The aristocracy, if I may use the metaphor, lead, and the people follow.

Crampons introduce new ideas—democratic, subversive of old ideals, when the strong hewed the way for the weak. I see here a glimpse of hope for the days when we become “feeble of foot,” etc., 40 years on. The question is entirely one of what we want to do when we climb. If we want to walk through glorious scenery amid exhilarating surroundings we can enjoy all that without troubling to learn the technique of a craft. If we want to ascend the great Alpine peaks, not necessarily from any vulgar desire to recount our exploits, but from a pure love of mountains, if we wish even to see and judge for ourselves the character of the more difficult climbs that have been made in the Alps, we can do so fairly safely under the command of capable leaders with only an elementary personal knowledge of the details. But none of this constitutes the sport of climbing in its true sense. The old school of mountaineers, the pioneers of the Alps, learnt their work very thoroughly, and combined mountaineering skill with the love of mountains. Their ideals are still ours, but the application of science to all branches of life, even sport, has led to specialisation.

As the field of untrodden peaks and passes became smaller, climbers were naturally led to attempt new ways up mountains, and the result has been the evolution of certain modern types. I cannot help feeling that this has led to a development of individuality in rock climbing, and with some brilliant exceptions to a retrograde movement in the treatment of ice and snow. Certainly the accidents that have occurred of late years on ice and snow point to the need of greater knowledge and experience. Individuality, however, is as well worth cultivating on ice and snow as on rock. By this I mean the power of private judgment and personal knowledge of the conditions. Some of us care for the technique of climbing for its own sake, but we are all bound to acquire it to insure that safety which is the watchword of true mountaineering. What would be thought of a landsman who habitually sailed in a small yacht without learning by actual practice the details of the art of sailing? Should we consider

that he was a safe man in a boat if he had merely watched the man who sailed it? Who is to say in sailing or climbing when he may not be called upon to take command?

The use of crampons will, in my opinion, lead to an increase in individual experience of ice and snow, which is in accordance with the best traditions of our sport. It is curious that with our love of individual effort, as shown especially in our games and in our field sports that we should show so little *individuality* in mountaineering. We seem to be missing a magnificent opportunity.

I should like to quote a few lines of that greatest of individualists, George Meredith, who has described in one memorable passage the aim and aspirations of Alpine Climbers. I only fear that he has somewhat idealized us:—

“Carry your fever to the Alps, you of minds diseased: not to sit down in sight of them ruminating, for bodily ease and comfort will trick the soul and set you measuring our lean humanity against yonder sublime and infinite; but mount, rack the limbs, wrestle it out among the peaks; taste danger, sweat, earn rest: learn to discover ungrudgingly that haggard fatigue is the fair vision you have run to earth, and that rest is your uttermost reward. Would you know what it is to hope again and have all your hopes at hand? Hang upon the crags at a gradient that makes your next step a debate between the thing you are and the thing you may become. There the merry little hopes grow for the climber like flowers and food, immediate, prompt to prove their uses, sufficient if just within the grasp, as mortal hopes should be. How the old lax life closes in about you there. You are the man of your faculties, nothing more. Why should a man pretend to more. We ask it wonderingly when we are healthy. Poetic rhapsodists in the vales below may tell you of the joy and grandeur of the upper regions—they cannot pluck you the medical herb.”

NOTES.

The photographs which are reproduced with this article are not intended to show the slopes on which experiments have

been made. They were taken on the Pilatte Glacier, on carefully measured slopes, and represent what was the most convenient method of getting illustrations of the way in which one can stand most comfortably to resist a shock, or the method which we have found most convenient for ascending, descending or traversing ice.

In all cases shown here the climber has used no special force to drive the points into the ice, and has not kicked a step to stand in. It is obvious, however, that no photographs could be convincing, even if taken on longer ice slopes, though they would be sensational.

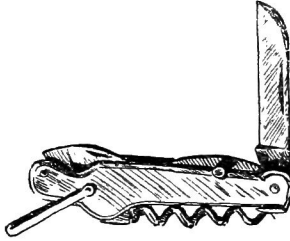




Photo.]

Grand Cornier and Dent Blanche from Col de Zarmine.

[A. W. ANDREWS.

THE GRAND CORNIER ON CRAMPONS.

THE Grand Cornier is so overshadowed by its near neighbour the Dent Blanche that it has hardly received the attention it deserves, although there are many recorded routes up it. Last August a party of us were staying at the singularly simple little inn at Ferpèche, a delightful centre for climbing, and well out of the usual crowd ; so quiet indeed is it in the Combe de Ferpèche that whilst the Arolla hotels in the next valley were shockingly overcrowded the Hotel Col d'Hérens was never even full. On August 14th we went up the Pointe de Bricolla (12,018 ft.), the ladies of the party protesting against the length and stoniness of the way, and from the moraine and again higher up Maurice Bruchez and I studied the west face of the Grand Cornier (13,022 ft.) with close attention. The ordinary routes, either by the great west buttress between the Bricolla and Dent Blanche glaciers, or from the Col de Grand Cornier, evidently included an indefinitely long climb over easy but disintegrated rocks, and the climbs up the west face involved so much danger from falling stones that we gave them up at once.

We saw, however, that from the highest point of the Bricolla Glacier an ice slope ran up clear to the arête, joining it at the point where the final rocks rise steeply. It was obviously easy to reach the foot of this ice slope, to cut up the estimated 700 to 1000 feet would involve far more time and labour than we desired, but if conditions were good, and the angle not too great for our crampons, there would be no difficulty in reaching the arête and the summit ; at any rate it was worth a trial. On August 16th, Bruchez and I left Ferpèche at 5 o'clock, and reached the snout of the Bricolla

Glacier at 7.10; here we put on our crampons, and going leisurely up the Glacier, and through the two ice falls, reached the bergschrund at the foot of our ice slope at 10 o'clock; from this point the slope certainly looked formidable (it was actually very little over 45° measured by a clinometer), but the ice was in perfect condition, entirely free from snow, not too hard, but sound and good; we easily crossed the bergschrund, and going steadily up, waiting now and then for a breather, reached the arête at 10.30. One of the most serious objections to crampons on a long slope is that there is none of that restful waiting whilst the guide cuts steps; but against this in times of emergency, it is possible to make astonishingly rapid progress over the steepest ice, as we found a week later when the sun caught us on the Vuïbez icefall, and started a diabolical shower of stones; on this occasion too the difference between the effectiveness of the ordinary Swiss and the improved English crampons was most marked, Bruchez being quite unable without help to get up slopes that were not particularly difficult to me. But to return to the Grand Cornier:—the S. Arête from the point we reached it to the top, gave us splendid climbing; solid, hard red slabs and pinacles equal to the best of the Aiguilles Rouges or the Petit Dent de Veisivi. The Rev. W. A. B. Coolidge (*A. J.*, XIII., 409) describes these rocks as "very jagged and difficult." They certainly are good, but unfortunately parties often pass them by a traverse on the west face. It was 1.30 when we reached the summit, 7 hours climbing from Ferpèche excluding halts. Coming down, we descended the N. Arête for a short distance, then traversed the west face, until we again struck the ice slope about half way between arête and bergschrund. The face traverse was neither safe nor interesting; fairly steep slabs freely covered with insecurely piled debris made going very slow, and we should have done better to return by our route upward. We soon descended the remainder of the ice slope, crossed the névé of the Bricolla Glacier, and came down the laborious stone slopes that lead to the little unmapped glacier at the foot of the buttress. This we crossed to the

moraine and alps below, and reached Ferpècle soon after 7 o'clock. We were just five hours descending.

The accompanying photograph, taken by Mr. A. W. Andrews from the Col de Zarmine, gives with great clearness the details of what is, I believe, a new route. It is an expedition well worth repeating, and the ascent throughout is free from all risk of falling stones. Fresh snow on the ice slope or final rocks would, of course, make it quite impossible.



THE DERBYSHIRE PENNINE CLUB.

THE Derbyshire Pennine Club is formed for the organisation of the sports of rock-climbing, cave-exploring and hill-walking.

The committee is as follows:— President, Mr. J. W. Puttrell (Sheffield); Vice-President, Mr. W. Smithard (Derby); Hon. Secretary, Mr. Henry Bishop, Avon House, Fieldhead Road, Sheffield; Mr. G. F. R. Freeman (Sheffield); Mr. Percy Pearson (Sheffield); Mr. R. M. Archer, B.Sc. (Derby); Mr. R. Holt (Didsbury).

Important work has recently been undertaken in the exploration of the Jug Hole at Snitterton, near Matlock:—

“Amongst the many geological features of Derbyshire, the Jug Hole will doubtless rank as one of the most interesting to the student of nature. It possesses the double characteristic of a stalactite cave and a water-swallow. Little information could be gleaned of the Jug Hole locally except that it was rumoured there was a deep lakelet below, and, if this was once safely crossed, the sight of a beautiful chamber would amply reward the daring investigator. Matlock, on the Midland line, is the most convenient railway station, and from there it is about thirty minutes' walk to the upland village of Snitterton, over on the north side of Masson.

The actual opening of the Jug Hole, some 50 feet wide and 100 feet long, runs due north and south into the hillside, and resembles, in miniature, the grand entrance to the Peak Cavern, Castleton. The great arched roof, 100 feet high, composed of massive and apparently dangerously-poised blocks, presents a splendid appearance as one stands on the

top of the steep scree bank. The reverse view from within the deep recess, however, is even more imposing, as the jagged side walls and overhanging roof are seen silhouetted against the sky. An examination of the lower rocks, &c., reveals striking evidence of the erosive and corrosive power of water.

Our first visit to the Jug Hole was an impromptu one. Upon the next visit, however, a party of five spent several hours underground, but failed to elucidate anything definite regarding the main cavern, or swallet. Several weeks later, a fully-equipped party (including the owner of the land) took up the work, when 700 feet of rope, a 140 feet rope ladder, &c., were requisitioned. The line of search on the east side of the entrance was continued. Entering a low opening on hands and knees, we crawled like human crabs up a steep and narrow passage, ultimately arriving at the lip of a chasm. It was down this chasm that, on the last occasion, one member descended part way, attached to a rope. Having now placed the rope ladder securely into position, the same explorer again essayed a descent. It proved, however, a 'dead end,' so the swinging ladder was hauled up. Then, during the ensuing half-hour we made merry round the crackling camp fire, and partook of lunch. Next, picking up our impedimenta, we steered toward the rear, or the extreme end of the entrance, past two uncovered shaft-mouths, then due south, to another opening or shaft, about 20 feet deep.

Before reaching the latter, however, it was absolutely necessary for each man to literally force his way through a small aperture, a veritable needle's eye, certainly no place for a Falstaff.

Whilst negotiating the latter shaft we encountered an upward current of very cold air, which we accepted as a good sign of 'favours to come.' We now entered a small but lofty opening, then clambered down into a narrow rift, and passed on until we arrived at a tiny streamlet, which we followed downward along its rocky bed until it disappeared in a pot-hole. We commenced, hereabouts, to clear the 'choke' of loose rock, but soon found that the water-channel beneath

was too small even for the slimmest member of the party to enter. Just ahead, the passage ended in a cul-de-sac. Apparently, then, our only course was to return the same way we had come. The leader, however, as a forlorn hope, as well as out of curiosity, crept into a narrow crevice between two huge detached boulders on the left, when, finding that a series of openings indicated a through route to somewhere or other, the party slowly followed. To hurry, hereabouts, amongst this chaotic heap of rocks might easily have spelt disaster, for some of the latter were finely balanced, and set at a dangerous angle. Upon emerging from between the boulders we heard the noise of running waters, and, carefully making our way down a steep muddy slope, we reached the juncture of two streamlets. What an uncanny spot, and yet how interesting! Who, for instance, expected seeing the aforementioned streams flowing so calmly between the high banks of silver-grey deposits of decomposed toadstone, probably the thickest in Derbyshire? It was now the abode of peace. At flood-time, however, the cavelet would be pandemonium itself, for here the rush and roar of the subterranean waters would be terrific!

Looking ahead, we observed the united streams flowing west-north-west, along the base of the rock. Halting for a few moments, we took our bearings, and also note of our immediate surroundings, with the result that two routes presented themselves. Up-stream a tempting course offered, but, deciding to act on the recognised principle of following a stream to a finish where possible, we straightway attempted the low-roofed passage, through which the waters disappeared. Meanwhile an inquisitive member of the party crept into a circular hole up on the left, and quickly reported that this was the most practicable route forward. We accordingly deserted the waterway, but, after crawling a distance of 30 feet or so, we came in sight of the stream again, and were able to walk erect along its bed.

Hereabouts, by the echoing sound of our voices, it became evident we were nearing an extensive and lofty chamber. On

our right, traces of stalactitic formation on walls and sloping roof were visible; hitherto the whole place had been singularly devoid of calcareous deposits.

Still continuing along the stream, we entered a somewhat circular-shaped chamber, 100 feet in diameter, and from stream to roof measuring 180 feet high. Overhead, hundreds of fragile straw-shaped stalactites, interspersed with many scalloped-edged curtains, decorated the slanting roof, and on the floor were specimens of stalagmite bosses. The *pièce de résistance* of the whole scene, however, was on our left, a lofty lava-like mass of calcareous matter, which stretched nearly 150 feet upward, tier upon tier, towards the high roof, at an angle of 30 degrees, a grand adamantine cascade. Ascending the 'cascade,' we observed its regular horizontal lines and ribbed markings, also its mirror-like pools of the clearest water, beautifully enriched with fine coral-crystalline deposits.

After an interval for photography, we renewed our investigations. The stream, hereabouts, disappeared down a narrow recess on the right. Whether we should make its acquaintance again was doubtful. Going forward on hands and knees, through a low passage on our left, we arrived at the narrow portal of a steep sloping stalactite chamber, so low that we had to wriggle and slide down on our stomachs, feet first, not the pleasantest of operations, especially when one stuck involuntarily in a water hollow! Pressing on, carefully threading our way between stalactites and stalagmites, some as white as driven snow, we were agreeably surprised to reach our old friend, the stream. Now we passed splendid specimens of 'beehive' formations, and, closely following the steeply-inclined bed of the stream, eventually arrived at the Ultima Thule of our exploration by the stream route, an oval-shaped siphon in a narrow opening in the rock-joint, about one-fourth the size of its namesake in Giant's Hole, Castleton. An hour later we were back again in the outer world, having discovered another and slightly easier exit. The general direction of the Jug Hole swallet is west-north-west, and its total length 650 feet, whilst the stalagmitic

cascade, nearly 150 feet high by 100 feet broad, is probably the largest in Britain."

On February 23rd, a strong party assembled in Peak Cavern, Castleton, to continue the excavation of a water-worn passage which has for some time occupied the attention of the Club's cave section. Some work was also done in the pot-holes of the roof.

The Eastertide meet was at Curzon Lodge farm, near Brassington. The scrambles on the Harborough and Rainster rocks are always enjoyable; but, not content with rambles and climbs, the members essayed the excavation of some foundations, conjectured to be Roman, at the foot of Rainster rocks. These operations resulted in the discovery of traces of a roadway; and some Roman coins, with a fibula, or brooch, and fragments of pottery, were unearthed. The results are so satisfactory that, although the work is outside the professed aims of the Club, it is hoped shortly to continue the investigations.

The week-end, April 27th-28th, was spent at Alport, near Bakewell. Robin Hood's Stride and Cratcliff rocks were visited, and some fine rambles added to the enjoyment of the members.

Prospective arrangements include a visit to Stanage rocks, near Hathersage, an all-night walk, and a ramble from Chinley to Edale, *via* Mount Famine.



REVIEWS.

SCOTTISH MOUNTAINEERING CLUB JOURNAL. No. 51.
September, 1906.

THIS number contains three articles: one by the popular Hon. Secretary of the Club, Dr. Inglis Clark: the second by the Librarian, Mr. F. S. Goggs: and the third by one of the Club's ex-Presidents, Mr. H. T. Munro.

Mr. Munro tells us how his "bag" of peaks was duly increased in June, 1906, by several night ascents. Mr. Goggs describes a new climb on the cliffs of Coire Arder, the start for which, after a night in a stone chalet, was made at the Alpine hour of two a.m.!

Dr. Clark writes on "Memories of the Kingshouse Meet, 1906." Judging from the account this meet must have been an uncommonly pleasant one. Nine excellent illustrations: a further section of the S. M. C. Guide Book, dealing with a portion of the far N.W., and short notes on a number of excursions, make up a good number.

SCOTTISH MOUNTAINEERING CLUB JOURNAL. No. 52.
January, 1907.

FIVE and a half hours to accomplish 450 feet! Where? On the first ascent of some difficult Chamonix Aiguille? No: here in Great Britain, on her premier peak, Ben Nevis. Our members should read for themselves the excellent account of this strenuous feat, or these strenuous feet, by Mr. Harold Raeburn, in the first article in this number, entitled "A Scottish Ice Climb." Illustrating the article is a very fine

view of Ben Nevis in April, from a photograph by the Rev. A. E. Robertson, showing huge cornices and the well-known cliffs practically concealed with snow and ice. This photograph has in fact already been remarked on by the Editor of one of the Swiss Club Journals, who seems to have been struck by the amount of snow shewn in the illustration.

Another article which should certainly be read is one entitled "The Knees of the Gods"—an amusing anonymous skit. An extract would be unsatisfactory, so we must refer readers to the article itself if they wish for a hearty laugh and ten minutes genuine enjoyment.

Mr. E. W. Corner tells of the topsy-turvy behaviour of his compass in "An experience on the hills of Ey." Mr. H. MacRobert discourses pleasantly on Glen Brittle and the Skye peaks, whilst the petrol loving Hon. Secretary draws the attention of climbers to possibilities on Stack Polly—a very colloquial English name surely for a Ross-shire peak? We suspect it must be a Sassenach corruption of the Gaelic. A new constitution for the Club is promulgated in this number—long may our energetic S. M. C. friends prosper thereunder.

THE CAIRNGORM CLUB JOURNAL. No. 28. January, 1907.

ALL our members may not know that the President of this northern Club is our new Ambassador to the United States of America—the Right Hon. James Bryce. We congratulate the Cairngorm Club on its having such a well-known public man, and such an enthusiastic Alpinist, at its head.

The January number of the Journal contains six articles of more than usual merit: that of most interest to non-members being perhaps that entitled "Genesis of Highland Scenery," by the Rev. D. C. Mackay, which in simple yet graphic language tells us of the chief agents which have brought about the present scenery of the Scottish Highlands. A few woodcuts in the text are also helpful in making matters plain to the unlearned.

The most interesting of the climbing articles are those by Mr. W. Barclay "On the ridges of the Coolins," which contains a good illustration of the fine Alasdair Group, "In Coire Arder" by the Rev. Thomas Sinton, and "Sur les Diablerets" by Mr. A. D. Smith, who gives a pleasant account of a holiday in this, often passed by, limestone district.

Both the latter articles would be more interesting if they were illustrated.



EDITORIAL NOTES.

THE RECENT EARTHQUAKE IN THE ISLAND OF JAMAICA.—During the recent earthquake our former President, Mr. Haskett-Smith had an unusual and somewhat startling experience. Having crossed the main chain and descended several thousand feet, he was walking along the hillside not very much above the level of Kingston when the great shock came, bringing suddenly down hundreds of tons of earth, rocks and trees from the slopes above him. As the road, here winding almost on a level round the side of a steep hill, split, and threatened to give way, he found it necessary to run the gauntlet of the falling stones for a distance of many hundred yards, the road moreover being in some places completely blocked by mounds of fallen material. Mr. Haskett-Smith, though frequently hit by small stuff, successfully dodged every important missile, and believes that he owes his life entirely to the fact that he was on his own feet, as becomes a member of this club, and not riding or driving.

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THE DEVIL'S KITCHEN. — Mr. Ormiston Chant contributes the following account of his climb on the Devil's Kitchen :—"I first saw the Devil's Kitchen on July 31st, 1903, and I inspected the climb from the top of the huge splinter of rock which leans against the right wall of the gully.

"I got up as far as the start of the traverse on this day, but as I was in the company of several non-climbers, I thought it prudent to descend and help them down the first pitch ; also there was a great deal of spray owing to the great volume of the fall, and the rocks were quite slippery.

"A fortnight later I was again up at Twll Du with Mr. Russell Stewart and a large party of his friends, who watched us from below the first pitch. I had 60 feet of rope, and got up some distance before I realised that I would not be able to help Stewart for the first few feet of his climb. Therefore he unroped, and I climbed to the second grass ledge, *i.e.* the point where the traverse starts. The fall was less in volume owing to better weather, and so the rocks were fairly dry.

"My memory is quite clear as to how I stepped on to the corner where the traverse begins. I went as high as possible, and held to the corner of the buttress with my right hand, keeping the left on a high but convenient enough hold hidden in grass.

"Then I took what I consider to be a big step, and the most difficult thing in the climb. When I reached the big block and found it firm—for no amount of prising would move it—I belayed the rope round it, and Stewart followed by climbing as high as possible directly under the stone, tying on and then traversing to the crack. I consider this quite as safe as any tactics with a longer rope; in fact Stewart swung on to the rope twice, and was each time able to regain the crack without descending.

"When he joined me at the block we only had to lift the coils of rope from the block, reverse them, and so make it possible for Stewart to pay off my end coil by coil until I reached the big jammed stone above the fall. Here my companion soon joined me, and we returned to Ogwen with our friends."

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THE DEVIL'S STAIRCASE (CLEFT WEST OF THE DEVIL'S KITCHEN).—We made the complete ascent on March 31, 1907; as far as we know this is the first complete ascent made.

A description of the upper part of this climb is to be found in Messrs. Abraham's book (pages 28 to 32); it is classified by them (page xiii.) as "exceptionally severe."

We do not consider that term applicable to this upper part, under fair conditions; it had been ascended several times by the older climbers before it was re-discovered by Messrs. Abraham and Jones.

The lower part is more difficult. It consists of two pitches, of which the bottom one is the longer. The latter consists of two portions, with a good standing place in between. There are three places which more especially require care — First the beginning of the climb, second immediately above the standing place in the first pitch, third near the top of the second pitch, where there is a good deal of loose material which will probably come away before long.

The climb is to be recommended, as it can be made quite safe for the leader, and can be climbed by him without assistance.—G. Bartrum, O. Eckenstein, W. R. Reade.

* * * *

LLIWEDD—SLANTING GULLY AND WEST BUTTRESS.—Climbers generally are agreed that the easiest way up the cliffs of Lliwedd is the well-known Central Gully and West Buttress route.

The next easiest way is probably a route symmetrical to the above. It may be described as the Slanting Gully and West Buttress route.

The route is up the Slanting Gully to the spot where the gully is divided by a projecting rib into two branches. The west branch is much the easier (the statements in Messrs. Abraham's book, page 257, are incorrect); the first few feet of it, which some may find awkward, are easily avoided by a short traverse from the east. At the spot where the two branches unite, an easy horizontal traverse to the east leads to the ridge which forms the east boundary of the Slanting Gully. The way is then substantially along the edge of this ridge.

This route was taken on 26th September, 1906, by Messrs. Backwell, R. and F. Langford James, M. R. Smith and O. Eckenstein.

A good climb, but a little more difficult, is obtained by continuing up the Slanting Gully to the foot of the pitch below the cave. Here a crack runs up diagonally to the left, to a higher point on the ridge mentioned above. This route was taken on 28th September, 1906, by Messrs. R. and F. Langford James and O. Eckenstein.

A new route up the Western Buttress to the east of the Slanting Gully was made in 1905 by Messrs. J. B. Farmer, A. W. Andrews and O. Eckenstein by means of a steep chimney of more than 120 feet. The notice of this ascent was accidentally omitted. As many new routes and variations have lately been made on Lliwedd, it is felt that it would be interesting to climbers to possess a summary of the routes up to date, and an account of the climbs. It is hoped that articles will shortly be ready.

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LLIWEDD. — E. BUTTRESS. — A new route up the E. Buttress of Lliwedd was found by Messrs. H. V. Reade and G. Winthrop Young on 25th March, 1907. The beginning is apparently the same as that of the original No. 2 route up the E. Buttress taken by Messrs. Thomson and Eckenstein, *i.e.*, it starts just E. of the Central Gully, almost within it, up a little chimney which evidently serves as a water-channel at times, and goes straight up slabs with sufficient hold for perhaps 100 feet. It then bears slightly to the left (E.) over a loose block, good enough to stand on, to an excellent semi-circular platform. Here No. 2 route turns well away to the left, towards the conspicuous quartz stone lying on a grass patch ; but the new route goes straight up by two difficult cracks. The higher of these develops into a shallow gully, which is fairly continuous to the top of the buttress, and ends in a slight depression a little W. of the cairn. About two-thirds of the way up is a cave, which can be clearly seen from the slopes below the buttress ; and the whole gully appears as a dark line, clearing the buttress from base to summit, in the photograph facing p. 190

of "Rock Climbing in North Wales." A short stretch of the gully is grassy, but here there is sound climbing on the E. wall. It can be left at several places, either on the W., where the Central Gully and E. Buttress route may be joined, or on the E. The route is interesting throughout, and in places difficult. It might be ranked, in the classified list of climbs, somewhere between the Horned Crag Route and the No. 2 Route on the E. Buttress. It is proposed to call it the "Shallow Gully" route.

Another new route up this Buttress was made by Messrs. H. V. Reade, G. Winthrop Young and A. W. Andrews on 26th March, 1907. Starting by Reade's variations of route 2 a way was found to the left of the route, and quite distinct from it.

An interesting climb up the Central Gully, of which some part is new, was made at Easter, 1906, by Mr. W. R. Reade, J. B. Farmer, A. W. Andrews, O. Eckenstein and G. Bartrum. The Eastern Buttress was reached, and the new Central Gully and E. Buttress route and a traverse made to the Central Gully, above the unclimbed pitch.



COMMITTEE NOTES.

THE following gentleman has been elected a member of our Club :—

Dr. Guy Barlow, The University, Birmingham.

* * * *

The Committee have elected as extra members of their body (under Rule III.) :—

Mr. W. P. Haskett Smith.

Mr. Wm. Cecil Slingsby.

Miss EDDY,
BOSIGRAN CASTLE, PENDEEN, CORNWALL.

CLIMBERS visiting the Land's End Peninsula will find comfortable lodgings at this Farm House, which stands on the moorland about a quarter of a mile from the sea, at an elevation of over 400 feet.

The opportunities for climbing on the granite cliffs are unique. Cf. *Climbers' Club Journal*, "Climbing on Cornish Cliffs," by A. W. Andrews.
