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THE YORKSHIRE RAMBLERS' CLUB JOURNAL.

EDITED BY THOS. GRAY.

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Gaping Ghyll Shaft.
Mere Gill Hole (*two*).
The Robinson Cairn.

PLANS.

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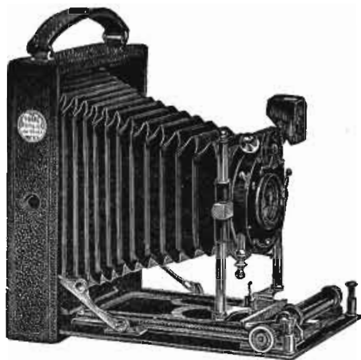

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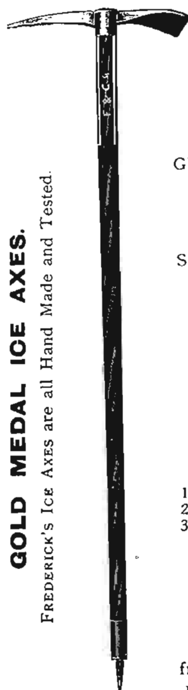

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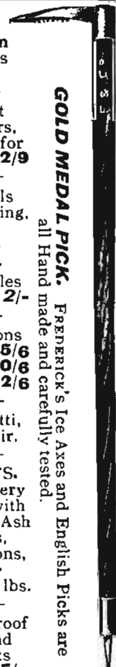

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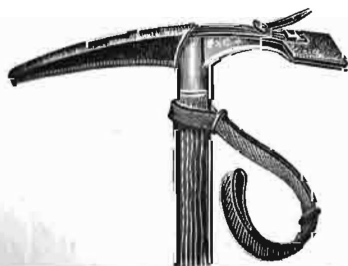

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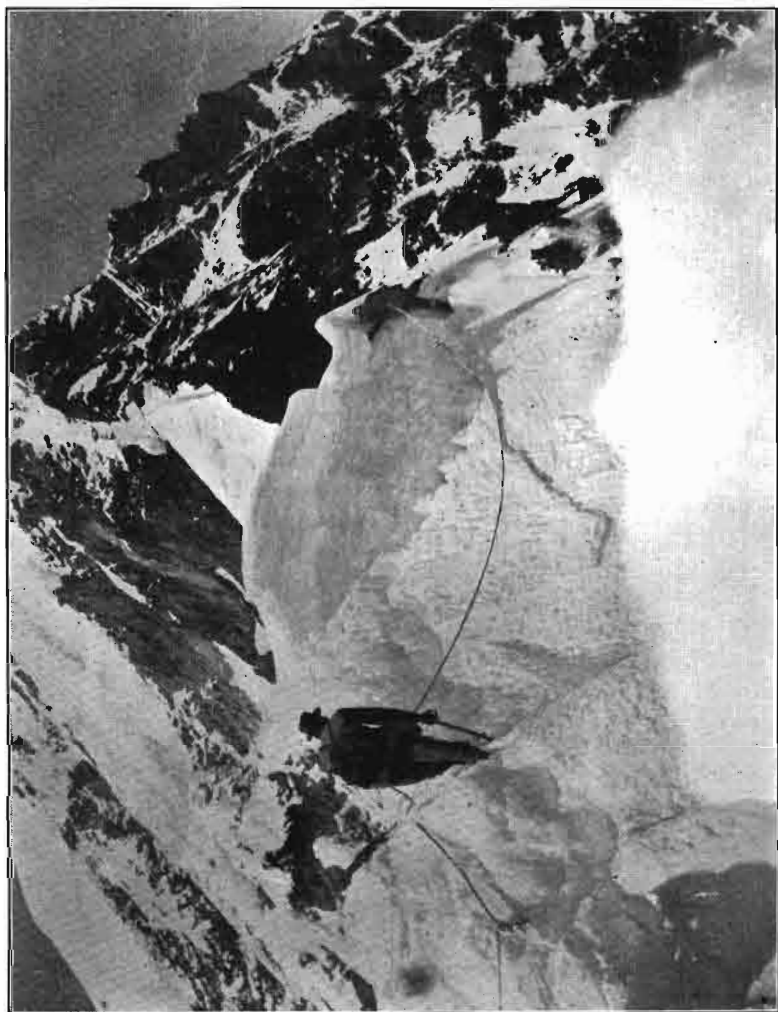

ON THE *VIERESELSGRAT*, DENT BLANCHE.

Photo by G. W. Young.

THE

Yorkshire Ramblers' Club Journal

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SOME ALPINE VARIATIONS.

By G. Winthrop Young.

(Read before The Yorkshire Ramblers' Club, November 8th, 1907.)

It used to be, and probably still is, the custom for every eminent preacher in Eton College Chapel to preface his sermon to the boys, and incidentally to earn their abiding contempt, by an eulogium on the glory of their school and the greatness of the traditions which their small persons embodied.

I remember a famous headmaster creating a wholesome impression of relief by treating the point somewhat differently:—" You think a lot of yourselves, you Eton boys! but, after all, what are you? Just comfortable little animals! You eat, and you play, and you curl yourselves up to sleep!" I am aware that I should, by all precedent, begin by expressing my sense of the honour you have undoubtedly done me, and by dilating upon the unique principles which your Club embodies, and which you are peculiarly successful in putting in practise. I ought to bring a blush to your cheek by the blatancy with which I uncover virtues you thought known only to yourselves, and almost force one to my own at the parade with which I pretend a bashfulness—which I do *not* feel. But I will do neither. For, after all, what are we mountaineers? Just comfortable animals! We climb, and we eat, and—forgive the necessary change of pronoun —*you* curl yourselves up—in potholes!

Now I do not intend to follow you into the murky depths of your admiration. If ever I find myself in one

of those Gehennas in which the Yorkshire heart is supposed to delight, I invariably follow Virgil's precedent, who, as you are doubtless aware, was the originator of the art. "Now Virgilius" says the Chronicler, "was at school at Tolentum, where he stodied dyligently, for he was of greate understandynge. Upon a tyme the scholars hadde lycense to goo to play and sporte them in the fyldes, after the usaunce of the holde tyme, and there was also Virgilius thereby, walkynge amonge the hylles all about. It fortuned he spyed a great hole in the syde of a greate hylle, wherein he went so depe that he culd see no more lyght. And then he went a lyttell ferther therein, and then he saw some lyght agayne,—and *then he wente fourth strayghte.*"

I am like Virgil. I no sooner find myself in a pot-hole, than I look for the quickest method of taking my pot-hook.

But I do not believe we can satisfactorily compare one branch of our common sport with another. We only mislead if we attempt to interpret the spirit of mountaineering interest which inspires us all by means of the details or description of the particular type of climbing in which each of us fancies that he can best find that spirit. If I suggest that there is more of the truth of mountaineering to be found on the iced walls of the Alps than on the sooty pinnacles of my old College roof, many former friends will pronounce me an "Ultramontane," or a "Megalomaniac," and suspect me of unpatriotic leanings towards the German Emperor. If I maintain, as I should like to, that I find in the slow lines and nameless tints of our British hills, where our inconsistent sun runs races with the shadows along the rain-dewed slopes and angrily sweeps its sleepy purple lights across the cliffs that intervene to check it, a beauty and an inspiration greater than in all the startling splendours of the glacier world, some exquisite alpinist is certain to retort with cries of "little Englander," "greasy-poler," or even "pro-Boer,"or "pro-Motor." As a fact we feel that we cannot compare rock with range or glacier with cavern. The spirit of mountaineering is apart from and above all special local incarnations, and, at the same time, those

who know it can find its presence equally manifest in all; it calls to us as clearly from Ingleborough as from the Jungfrau, from a "hole" as from a haystack.

This is what makes it hopeless for us by our narratives to explain the nature of our enthusiasm to the non-climbing world. We cannot convey to others what the sensation of belief feels like by expounding the doctrines of the particular creed which produces that sensation in us. This debars us from understanding by a sceptically-minded public; but, after all, I am not sure that we are much more successful in rendering true account to one another.

Because I may take it for granted that we all of us here acknowledge a common ground of climbing belief, apart from any question of whether we call ourselves 'Ramblers' or 'Kyndwrs' or 'Rocky-Fellers' or 'gallant little Welshers' or 'Greater Britainers' or 'Great Scotters,' I need not seem provincial in talking of an alpine ascent to British climbers. But I cannot hope to give you any idea of the real facts unless you will, for yourselves, invest the colourless details with the atmosphere of mountaineering exaltation, which at the time transmuted for us their toils and uncertainties into that romantic blend of fairy-story and allegory commonly known as—a good climb. I may say that I have never yet read a true account of an ascent; and I have never, so far as I know, written one. I do not by this mean to shake the faith of our Olympian editors in the accuracy of our Notes and Records. I merely plead guilty to our common and futile effort to supply our inability to reproduce the truth that lay only in our sensations, by the over-accentuation of details of times, and food consumption, and comic incident, which at the moment passed quite unheeded. What delightful things mountaineering records are! Analysis of the 'times,' enumeration of the contents of the rucksack, dissection of the views, exaggeration of our ecstasies, a sort of combined pantechnichon, panorama and pandemonium. And the transparent altruism with which we cloak our harmless vanity in our own performances with the pretence of guidance to succeeding

climbers! As if the times of rapid X's climb under *blank* conditions could be of the slighest service to laggard Y, prospecting the climb under *blank, blank* conditions! "*O Tempora!*" cries X; "*O More-ease!*" retorts Y; And the mass of us who care only for X's pace or Y's repose just so far as they make good literature or recall the mountain atmosphere to us, drown them both with shouts of—"*O Whymper-a!*" "*O Moor-es!*"

Lest, however, my explanation of what I consider real truth in a mountaineering record may render any one suspicious of the ascents I am going to describe, I must insist, that so far as mere accuracy of detail is concerned, I yield to no modern chronicler in the precision with which I can poke grotesque direction through the romance of a rock climb; for example—"Put your right foot on the ledge invisible behind your left shoulder; turn half round so as to grasp the rock between your knees with your left arm; drag your fourth waistcoat-button above the projecting knob; wriggle sharply upward, avoiding the temptation to tread on your right ear;—and catch the capstone with your back teeth." I confess to a gentle pleasure in reading such accounts *after* the ascent, and in discovering that a certain similarity in the human figure has led the author and myself to use or neglect the same two hands and feet with which nature happened to endow us both. But I have not yet succeeded in discovering a climb where my efforts to surmount an obstacle could be conveniently synchronised with the perusal of a large octavo volume of directions. In a rather cynical spirit I once induced a fellow climber to read aloud one such detailed passage while I tackled the specified pitch above his head. My conscientious efforts at observance of the author's account, combined with precautionary attempts to prevent an involuntary descent on my own, led to such an ingenious nightmare of contortions, that my companion flung away the volume and implored me with agonised accents, as I respected his sanity and his camera, to resolve myself into some semblance of humanity before a chance change of wind or a spontaneous combustion of the Kodak should risk

perpetuating its transient horror. No one could assert that either the guide-book or my account of its consequences embodies the whole romance or truth of climbing. I asked for truth; the book gave me 'times' and monkey tricks. You ask for truth, and I can't give you much more.

A verse of Davenant's is happily prophetic of our mutual difficulty:—

"Those heights which the dwarf life can never reach
Here by the ways of diligence they climb;
Truth, scared with terms from school, they cannot teach
And buy it with their best-saved treasure "time(s)."

If *your* imaginations will lend the atmosphere of truth to my record, I will attempt to supply at least the diligence and my treasured "times."

I must claim to-night not to be speaking to the orthodox, or, if I am, it must be in the aspect of an awful moral. I suppose we all find that age and experience lend to our later and respectable ascents a precision and monotony of calculated success, which, while it flatters our own recollections of them, is apt to make their recital very heavy hearing. Under the seal of confession, therefore I am harking back over a few lustres—I will not confess how many—to a time when the Alps were still undiscovered regions of romance to our inexperience, when we dragged in incident literally by the 'head and heels,' when every pinnacle was still crowned with the tradition of 'a stylite' or of an 'Early Climbing Father,' and each *piton* on an ice wall seemed some sacred nail driven by that athletic Princess of the Glass Mountain. The ancient chestnuts that I shall recall will be all the better for a little roasting at the fire of your better educated criticism.

I will ask you, first, to adumbrate in your mountaineering imaginations one of the best of Scottish climbers, A. M. Mackay, and my then more youthful self lodged at the Concordia hut on the Aletsch Glacier one furious July, devouring ten-franc omelets and pledged to a guideless campaign. I will make no confession of present faith, but merely hint that, as the result of a long and comfort-

able association we then held, among other heresies, the fixed belief that :—

> "The fewer you are, the sooner it's done ;
> Two, it is true, are better than one ;
> Two is company, three is none ;
> Two can never be two to one."

The last line of the adage will explain itself to men who have ever climbed with two guides and experienced the 'out-in-the cold' atmosphere their combination creates for the lonely amateur. Nevertheless, as we were aiming at the Finsteraarhorn, as a training walk, and had not yet got well together in our seasonal collar, we secured an elderly, crabbed, but effective local guide, as a sort of paid chaperone for our introduction to the Oberland *élite.*

The ascent, like most guided ascents by ordinary routes, has left few traces on the memory. We left at 2 a.m.: we were back between 9 and 10: and if you remonstrate at our speeding back from the huge expanses of this great peak to the still larger expenses of the small hotel, I will only reply that it is my undertaking to give you the facts, and the duty of your imagination to find in an unbearably hot sun on pitiless snow, in a windswept summit, a possible glissade from the Hugi-Sattel almost to the base, an uncongenial companion and the need of a long rest before the commencing campaign, the true mountaineering reason why $7\frac{1}{2}$ hours seemed to us as much indulgence as the peak deserved on the day, and why a prolongation of its pleasures seemed as nothing to the delight of lounging on the hot rocks in the centre of that unequalled ice-world, within hail of the dinner bell and within sight of innumerable parties, passing and repassing all the long hours across the dazzling white arena to and from their several conquests.

The night that followed was only remarkable for a new Alpine peril. By some mischance the catch that upheld the only air inlet to our loft slipped in the night, and I awoke in the small hours in all the agonies of suffocation. Fortunately in a final paroxysm my fist drove through the window, or the roof, I forget which, and I claim indisputably so to have saved two valuable lives :—

although, as Mackay slept sonorously throughout and objected to pay for a new roof, I am doubtful of the exact measure of his gratitude—or value. We shared then a common passion for poetical quotation, and to the absorption involved in a long sunrise competition in this line I can alone attribute the melancholy fact that we found ourselves, with full daylight, cheerfully ascending the south summit of that treacherous peak the Trugberg, in the happy belief that it was our real Mecca, the Mönch. I am surprised to find that the new edition of Ball's Central Alps refers to the "singular error" of M. Agassiz' guides in mistaking the Trugberg for the Jungfrau. The Trugberg seems to me to have the inclination, and the power, to take on the semblance of any peak it chooses. I regard its derelict presence in the Oberland as a permanent menace to safe climbing and as irresponsible and colossal an obstruction to fair traffic as a motor-bus with a passion for side-slipping. We were not to be beaten, so we rushed ill-temperedly down, and began the circuit of that interminable white gallery that leads round the north end of the Trugberg to the Mönch and the Ober Mönch-Joch. The season was a singularly hot one and the sun had by now become unendurable. Its glare was multiplied by a white, dense pall of mist that swept the bristles of heat about us, fracted, refracted and re-refracted from the snow below and on either hand, like the circulating brushes of a knife-machine. We reached the Ober Mönch-Joch with the last of our seven cuticles; and definitely started the ascent of the Mönch at an unconventionally late hour. All went well until we reached the long fine edge of snow and ice that leads up to the final snow peak. Here the snow, which was dissolving in the heat like butter on an oven, proved too insecure to allow us to pass either along its upper knife edge, or, with security, on either steep side. For a while we proceeded on the somewhat original method of each kicking his own steps along opposite sides with the protectionary rope across the ridge between. On such a day we were well aware that every half hour increased the risk of return or descent and, as I am confessing to

one or two eccentricities, I will claim credit here for the fact that, when we were almost across, with the summit not much more than half-an-hour distant and with a double disappointment behind us, we turned back. With chastened spirits we faced again the furnace of the unspeakable white corridor round to the Mönch-Joch, and our glow of conscious virtue must be considered to have rather increased our sufferings.

We hit the Bergli hut on the farther side of the Joch, perched on its dizzy rock-spit in the middle of the descending cascades of ice, and paused to debate the serious problem of a descent thence through the ominous ice-fall. The unusual heat had had its effect on the mountains, and the great amphitheatre of the Eiger and Fiescherhörner enclosing us was shaken with an almost continuous roar of avalanches. Some of these had even obliterated the partially visible tracks of earlier parties down the ice-fall below. We seldom had to make a more difficult decision. A night in the hut, foodless and fuelless, offered a cheerless prospect. An attempt to descend direct down the face of the rocks died away in the long venomous hiss of the snow, which slid from us as we touched it and exposed only bare black slabs.

Finally we pulled ourselves together, and dashed out on the customary traverse into the ice-fall at a positively police-trap speed, trusting to the lateness of the hour, between 3 and 4 p.m., to shorten the range of the avalanche artillery. I doubt I have ever gone faster. We plunged furiously downward with the cautious cumbrousness of sprightly megatheriums. Every dozen steps one or the other of us sank to the waist in the loose refuse of spent avalanches, and on one occasion some precious moments had to be spent in cutting out a refractory leg from its frozen concealment. Once happily out of range we threaded the *sèracs* successfully, and on reaching the Fiescherfirn were rewarded with a melting, smooth and sloping surface of glacier down which we could skate with long swinging strokes of our heavy boots, as lightly as upon ski.

We accomplished the well known passage of the Three

Bears—Bergli hut, Bäregg Teahouse and Bear Hotel, in time to get a secluded dinner in a dusky room suited to our suffering complexions; and we borrowed the Boots' last pair of slippers as our only effort at table-d'-hôte attire.

It is time perhaps to tell you that all this circumambulation had merely been a preliminary to our real object, the traversing of the Jungfrau. The Jungfrau has always had a special romance for me, since it was my father who, with Mr. George, made the first ascent of its north face from the Guggi Glacier, an expedition Mr. A. W. Moore considered "the most interesting in the Alps." I had been on its summit once at least before, but I was anxious on this occasion to extend the local family geography by getting up on the south-west or Roththal side, usually considered a sound rock-climb. So ignorant were we—and now as I am getting to dull facts I must ask you to set the electric fan of your imagination going in order to breathe upon them an atmosphere of truth—so ignorant were we, however, of the local topography or of the situation of the hut, that we actually took the funicular up to Mürren, on the wrong side of the Lauterbrunnen valley, in the hope that we might thence be able to get round at a high level to the hut and so save our legs a trifle of ascent. On getting there we, naturally, found ourselves separated by the whole breadth of the valley from our goal. We raised an amateur goatherd as a porter, and bustled down again, consoled in some sort for the late hour and for the rain by the spectacle of successive gorgeous rainbows on the clouds and waterfalls below us. Night however caught us far from the hut and we spent some desperate hours in a drenching quest before chance led one of us, about 10 p.m., to collide with an invisible doorpost. We lit our damp wood with difficulty, and then a further catastrophe unfolded itself: by some error our food supply had got exchanged for a handsome library of Tauchnitz volumes and two wood-carvings, and we were faced by a fast-night as a poor preparation for what we knew we should have to make a fast day. Sadly we prowled round the hut, and were rejoiced to discover on a

remote shelf a box of condensed milk tins, left as an advertisement. We dined like hungry men exclusively and thankfully on that yellow, oleaginous and nauseating saccharine.

It was then past midnight, the straw was sparse and moist and we were to start at 3. Breakfast was not a success. Much tribulation at mountain hotels has now accustomed me to consume a lamplight meal of tepid chocolate, breadchunks and cherry jam, to the accompaniment of a black Swiss cigar, with becoming equanimity, but even on that first day the sight of the milk tins aroused a premonition of minatory qualms which have only grown more pronounced with every later glimpse of their oozy surfaces.

We left the porter to batten on the tins, and started with rather hollow exultation up the obvious line of ascent.

So far we had had too much to do, and too little to eat, to attend to the unfavourable weather, and happily there was no ghoul of a guide to remind us of it. A wet wind, with a chill shiver in it, assured us at least of respite from rain, but indicated at the same time a serious prospect of iced rocks to follow above, where we should have to face the results of the night's frost following upon a tearful day. The first passages on the S.W. ridge went trippingly enough; spits of hard snow and a step or two in ice helped us where the rocks were glazed, and the sight of an occasional fixed rope, bedded six inches deep in ice, advised us that we were on the right and much ill-treated route. Then the angle steepened and the mountain began to take up the gage in earnest. You all know that thrilling moment when you first realize that you are really getting to grips with your climb and that everything depends upon snatching a confident hold. Our peak wrestled cunningly. The glazed rocks, with a bite of frost whitening their chilly curves and disguising their chinks, drove us steadily off what we felt to be the true line; unwillingly we crossed on a diagonal from furrow to furrow on the steep face, searching for passages where hard snow or deeper ice should give firm basis for the

cutting of steps. In such conditions this could be our only course. Slowly but surely we were driven out on to the great couloir or open face, between the West and South West ridges. At one time we were so far across that had the cheerless West arête offered us any better prospect we could well have taken refuge on it. The slabs got more precipitous, sloping, glassy and uncomfortable, and more than once as I forced a way up some bulbous curve I found myself trusting, rather more than the Badminton on Mountaineering could approve of, to the friction of my rough gloves frozen by pressure to the polished glaze. I am aware that I ought, conventionally, at this point to do a little scene painting with a dash of amateur psychology; give you the picture of the vast, frozen precipices plunging from our feet into the cold void of eddying mists; enlarge upon the huge and shapeless towers looming savagely above and around us in the chilly half-light; while the first shiver of dawn crept in upon our solitude, rendering our insect-like proportions and chirpy struggles pathetically ludicrous in the face of those stupendous, colourless spaces and still more tremendous silences. In fact I ought to slap a brushful of Ruskin and George Meredith, with a seasoning of Savage Landor, across the details of the sketch. But I cannot remember that we stopped to remark upon it ourselves, or that it would have made much difference to the climb if we had, so I shall merely ask you to turn on the limelight, and to supply all the subconscious effects and atmosphere necessary to a truthful presentment of the incidents.

As we got higher the walls closed in on either hand, until at last further progress was reduced to the choice of two formidable-looking chimneys, draped with rough icicles and separated by an ice-coated wrinkle of rock. The left hand seemed to overhang at the top, so I started up the right, with Mackay in sure anchorage at the foot. At first it went well enough; the walls were smooth, but a wall-paper of ice allowed of steps being chipped conveniently for either foot. Some ten feet from the top, where the angle looked to ease off in a broad snowslope crowning the gullies, the ice gave out, and the further

passage seemed vaguely precarious for a climber at the wrong end of a 60ft. rope. Mutual confidence, bred of a long climbing companionship, found at last a way over the difficulty. Steadied by the rope from my honest but not opulent standing-place Mackay crossed the glazed proboscis on our left into the second chimney, and ascended steadily until it too went finally out of business in an overhang, some ten feet above and well to the left of my head. Stimulated by the presence of the rope and still more by Mackay's never-failing composure and cheery confidence, I faced the bald corner again, and getting the axe fixed above me in a crack drew myself up onto it, and clambering gingerly,—and at one point literally 'with tooth and nail,'—eventually emerged on the easier ice above. A few steps brought me again on to hard snow, where a comfortable anchorage could be excavated for Mackay's translation.

The penthouse on which we stood sloped up at a steep angle to the foot of a precipitous rock wall, one which, so far as I remember, unites the West and South West ridges. The sun was now in full and savage action, and was rapidly reducing the snow to the sloppy and slovenly condition in which we had found it on the Mönch. We treated its failings with tender consideration, and on reaching its upper limit investigated the wall for a kindly line of attack. Suddenly far to our right we saw what looked like a cord. We cut carefully towards it and found a rope, coated with ice, depending over the glazed rocks; doubtless the one, which in similar conditions had already been responsible for at least one fatal accident. We traversed back to the left and lighting on a considerate flaw clung up it with no serious difficulty beyond some injury to our knees and elbows. It was one of those familiar problems which a climber may be said "to honour more in the Breech than in the Bootnail." The mountain had now got its shoulders very near the mat: the rocks gave surely back as we pushed forward, and working to the right we soon ran up against the last steep snow ridge which terminates happily in the Hochfirn. This was the end of our doubts and difficulties,

and of a variation route up the West wall of the peak for which we have, until this day, never claimed the credit of a "New ascent."

But we were somewhat fatigued, and in that condition suffered the more, as one is apt to do, from the height and the heat. The compartments for food in the digestion and in the rucksack were but inadequately filled by the recollection of the milk and by the Tauchnitz library. I have them still, those four volumes, two of 'Aylwyn' and two of Trevelyan's 'American Revolution'; light reading, but yet not light enough for the Jungfrau traverse. The wood-carvings were subsequently suitably dedicated to the annihilation of the Jungfrau Railway. Rather heavily we chipped steps up the steep ridge and dragged across the great snow plateau of the Hochfirn to the foot of the final wall. Fifty steps and a halt, fifty steps and a halt; the best method for such occasions but not all that a romantic soul demands of mountaineering. We scaled the wall at its southern end, joined the usual route up the ice-crest that surmounts it, and cut our way with heavy arms and light hearts onto the welcome summit. The measure of our exertions may be gathered from my reply when Mackay asked me to guess the hour. I said 1 o'clock. It was actually only 9-45.

On the first occasion on which I had reached this summit from the south its fancy had treated us to a singular effect. The old local guide who was cutting the steps up the back of the ice-crest stopped, to my disgust, with the final edge still above my head and shutting out all the prospect. I was anxious to get my first sight of the northern valleys and requested him to indulge the harmless whim. With a grim chuckle he struck the wall above my head: the cornice gave with a crash, and, framed in a window of blue ice of almost transparent fineness, the deep green valleys of Grindelwald and Lauterbrunnen leapt into view with the suddenness of enchantment, their restful colours springing direct from the oval rim of glittering ice, away to the shadowy lakes and the far violet distances of southern Germany. On this occasion, however, the summit was in a more solid

humour, and merely gratified us with the spectacle of some fanciful processions of rainbow cloud and a few fantastic efforts at the Brocken Spectre. Yet this is the spire which is to be canonised as the junction of the Jungfrau and Aletsch Glacier joint-stock railway line.

The condition of the snow had merited little confidence, so we took time persuasively by the pigtail, which is the next best thing to catching him by the forelock, and struck down the mountain side.

There were no guiding traces, and as a fact we descended too far to the left on to the open face, instead of following the ridge down to the Roththal-Sattel below us on the right; Mackay, however, kicked steps like an ostrich down the still undecided snow-slopes, and seemed to relish the occasional long sequences where the axe came again into play. As we descended over the curve of the dome, and could see the lie of the netherland, my recollection revived, and we worked back towards the right; not far enough however to avoid striking the huge bergschrund, the principal obstacle on this face, considerably to the left of its vulnerable point, which is usually to be found almost on the sattel itself. Fortune had led us, however, to a spot where the great upper lip had broken away, leaving a loose, lofty wall of precipitous but not impossible snow. The schrund far below at its foot looked very narrow, and the snow-slopes beyond it deceitfully near. Snow does not help perspective. I anchored securely and paid out rope, while Mackay made a skilful tunnel down the face of the rickety snow-cliff, and only paused where it looked from above to be practically overhanging. I called to him cheeringly to jump, giving him ample line, but he seemed to hesitate and then, rather to my dismay, proceeded to try and descend still further down the overhanging lip. As was to be expected the snow gave and he started slipping. Our object was to descend, so there was no gain in checking him, from his point of view, and I had full confidence in his presence of mind. We were neither of us disappointed. When he had reached the last point in his slide at which he could be said to be in actual contact with the wall he shoved back with hands

and feet, and shooting out into space descended on the soft snow beyond the schrund with the muffled explosion of distant drums. I was startled to see how small he looked. I was soon to know the reason. Cautiously I crawled down his funnel to the slipping point, and then, craning out, realized why he had temporised. The height was horrific. It was like taking observations from a steeple. However, the rope pointed downward, and the snow below looked consolingly frothy. I threw the axe well clear, and dropped into space. For two hours and a half the white world and all my internal economy rushed up and by me, and when a projecting portion of it at last failed to get past and roared into me, it seemed like a deliberate and irritating personal assault. My feet hit the snow and my head caught up my feet almost simultaneously, and it is an unquestionable fact that I knocked off my snow spectacles with my own boots. In those early days our dimensions were more telescopically adjustable. We picked up our remnants and marched across the Sattel with exaggerated sobriety, to re-establish our shaken identities.

The easiest line would probably have been found in a direct descent from the pass to the snowfields on our left; but I preferred to follow my former tracks, and to cross to the farther side of a big shoulder that projects at right angles on this side of the Sattel into the Great Aletsch Glacier. The descent of its further wall proved the least pleasant portion of the climb, and, though it is frequently traversed, I continue to regard it as the worst bit of the usual ascent. The shoulder, an ice wall, curves over smoothly and steeply, and its covering of snow is very dreamily and lightly attached in all but excellent weather conditions. A gaping system of crevasses immediately below adds to the general depression. The snow held, revoltingly, but it did just hold for us, and moving with elaborate care and cutting steps often right through into the underlying ice, we finally landed on the upper glacier with very conscious relief and a premonition of greyness about the temples. The necessity of responding without over-confidence or impatience to an unexpected or

prolonged call upon his skill and caution at the end of a successful day is the hardest of all lessons the climber has to learn. A sudden revulsion usually follows the relaxation of the nervous tension: the muscles seem to move irresponsibly, and the mind, no longer concentrated, riots off into a kind of foolish maze of trifles and often of petty irritations. We were moderately hardened wanderers, but I will admit I now consider that we came down the snow-covered glacier below in a somewhat Balaclava fashion, and that we abandoned the embraces of the rope with unseemly precipitation in our haste to pursue our several steeplechase courses across crevasses and glacier streams down to the creature comforts of the Concordia refuge. The pace and isolation of our approaches prepared apparently the Concordites for the reception of the news of at least two separate catastrophes; but fortunately our simultaneous arrival left them no time for the perpetration of relief parties.

Seriously we set to work to obliterate the memory of the milk and to take vengeance upon the tribe of Tauchnitz with a concentrated energy worthy of a better cook. And then, in a very different and meditative manner, we set out again into the sunset, and lingered down the glacier towards our promised land of cold baths and cold cream. So far I shall not follow, but propose to drop the curtain of the first Act upon our contemplative and silent progress past the ice-cliffs of the darkening Märjelen See, at the precise, poetic moment when, in Stevenson's words, "We sat again and ate and drank, in a place where we could see the sun going down into a great field of wild and houseless mountains."

And now, if your hardworked imaginations are not weary of straining at my gnats and swallowing them as camels, I am ready to embark on a last variation. The man from Chicago, you may remember, on awakening after his decease,—remarked to his neighbour,—"Who would have thought heaven was so like Chicago!" "Ah" said his neighbour, "but this isn't heaven." Those of you who have just woken up in the belief that your haven of silence was near, are in a very similar case; that

promised land is still remote; you are journeying at present towards, to put it gently, 'another clime.'

One of the cherished ambitions of an indiscreet youth had been the invention of a route up that least genial of mountains, the Dent Blanche, from the Zinal Valley. In my forensic efforts to persuade the local guides of the immense advantage to their valley the discovery of such a route would prove, efforts more the result of a long spell of bad and idle weather than any hope of inducing one of them to escort me, I was only too successful. A body of them took advantage of the first week of fine weather following my departure to go and do it without me. With deep indignation, and with A. M. Mackay, I returned the following season vowed to vindicate my claim. The reputation of the *Viereselsgrat*, over which part of the climb must lead, was, however, too formidable to allow of our more mature discretion attempting it without the insurance policy of a guide. And on investigation we found that the three exploiters were mutually pledged to do it "not at all or all in all." We were not prepared to fight the Trades Unions on a holiday, so accepting the imposition in the cheerful vein of Albert Smith with his 200 chickens on Mont Blanc, we left the pleasures of moonlight tea-parties, plodded up the long Gorge and assembled our battalions at the Constantia Hut. The splendid semi-circle of giant peaks, extending from the Weisshorn to the Grand Cornier, which dominates the Zinal Valley, went through their usual vespiternal transformation-scene for the benefit of the sunset and ourselves, until the last arc of summer light rested, irridescent and unchanging, along that most perfect of all mountain curves, the sweep of the Col du Grand Cornier. Moonshine however provided a more helpful lantern for the unromantic climber, and at its first glint our cohorts moved out across the glacier with the tramp of the midnight Assyrian. Clambering by the dusky moon is mysterious and indiscriminate, more especially if one of the guides is quite incompetent to proceed without posterior propulsion. We gouged, jammed and bunted up chimneys and loose corners, until

we emerged on the pleasant edge of the long N.E. arête not far above its last plunge to the glacier. The ascent went dangerously smoothly; we met the yellow dawn on a little snow col quite half-way up towards the beginning of the Four-Donkeys' ridge, where the new portion of our climb would end. It was almost dull.

Then the ridge flattened out into the boilerplate slabs characteristic of all climbs on this peak, and the angle began to puff itself up under bulging ice in an ill-tempered fashion that drove us out again and again on to the face in long and toilsome diagonals of sketchy steps chipped in the glazed grey icing of the crags. The guides on their first ascent had kept well out on this face to our right, but apart from the fact that the icy and unattractive condition of these tremendous precipices rendered the ridge a securer, if a more prickly, path, we were anxious to make the first ascent by the "true" ridge, and so kept calling our cattle home whenever they strayed too far from the narrow way.

There is a well marked point where the *Viereselsgrat* begins above the junction of the N.E. and E. ridges. It is marked by some huge gendarmes, and by an insolent shrug of the mountain's great black shoulder. We had to circumvent this corner on the right, and on the traverse took our first halt of the day for breakfast. Some idea of the general angle may be gathered from the fact that at this, the most convenient spot, we balanced in shallow ice steps on the face, while we swallowed jam and sardines with one hand and held on to the rope, carefully fixed round a few small spikes, with the other. In spite of, or perhaps because of, the incompetent guide, who had to be propelled by axes inserted in the angles of his awkward person and so served as a useful safety-valve for the hydraulic energies of the other professionals, we regained the ridge above the difficult shoulder, and started at 8 a.m. only some 7 hours from our commencement, along the deceitfully easy angles of the *Viereselsgrat*. We were now on a ridge that had already been traversed some 2 or 3 times. Uncertainty and novelty were behind us, and a clear

Photo by G. W. Young

LOOKING BACK ALONG THE *VIERESELSGRAT*, DENT BLANCHE.

morning summit faced us full in view. We could even see another party celebrating their arrival on the crest by the ordinary route, and we felt confident of reaching their remnants in 4 or 5 hours at most. Man appoints, fate disappoints. The ridge looked demure, arched its spines, ruffled up its cornices, and joined battle with an almost fiendish display of temper and device. Fang after fang and spire beyond spire erected themselves across our narrow ascending edge of rock, polished of visage and adamant to direct attack. When we tried to turn their flanks to right or left, sheets of impish ice and draperies of green icicles maliciously hid every helpful wrinkle. Between the towers the gaps were spanned by huge tottering cornices that balanced like breaking waves along the edge of the ridges they concealed, and left us the choice of clinging like beetles along their shapely but treacherous convex backs, or even more precariously tunnelling below the impending curves of their deciduous crests. After turning the flank of one grim tower we had, in order to regain the arête above us, to glide up a wall of disintegrating stucco only held in place by a plaster of ice. The incompetent guide here tugged at my rope and murmuring, with an eye of melancholy pleasure, "Ah, there is one of our dear old fixed ropes," pointed out the remains of a spongebag string, grinning below the ice in an entirely useless situation. On one crest, perhaps 30 feet in length, we watched for 25 minutes the leading guide progress along under the overhang of the snow-cornice by driving his axe in above him, hanging on to it while he could kick a step and burrow an armhold, and then drawing out the axe and suspending himself to it again some 18 inches further on. As the day wore on the patience of the weather began to wear out, and cold spirts of cloud and fitful breaks of snow-flakes made a sombre setting for the already somewhat oppressive conditions of the climb. We considered these fugitive waterworks in bad taste, but had little attention to spare to them, as our whole forces were already seriously engaged. There was no safety in return. It had become a stubborn fight to a finish, and on the long hazardous traverses the knowledge

that there was little but one's own skill to rely upon had a very stimulating effect. With every step doggedly contested, memory retains few details of particular passages. One incident however is recorded in a flash-light of sharp sensation. We were traversing with silent and delicate caution along the precipitous back of a great hummocky cornice half hidden in mist, cutting steps quite 20 feet below its crest. All of a sudden, with a harsh tremulous sob, as perceptible to the eye as to the ear, the dim wall, looming with a strange sickly whiteness behind, above and before us through the grey enveloping mists—went out, like a candle: the vast broken spaces of the mountain yawned into sight below our feet, and consciousness, momentarily suspended, awoke to the roll of thunderous echoes and the confused glare of shattered avalanches dashing in tempestuous precipitance to the glaciers many thousand feet below. It took a perceptible instant to realise that a mass of cornice, quite 100 feet long and in parts 30 feet across, had broken away along the line of our steps. Half my left boot still pointed foolishly into space, and my axe had only been rescued by the clutch of instinct. Mackay, slightly higher on the wall, saved himself by leaping up and out to the right, descending again on the lower broken edge. The rest, in their steps ahead, were already below and clear of the line of cleavage. It is significant of the completeness of our concentration in our task that no word was said, and that we battered on with a sort of resigned determination, in silence. I recollect just murmuring, "This White Fang would be the better of some stopping" as we turned to the next difficulty.

As before, I am counting on your supplying the framework of measureless abysses on either hand, icy spires before, awesome precipices behind, and all the subjective and objective sensationalisms, necessary for the truthful location of the details. The peak had now been long out of sight in the mist, and the snow on the ridges and cornices faded mysteriously, behind and before us, into a veil of dreary grey vapour, producing a nightmare-like sensation of drifting upon air with very heavy feet. Each climbed for himself and, in the obscurity, felt strangely by himself; the telegraphic vibrations of the frozen rope alone kept us in touch.

I know we reached the summit at last, because we got there; but it would be difficult to recall anything of the minutiæ of the later climbing. Each moment had its own fascination, but had to yield its full place to the next, and leave no litter of memory behind. To reach the peak had been so long our only conscious notion that its successful realisation awoke then none of the surprise which it does now, as we look back and balance the chances against the conditions. Collectively both were against us, but we overcame them, as one always can in climbing, by attacking them in detail, making one secure step succeed the other, and, one by one, cutting off the minutes of safe passage from the mass of threatening hours ahead.

It was past five when we reached the top. We had spent more than 9 crowded hours on the *Viereselsgrat* alone; and as we were not of that class of benighted wanderers who seek to win fame as Night Errants by sleeping in snow-wallows, we only took ten minutes for pause and pabulum before hurrying into the descent.

The evening greeted our conquest with a cold cheer of wind. The clouds sank before us into grey turbulent seas surging in the gulfs and spaces of the valleys, and the sun set itself to fight off our inevitable darkness with a luminous splendour of attacking colour impossible to reproduce. Long sword-like rays of tawny, purple and crimson flame seemed to stab the oncoming gloom into islands of angry hesitation. The rising waves of mist flushed passionately at their touch with the rose-light of dying ashes, and for a long moment we each of us saw our own full shadows thrown vividly on the eddying surface and surrounded with coronals of rainbow fire. Then the waning colours melted into an even calm of faint, exquisite lilac shadow; the dim quivering green radiance of the after-glow faded in the last leaden velvet of twilight, and darkness took up the battle which the mountain had all but abandoned.

In the meantime however we had made very rapid and rather contemptuous tracks down the usual ridge, towers, and slopes towards Ferpècle, and we were well off the rocks and on the upper hanging glacier by the time the night had got respectably going. Here we paused to light our lanterns. The guides were sleepy, and the process involved a lot of aimless circulation. If five men on a long rope really set themselves to get entangled the resultant complication can be made to pass human comprehension. The little lamps danced furiously round in the darkness in a sort of mazy, fiendish *can-can*, to the accompaniment of three separate monotones of patois curses. I was so helpless with laughter that it was sometime before a general disropement could be suggested as a simple solution.

Then the guides took their revenge, for in a conscientious search to find tracks which should facilitate our path down the ice-falls they forced us to plough wearily across interminable snow slopes almost to the summit of the Col d' Hérens, many heavy uphill miles out of our course, before some traces kindly revealed themselves to our farthing dips. We were all now somewhat languid, and a little of the flow of gushing amiability had dried up in our small-talk. Ponderously we plodded down the infinite glacier. Dimly I seem to remember sinking once to the armpits in a covered crevasse and hearing that musical tinkle of breaking crockery, familiar to most of us, echoing far beneath my boot-soles. I accepted the fact with philosophic apathy until the incompetent guide, now completely incapable and staggering heavily, growled an imputation on the precision of my steps. Then I woke up and spent a happy half hour in icy sarcasms about angels and fools. The glacier path seemed even more eternal than the glaciers. Mind and body were both uneasily asleep to the rythmic beat of our boots. The length of the path and the elusiveness of the hotel were our only thoughts,—or rather nightmares; they clanged like deafening bells in the brain. I believe we occasionally spoke, but thought was so resonant that I sometimes felt unsure whether I was speaking or thinking, and caught myself once or twice finishing a half-thought aloud. But I do not believe Mackay noticed anything singular, and I have no recollection of his making any memorable contributions to the discussion. When we reached the hotel, the door was, not very surprisingly, locked. One guide tried the handle, but was so overcome with the hopeless disappointment that he sank asleep on the doorstep. Mackay shewed the gallant heroism of a Scot. I can see him still swinging his axe heavily in the moonlight, and battering with sleepy monotony and fearful animus upon its groaning panels.

We were most cordially welcomed, and only implored—after all this assault—not to speak too loud and waken the children.

We hauled in the sleeper, and a second guide fell asleep beside him across the table. It was then past 3 a.m. We had been climbing continuously for 26 hours, with only half-an-hour's halt, and practically all that time in very exacting circumstances for muscles and nerves. Training however, is a triumphant tonic. At 9 the same morning Mackay and I were tramping down the 16 miles to Sion, leaving the guides to their much-needed beauty-sleep. At the fall of the valley, Mackay, with incipient snow blindness and the journey to England before him, caught the post and joined the pleasant memories, while I sat down and steadily ate out the hotel and the village, until the cool of evening and a mule-barrow floated me down to Sion, thence along the valley by railway, and up again on foot to Bel Alp, in darkness and a much disputed 'shortest time.'

And so in spite of all my efforts I have had to bring our flight safely to earth again. As you knew all along I should, but as we did not always so dully anticipate. That is what makes it so hopeless to give actuality to the story of an ascent. Half the joy of climbing lies in its uncertainty. Not the uncertainty of ever returning: to climb on such terms would be brainless bravado, such as is only found in certain writers who climb with their pens in our magazines, and whose contributions would be more happily placed among the advertisements. I mean

the uncertainty of the explorer or the sportsman: the uncertainty of reaching your goal in the time you ought to, by the way you want to, after the fashion that you should, and with the security that you must.

If we sometimes climb without guides, it is not in order to evade rules or increase risk, but because we had rather lose the game independently and sportingly, compelled to turn back by the time-limit or by our own strict rules, than pull off a dozen inevitable wins, hauled in the train of professionals who know all the tricks of the game and play only for the stakes. If again, when we take guides, we like to launch them at new routes, it is with the same hope of introducing a harmless uncertainty into the result and of taking a larger share in the game ourselves. I am not preaching guideless or brainless climbing. I look upon a climber with a propaganda as a proper goose. I am merely indicating, with due reservations for inexperience, that the better you know the rules and the form of the players the more interesting the finishes you can produce by a little careful handicapping or a discreet choice of ground.

Romance and novelty alone can give us the full release we desire from our spiritual—and financial—depressions. If ever any more of you perpetrate books on climbing, may I suggest to you a title,—"Bolts from the Blues." We climb for pleasure. We ask of mountaineering, not the license to dance upon a tight rope or to brandish an aneroid barometer, but the setting of a fairy-tale, in which we can feel ourselves the Youngest Prince, with each boot a Seven-leaguer and our old felt hat an Arabian Night-cap.

If the guide, the tripper and the bottle chase Puck and Ariel from our Macadamized Alps, the prince has got to pursue them up the untrodden way, across the remoter ranges or among the ever new mysteries of our own shadowy hills. The wicked Elder Brother, who has our sympathy but not our respect, too often tries to overtake these Fairy experts by foolish short-cuts through difficulties and dangers, before he is master of himself or of our magic art. The True Prince, properly instructed by our god-

mother of practise and precaution, can hear their steps as clearly on the 'brante hylle-side' as in the strenuous gully, and only asks for the removal of the noisy philistine and the noisome picnic-refuse to let him catch the trailing end of their enchanted 'rope.'

I will give you my moral in the words of a 16th century traveller, to whom those mountaineering sprites proved most faithful guides among the Mountains of Romance we all are seeking:—"Who is so tender, effeminate and cowardly, whom the heat of the sun, the cold, the snow, the rain, hard seats and stony pillows will not make more courageous and valiant? Who so simple and improvident, whom the wonderful cunning of innkeepers and the great dangers of his life will not stir up to vigilancy, prudence and temperance? . . . . What I pray you is more pleasant, more delectable, and more acceptable to a man than to behold the heighth of hills,—as it were the Atlantes themselves of heaven? . . . . to see the mountains Taurus and Caucasus; . . . . to view the hill Olympus; . . . . to pass over the Alps; . . . . to climb up the Apennine promontory of Italy; from the hill Ida to behold the rising of the sunne before the sunne appears; . . . . to view Pernasse and Helicon? Indeed there is no hill which doth not contane in it some most sweete memory of worthy matters."

SPELEOLOGY: A MODERN SPORTING SCIENCE.

By E. A. Martel.

(Read before the Yorkshire Ramblers' Club, Nov. 22nd, 1905).

In the most remote ages, as far as we can learn, caves and springs always aroused human curiosity.

Caves, that is, the natural holes in the earth's upper crust were considered, down to the eighteenth century, merely objects of mystery and terror, fable and fancy.

Springs were deified, consecrated to nymphs, and because of the supply of pure water they afforded, constantly considered one of the best gifts of mother nature.

Modern Science, by putting us in possession of part of the secrets so long retained by underground waters, and by proving their close connection with caves, pot-holes, springs, etc., has singularly altered these ancient beliefs.

I intend to tell you briefly how this particular subject of underground research and subterranean exploration ("Speleology," that is the Science of Caves), now carried on in France for some twenty years, has become, as a sub-division common to Geology, Physical Geography, Industry, and above all, Public Health, a very technical, practical and useful branch of human knowledge. But before doing so you must allow me to give you a few data of historical information on the matter.

The first really scientific book on Caves was the "Beschreibung von Neuentdechten *Zoolithen*" by the German Dr. Esper, published in 1774. The author dealt therein with the large bones found in the Franconian caves in Bavaria, near Bayreuth, especially at Gailenreuth, bones previously thought to be those of an extinct race of human giants. He believed and asserted that they were actually the bones of extinct animals—cave bear, etc. On the basis of these observations the great French scientist Cuvier, after a visit to Gailenreuth, took upon himself to found the science of fossil animals, I mean Palæontology. Soon after (in 1823), the Englishman Dr. Buckland made himself famous by his book "Reliquiæ Diluvianæ," now of course somewhat out of date, though still valuable because of its account of curious finds and observations in English and Bavarian Caves.

To the Palæontological side of the subject was soon added the anthropological one by the Belgian Dr. Schmerling in his "Recherches sur les Ossemens Fossiles de la province de Liège 1833-4, and the Frenchman Boucher de Perthes, who both first proved the existence of the fossil quaternary (now called pleistocene or paleolithic) man. Thus another science was formed, the Pre-historic or Paleœthnology.

A list of all the distinguished men and precious books that have made these matters thoroughly known would prove inexhaustible. I would recall only the last and suggestive discoveries of prehistoric paintings and drawings in the Spanish and French Caves of Altamira near Santander, La Mouthe, Font-de-Gaume, and ten others in Périgord. For more than a century and a quarter these dens and grottoes, the whole world over, have been eagerly dug in search of fossil men and beasts. Distinguished English names were also associated with finds of this kind, Lyell with his "Researches on the Existence of Man," Falconer, Pengelly, Prestwich, Phillips, and many others amongst whom I would specially mention Professor Boyd-Dawkins, whose most valuable books "Cave Hunting" (1874) and "Early Man in Britain" (1880) deserve high praise, and Professor McKenny Hughes, whose lecture "On Caves" to the Victoria Institute in 1887 was, in part, full of really prophetic ideas relative to underground waters, ideas which have been proved practically true by actual exploration since its delivery. But if it be true to say that other observations had been made previously in caves, such as those on their special kinds of fauna, to which space will not allow me to refer, it must be acknowledged that concerning Geology and Hydrology—the true origins and the real functions of caves as waterways and water reservoirs—so many things were, up to the last twenty years, unknown or wrongly explained, that since 1883 in

Austria and 1888 in France, Speleology has given us a quite unexpected harvest of new facts. This process was realized by special and dangerous explorations, by the descents of huge natural pits—in England known as "pot holes" and on the continent generally as "abysses" and also by navigation of underground rivers, too deep, too long and too dark to be swum or waded.

Of course, many previous attempts of the kind, some quite successful, were long ago made in such pits.

Macocha (Moravia) in 1748 by Nagel, Eldon Hole (Derbyshire) in 1770 by Lloyd, Tindoul (France) in 1783 by Carnus, Trébic (Austria) in 1840, by Lindner, Alum Pot (Yorkshire) by Birkbeck and Metcalfe (1867-8) and by Professor Boyd-Dawkins (1870) and Piuka Jama (Austria) by Schmidl in 1852, but all these pits were at least dimly lighted down to the bottom, except the Trébic one, nearly 1050 feet deep. The descent of this, the deepest of all abysses yet descended, was however, accomplished as an industrial hydraulic undertaking after eleven months of hard manual labour.

Concerning rivers also, the Austrian Dr. Schmidl long held the record for underground canoeing by his splendid finds in the Adelsberg district in the middle of the last century, as described in a most excellent work "Die Höhle von Adelsberg" (1854). But in spite of the efforts of these worthy pioneers, the largest and the most instructive parts of caves, pot-holes and underground rivers remained, and still remain in abundance, to be discovered and explained. It is admitted that the exploits of the three Austrian tourists, Hanke, Müller and Marinitsch opened the way in 1883 to a new kind of deep exploration by succeeding in visiting the grand abyss of Kacna Jama exactly 1000 feet deep, and the colossal river of the Recca in St. Canzian, under roofs 300 feet high and over waterfalls of 30 feet. Though begun over 67 years ago (in 1839), all the recesses of these two huge cavities have not been entirely explored, and even 3 years ago (1904) a magnificent stalactite cave was found very high in the vaults of the Recca Grotto. In 1886 the Austrian Government ordered investigations to be

Photo by E. A. Martel.

THE GREAT STAIRCASE, PADIRAC.

officially pursued in Karst and Bosnian-Herzegóvina by the Engineers Putick, Hrasky, Ballif, and others for the purpose of preventing floods etc. The work of these three Austrian cave hunters was the signal for a really methodical organization for the pursuit of underground explorations and especially for my own, begun in 1888, and since then annually pursued through the whole of France and the chief countries of Europe.

It would take too long to give other names and dates: I will only claim for myself the idea of using for Speleological purposes the telephone (to go down the abysses) and the folding canvas canoe to paddle through both lakes and rivers. Most necessary and useful these articles have proved, leading from time to time to the discovery of some mysterious marvel or some valuable fact of scientific importance. The boats are of different patterns, made by Osgood & Co., of Battle Creek, Mich: King, of Kalamazoo, Mich: and others in America, followed by Berthon* and others in France and Europe. They weigh from 40 to 60 pounds, can be put together or taken apart in a few minutes and packed either in a wooden box or in canvas bags. Wherever an underground passage is found to be barred by deep pool or stream we have the boat lowered down, put it together, and paddle on into the unknown darkness.

In deep chasms, generally somewhat widened at their base, the voice gets lost in its own echo, words becoming quite unintelligible at a depth of from 100 to 150 feet. This inconvenience much hampered my first explorations in 1888, but the following year we obtained striking results with the aid of a telephone, using a very light apparatus (14 ounces in weight and 3 inches in diameter) and as much as 1,000 feet of double copper telephone wire. Thus our words carried clear and distinct from the bowels of the earth, linking the explorers, far from sight, with their comrades in the sunlight above. This, I believe, was the first application of folding boats and telephone to underground exploration. I have not heard that the

* Berthon was an English clergyman who lived at Romsey in Hants.

latter has yet been used for this purpose in America, but I am sure that it will there prove successful.

And now I turn to two important results (among many others) of the notable feats of modern Speleology during the last twenty years. Putting aside all the newly ascertained facts about the formation and origin of caves, such as had been foreseen by Daubrél, Hughes and Boyd-Dawkins whose exact theories received the most definite and practical confirmation, I will deal with only these two somewhat terrifying proposals.

(1). A very great number of so-called springs, that is, up-risings of clear water, apparently pure and suitable for drinking, are not real purified springs, but often poisonous waters contaminated by exterior pollutions, and holding the germs of most dangerous maladies, such as cholera, typhoid fever, diphtheria, etc.

(2). Our old Earth is getting dry over the greater part of its surface; water sinks in it through the everywhere widening and deepening cracks, joints and faults of the rocks to unknown depths; everywhere growls the terrible threat of a shortness of water; humanity will die of thirst! This we can confidently assert and forecast. How can it be shown and proved?

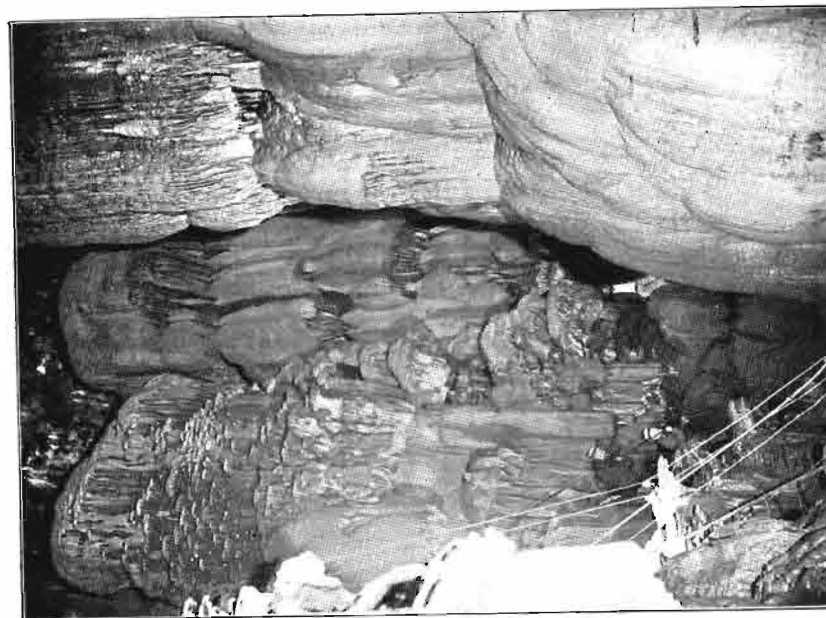
Simply by this fact, that the greater part of the earth's crust is composed of cracked rocks, impervious in themselves, but quite traversable by water through their innumerable crevices. Limestone (of all geological ages) and chalk are specially affected by this characteristic and are also typical ground for caves, but certain crystalline rocks, even granite and porphyry, are also cracked, and from this fact two consequences have resulted. The first and most immediate one is, that all waters, either rainfall, streams, or rivers swallowed up by rock fissures, carry with them all the impurities they have collected on the surface of the ground. The worst kinds of pollution, microbe and ptomaine, coming from dung and sewers, from unhealthy people, or dead beasts, from cemeteries and every sort of sewage, are freely introduced into the caves and underground rivers so numerous in limestone and chalk districts. There they cannot become filtered

since the crevices are too large to allow it, and such filtering can only be accomplished by fine sand. In other words, cracked rocks are not filters, and water pouring out of them at the foot of table land or mountain contains the whole of the pollutions swallowed higher up by the pot-holes and lesser crevices. It is now proved throughout the whole world that those seemingly clear springs so large and abundant in limestone districts are deceptions, not actual springs, and not pure drinking water suitable for the supply of cities. I no longer give to such risings the name of springs, but of *resurgences*, from the Latin *re-surgere*, a more or less polluted flood which comes from the open air and returns to this same air, lower down, after an underground journey, shorter or longer, but (with very few exceptions) quite lacking the purity which it was previously everywhere thought to possess. In France geologists have recognized these facts and accepted this change of name for a limestone spring to *resurgence*, and the French Government, anxious about this new scientific announcement, five years ago established decrees and laws for the protection and examination of drinking waters. Even in the smallest village in France, a person is not allowed to draw water from a spring or to dig a well without it having been previously examined and reported on by an officially appointed geologist and an acknowledged bacteriologist, who both decide whether the particular water may be used or not for drinking purposes. It is also forbidden, under severe penalty, to throw dead animals into the depths (now in some parts fathomed and visited), of these abysses or pot-holes, which more or less directly communicate with the reservoirs or springs. It was my great satisfaction, after long subterranean work, to see this conclusion so publicly acted upon. Much of course still remains to be done in this way for the greater benefit of the public health, but these matters are going on satisfactorily, though slowly. Two years ago I was called to the Western Caucasus for researches of this kind on the beautiful eastern shores of the Black Sea, and in the summer of 1905, the French Government gave me a

mission for an important and most interesting water investigation concerning the large town of Marseilles and part of the Pyrenees. Perhaps in England, where it is usual to drink artificially filtered river water, facts of this kind may be considered less important ; but this custom gives rise to inconvenience and sometimes danger, as huge artificial filters are most costly and subject to occasional accident. Good spring water always remains the best of all ; but it must be most carefully chosen, and this proves now to be immensely difficult throughout the greater part of the geological formations.

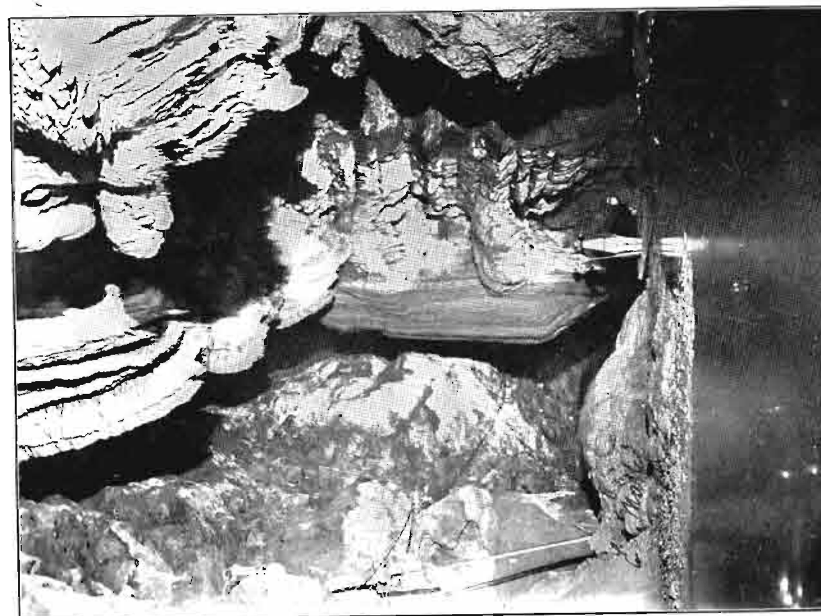
The second consequence of the rock cracks is a gradually increasing shortness of water. England also suffers greviously from this inconvenience, and I have read much about it in the report of the Commission on Water Supply appointed by the British Association and in the excellent papers of Messrs. Whitaker, Cartwright and others. Many think, I know, that excessive industrial pumping from underground water is the cause of this shortness. Partly it may be, as well as from other causes, the absence of snow for several years, deforestation, the present diminution of rain—according to the famous Bruckner's period of 15 years dry and 15 years wet (a theory with which I am not in agreement), the increase of land culture, which augments evaporation, etc. But I think, and have found everywhere, that the deepening and widening of rock crevices by water erosion and corrosion, that is, mechanical and chemical destruction, cause water to descend lower and deeper into the bowels of the earth, in such a way that, for France at least, I have plenty of proofs, too numerous to be produced here, of the general lowering of the spring and well levels.

To correct this peril of the shortness of water, to stop its descent, especially through limestone, two means are at hand. Firstly, the making of underground explorations to examine the details and local ways and courses with a view to stopping the water losses,—and secondly, the replanting of trees in order to diminish infiltration and to regulate the outbreak of large and capricious risings. If



Photos by E. A. Martel.

Top of Crocodile Pass.



Rainy Lake.

PADIRAC.

these two means are not everywhere energetically employed, many centuries will not elapse before, in large parts of the world, men will die of thirst and the earth itself perish of dryness. Central Asia and the Sahara already show how dreadful such a future may be, and the reports of the most recent travellers establish the fact that Lake Tchad and other African Lakes have in late years diminished with increasing speed. It would be easy for me (if time allowed) to prove that a process of universal drying up, much quicker than is generally supposed, is, alas, no dream or fancy.

Such are the two practical and most important attainments of Modern Speleology.

Moreover the systematic study of pit and cave streams throws much light on the questions of their origin and natural use. Everywhere it was formerly supposed that the chasms were thousands of feet deep, and that they always communicated with rivers below. This is not so. Such communication exists only in those caves (about 10 to 20 per cent.) the bottoms of which have not been closed by the falling or throwing down, during centuries, of earth, stones, trees, carcasses, and all kinds of rubbish. Very often rain water from above is able to find its way at the bottom through crevices too narrow for man to follow, but it is certain that the limestone pits drain the surface waters, that caves act as cisterns for percolating rivers, and that these underground-born rivers are finally discharged by large so-called springs. On the way, narrow channels or siphons form real water pipes—to be found everywhere—which prevent the cave cisterns from emptying themselves too quickly, and which act exactly like floodgates or bungholes. Such siphons generally stop explorers in their stygian navigations at a greater or less distance either from the mouth of a swallow hole or from the arch of a penetrable cave or spring. I have met them in almost all European water caves, the most typical of all being at Marble Arch Cave near Enniskillen (Ireland).

Natural pits are not generally due to the falling in of the surface, kinds of manholes marking the course of

subterranean rivers: they are rather simple fractures enlarged by swallowed water. Many of them, especially in England where the rainfall is heavy, still drain rivers and rain water, conducting them to caves which act as cisterns or stream-beds, the excess discharge forming the so-called springs or risings. But caves of which the complete passage has been made from the swallow down to the *resurgence* are very scarce; one of the most typical is the Bramabiau in France, with a river half-a-mile long, a difference of level of 300 feet and four miles of lateral caverns which are partly filled up in times of flood.

The Meteorology of caves shows also that their temperature is not always uniform or unchangeable as was so long believed, and the variation of temperature may be used, as I have proved, to distinguish real springs from dangerous *resurgences.*

This science also concerns large public works, and not long ago the question was asked of my friend and disciple Professor Fournier in Besançon and myself, if dangerous quantities of water were likely to be encountered in piercing the three large tunnels for the Faucille Railway, leading direct from Dijon to Geneva. From our knowledge of underground Jura, we were both led to conclude that such a danger was improbable, and that nothing like the disastrous hot and cold waters of the Simplon would be found under the Jura. Ten years ago I also went underground successfully in England and Ireland; of this I have only a few words to say, but I returned with this conviction that lots of caves and pot-holes might in your own country be profitably explored, not so much as a sport—as they have partly been by many courageous tourists and clubmen in Yorkshire, Derbyshire and Somerset, but more in accordance with the new rules of scientific Speleology. The practical and scientific points of view certainly deserve to be still more clearly developed, as is being done everywhere else in Europe.

We will now consider rather this sporting and picturesque side.

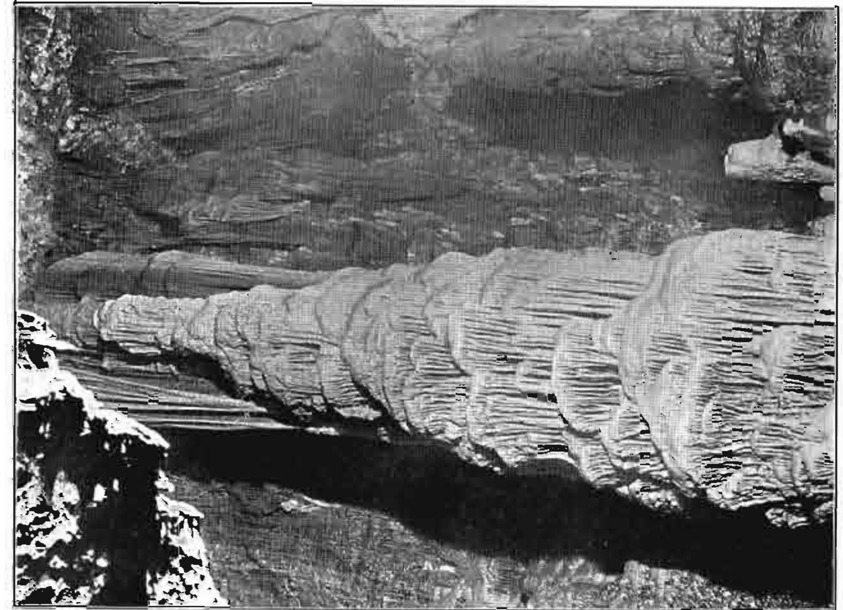
Firstly. The methods now practised in descending deep pot-holes and in the exploration of underground rivers previously forbidden to men before the telephone and the portable folding canoe, above referred to, were used:—As the best proof of the efficiency of these new means of investigation I will only mention that, in 1893, they enabled me to discover, through a pit, a prolongation of over a mile of subterranean river and the direct connection between two distant caves in the underground course of the Pinka at Adelsberg, Austria, although this cave had been most accurately investigated by many scientists since 1818, and particularly by the renowned Doctor Schmidl (in 1850).

Secondly. A very brief review of the caves newly discovered throughout Europe during the last 20 years (chiefly by Austrians and myself) with their marvellous stalactites and subterranean pools, which far surpass those of the previously most celebrated caverns. Since 1883 Pot-holes or Abysses have been descended to some 1,000 feet, and this forms of course, a most exciting enterprise.

The real danger of descending pot-holes (which has been called Mountaineering reversed) is the falling of stones detached from the walls of the shaft by the friction of the ropes. The two deepest holes descended, over 1,000 feet, are in Austria, but these are in several stories separated by terraces; the longest in one drop, is that of Jean Nouveau, (Vaucluse, France) a perpendicular shaft of 535 feet, the bottom of which is full of loose rocks through which it proved impossible to pass except by risking a complete and crushing collapse of the entire mass. Two other pits, one in the French Alps and one in the Venetian Alps are reported to measure at least 1,500 feet, but these have not yet been visited. Further, concerning other abysses, many scores of them are over 600 feet, one of the deepest being in France—the Chourun-Martin, in the Alps. I discovered and fathomed this in 1899 to 1,000 feet, and think it probably still 500 feet deeper. We could penetrate it only to a depth of 250 feet on account of the appalling amounts of stone and snow giving way and plunging down the terrible chasm at

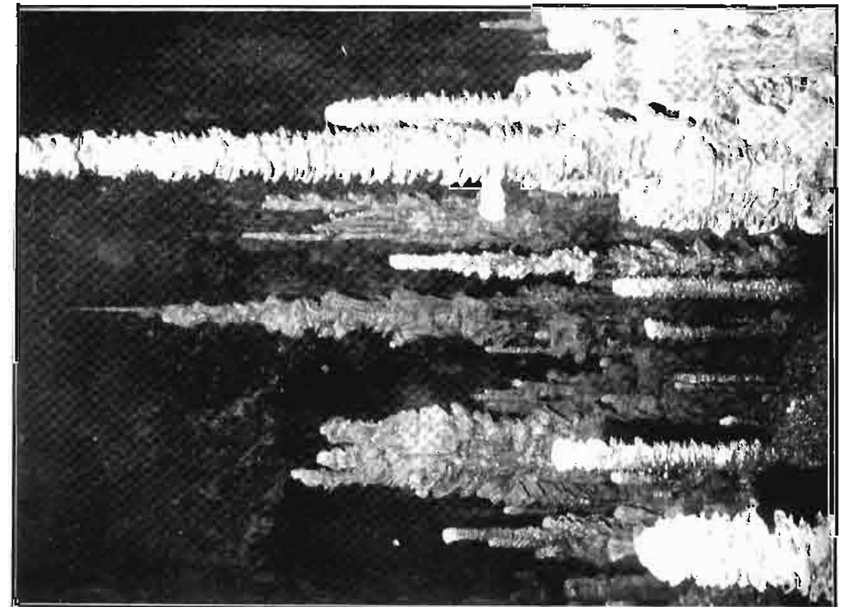
every motion of the ropes and descending apparatus.

Of course it is no very pleasant sensation to let one's self be lowered, at the end of a rope, down a very long, quite vertical rope-ladder, as in the 535-foot single-drop shaft of Jean Nouveau, or through several stories of the more usual superimposed and bottle-shaped pits; or, as at the bottom of the 300-foot subterranean waterfall of Gaping Ghyll, very often to find a pool, blocked with huge stones or choked with clay, or perhaps an accumulation of fatal carbonic acid gas, and under a continuous bombardment of pebbles detached from the side of the shaft by the motion of the rope. But what of all these risks and difficulties when such a first descent discloses to the eyes, at the bottom of an *abîme*, a gigantic reservoir like that of Rabanel (Herault, France), 700 feet deep, or a cavern like that of the above named Gaping Ghyll, or a 4-mile avenue of first rate geological interest such as Bramabiau (Gard, France), or the refreshing grottoes, rivers, and lakes of Padirac, Dargilan, Aven-Armand, in France, or Cueva del Drach (Balearic Islands), the whole gleaming gloriously under the flashing magnesium light, weird to the tourist, exciting to the explorer. These four caves are, with Adelsberg (Austria), Agtelek (Hungary) and St. Canzian (Austria), the most glorious of all known caves, on account of their ornamental stalactites and stalagmites. Aven Armand (680 feet deep) is the most magnificent of its kind, with its real forest of 400 stone trees varying from 3 to 100 feet in height, the latter the highest stalagmite in the world. Next come the Astronomical Tower, in Agtelek, 80 feet high, the Spires of Dargilan, 60 feet high (all correctly measured with air-balloons), the glories of Calvanen-berg in Adelsberg and the millions of thin needles reflected in the sea-caves of Cueva del Drach. Padirac is perhaps the most charming and majestic of all grottoes, with its underground river a mile-and-a-half long, numerous lakes, vaults up to 300 feet high, most splendid stalagmites and dozens of waterfalls, all now very easy of access by means of staircases, rowing boats and foot-paths, and visited by 8,000 tourists a year. Less charm-



THE SPIRE, DARGILAN.
(60 feet high.)

Photos by E. A. Martel.



FOREST OF STALAGMITES, AVEN-ARMAND.
(One, 100 feet high, is the tallest known.)

ingly ornamental but still grander, with a dreadful subterranean torrent and vaults—also 300 feet high, is the Recca cave at St. Canzian a mile-and-a-half long, whose exploration required sixty-five years (1839-1904) and is perhaps not yet finished.

In England especially, before my own underground researches began, only two pot-holes of known importance, Eldon Hole (Derbyshire) and Alum Pot (Yorkshire), to which I have already referred, appear to have been descended. Many unsuccessful attempts were made in Gaping Ghyll and Rowten Pot (Yorkshire), but since my own lucky first descent of Gaping Ghyll (1st August, 1895) these explorations have taken a most regular, exciting and profitable course in Great Britain. I will not venture to summarise the valuable underground work so well and thoroughly reported in this Journal, of Messrs. Calvert, Gray, Green, Booth, Parsons, Cuttriss, Constantine, Slingsby, Moore, Barran, and others in Yorkshire; Baker and his friends in Derbyshire; Balch, Bamforth in the Mendip Hills (Somerset); Dr. Scharff, Plunkett and Lyster Jameson in Ireland, etc. I will only compliment them on their many courageous undertakings and wish that they may carry them on with ever increasing success. In the British Isles, certainly, most interesting cave discoveries still remain to be made.

One word more about the gigantic American caverns—Mammoth, Colossal, Wyandotte and others. Certainly they are the largest, though not the finest, existing. For instance, the real dimensions of these caves have been very much over estimated, because no accurate topographical surveys have ever been allowed by their owners, who fear that careful investigation may result in the discovery of new entrances to the caves and thus deprive them of the annual benefits brought by visitors. It was recently made clear by the enquiries of Dr. Hovey,* Messrs. Ellsworth Call, Le Couppey, De la Forrest † that Mammoth Cave is far from containing the 220 miles of

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* "Celebrated American Caverns," 1882, re-edited 1896.

† "Quelques grottes des Etats-Unis d'Amerique," *Spelunca*, No 35, Novembre, 1903.

galleries stated in some books of geography, or even the 150 miles estimated by D. D. Owen (Geological Survey of Kentucky, 1856) to which the number was afterwards reduced, and that it is much more likely the whole extent of its known and penetrable corridors and avenues does not exceed a total length of 30 miles, which still leaves Mammoth Cave the longest cave in the world.‡ Wyandotte Cave, reputed to be nearly 24 miles long, appears not to exceed 9 miles. The "bottomless pit" in Mammoth Cave, formerly said to be 200 to 300 feet deep was only 105 feet by Hovey's measuring line.

In conclusion, for other particulars concerning the special aims and desired extension of scientific cave hunting I would only refer you to the publications of the French Société de Spéléologie,* founded by myself, at Paris ten years ago, to collect all the information on the subject that was formerly scattered among various publications. The sixty papers already issued by this society under the name of *Spelunca* (a review of speleology) show plainly that it deals with something more than mere sport, and not only with the matters considered above, but also with the other sciences, palæontology, and zoology, thus making it an interesting study and a useful thing in itself.**

‡ The largest cave in Europe (Adelsberg in Austria) is only a little more than 6½ miles (10 Kilometers) long; second to it comes the newly discovered Holl Loch (Switzerland) with nearly 6 miles, which may prove the first European cave when the present explorations have been finished; and third, the Agtelek Cave (Hungarian) with 5½ miles (8,700 meters.)

* 34, Rue de Lille, Paris. Fee for membership - 12 shillings a year. Further information may be obtained from the treasurer, M. Lucien Briet, Charly (Aisne), France.

** See also E. A. Martel "Les Cevennes" 1890, "Les Abimes" 1894, "Irlande et Cavernes Anglaises" 1897, "Padirac" 1899, all published by Delagrave, Paris. "Le Spéléologie," 1900. "La photographie souterraine," 1900, both published by Gauthier Velars, Paris. "Le Spéléologie au 20e Siecle," 1905-6 (*Spelunca*, Memoires 41-46, 812 pages) "The Descent of Gaping Ghyll," *Alpine Journal*, 1895.

SOME CAVES AND POT-HOLES IN COUNTY FERMANAGH.

By Harold Brodrick.

That "most disthressful country" Ireland does not by any means present such a variety of geological formations as does the neighbouring island of Great Britain; it does, however, possess in a very marked degree that rock so beloved by the ardent cave-explorer,—Carboniferous Limestone.

The greater portion of Ireland, that known as the central plain, which rarely rises above 300 feet, consists of a vast hollow of limestone covered for the most part with drift and peat. On the borders of this basin, where the limestone is more elevated, it is more exposed and it is in this raised portion of the country that we find the caves.

In the County of Fermanagh there occur two of these upland tracts, the one Belmore Mountain which rises to a height of 1,300 feet and the other Cuilcagh which reaches the respectable height of about 2,200 feet. In each case, as with Ingleborough, the upper portion of these two hills is composed of Yoredale rocks on which the streams form, to sink into the ground on reaching the limestone. Until last year no exploration had been attempted since 1895 when Mons. E. A. Martel explored a number of the caves and pot-holes, publishing his account of them in "Irlande et Cavernes Anglaises," (Paris, 1897). His description of the caves clearly indicated that, although he had done extremely good work considering the limited time at his disposal, there remained a large number of problems not fully worked out and, as now appears, a still larger number of caves and pot-holes which were absolutely untouched. Even now one more expedition at least will be required to work out the Marble Arch district fully and, this being so, I propose only to describe those caves the exploration of which we completed and to omit all account of those which we only partially explored.

At Whitsuntide, 1907, a party of strangers in a wagonette which was piled up with coils of rope, life-belts, cameras, rope-ladders and other things not usually employed in picnicing might have been seen rattling out of Enniskillen towards Boho, which, situated at a distance of about ten miles to the west of the former town formed the most central position for the more or less scattered caves of the district. The four members of the party, who hailed from London, Liverpool, Southport and Dublin, first turned their attention to Noon's Hole or Sumera, a deep pot-hole with a grisly reputation due to the fate of an informer who was thrown down about a century ago. The hole runs East and West and receives a small stream from the West, the waters of which are said to reappear at Arch Cave. Our first step was to dam this brook in three places in order to obviate the discomfort which M. Martel suffered from in the way of falling water, and in consequence of which he mistook the true configuration of the hole, which really consists of three shafts opening one into the other. It is also enormously deeper than he estimated by plumbing, his plumb-line having stopped on a bridge. Our rope ladder was only 70 feet long, and as we could hardly make up more than 200 feet of life line, Mr. Lemon, of Enniskillen, kindly lent us two 120 feet ropes, which we used to raise and lower the 70 feet ladder. It was the lot of our London member to make the first and only descent, and this only as far as the second bridge—143 feet below the surface. The top pitch is 90 feet in depth, this measurement including a top step ten feet in height, at the base of which is a wide ledge. After the first thirty feet the explorer saw that he was in a magnificent pot-hole, far finer than one would dream of expecting from the insignificant opening on the surface, and more than entitled to M. Martel's description—" une colossale marmite de géants." The shaft bellied out beneath the mouth, and the walls were grooved with giant flutings formed by the tremendous rush of the flooded brook. On reaching the last rung of the ladder it was necessary to scramble for about ten feet down the polished ledges on to

what appeared to be the bottom of the pot. This floor, 90 feet below the lip, was in reality merely a bridge in which were three openings, the two smaller of which were probably seen by M. Martel, for he says that the hole below him was entirely occupied by the falling stream; this could not have referred to the main hole on the North which could hardly be filled even by such a flood of water as would stun a man a few feet below the lip of the pot-hole. The rope-ladder was then lowered down this northern hole and, after descending it, our man (E. A. Baker) found himself, at a depth of 143 feet from the surface, on a second bridge which spanned a still greater drop. This bridge was rifted in places, and stones thrown down went hurtling to a depth which could not be less than 100 feet and might be even equal to the two upper pitches taken together. These stones fell into water with the reverberating boom so well known to cave-explorers. Communication between the surface party and the man below had now become impossible, except by means of whistles, so that, although the explorer would have liked to try the third pitch, a return was compulsory. A much stronger party with no lack of tackle will be required for a successful descent of Noon's Hole. After the ascent the dams were cut through and the stored-up waters allowed to rush into the hole.

On the same plateau as Noon's Hole, but directly behind Arch Cave, is the picturesque chasm of Pollanafrin which consists of a pot-hole some 30 feet deep spanned by a fine arch of rock; this was descended and described by M. Martel. The farmer who lived close by told us that one of his lambs once got into a small hole at the base of a cliff within a few yards of the main hole and was found at the bottom of a big chamber, which, he said, ran three hundred yards down the valley. A day or two later we opened this small cave mouth, which the farmer had blocked, and found ourselves in a chamber 30 feet high with a floor about 15 feet by 4 feet and a small fissure going 8 feet further in. The 300 yards had dwindled to this! The cave, with its stalagmite-coated walls, looked pretty when lighted up by magnesium.

On the same plateau, to the South of Pollanafrin, there is a hole marked Rattle Hole on the survey map and, although we were told by the "oldest inhabitant" there was nothing worth seeing there, we felt that after our experience at Pollanafrin we must see and judge for ourselves. It turned out to be a wide shake-hole with a fissure at the bottom running north and south. It was fitting that the first person to go down should be the Irishman of the party. He climbed down the long rocky slope at the northern end, the walls being from 3 to 6 feet apart, and finally reached a depth of about 120 feet, only to discover that nothing further was possible, the floor of the pot-hole being entirely covered with broken rock.

Close to Rattle Hole the Ordnance Survey marked Ivy Hole; we visited this to find that it was a large open pot-hole some thirty feet deep which could be readily walked down.

The plateau upon which these pot-holes are terminates in an escarpment overlooking the low-land, and at the base of one of the cliffs is Arch Cave or Ooghboragan, which seems to form the exit for the greater quantity of the water which sinks on the plateau above. This cave has been so well described by M. Martel that very little account of it is needed here. Within the great arch which forms the imposing entrance there is a majestic hall 80 to 100 feet high and 120 feet wide, with piles of huge boulders covering the floor and hiding the stream which is heard rushing beneath. A natural window high up in the roof helps to light this hall and gives one the idea that the cave is much longer than it really is. On clambering over the boulders the roof is seen coming down in a series of fine rock curtains, each being lower than the one in front, while the roof between them rises to a height of 50 feet or more. At a distance of 120 feet due West from the entrance we were brought up on the edge of a deep pool, the further side of which was shut in by rock. One of the party, with a life-belt on for fear of unexpected holes, waded through the south end of the pool and landed on a shoal of sand and mud, to find that there was a narrow lane of water behind the rock curtain which had, at first sight, appeared to form the end of the cave. The water in this fissure rapidly deepened and, as the walls were too close together to permit of swimming, the situation was felt to be hopeless. Climbing along the fissure was also impossible, so a careful examination was made and a small arched opening through a further rocky curtain, which seemed to lead into other similar pools, was noticed; as however this was at the further end of the deep water there was no alternative but to retreat.

The next series of caves to the south of the Arch Cave group are those at and about the village of Boho. They are all well worth a visit and none offer any difficulties. Above Boho there is a large open valley which is cut off at the village by a band of limestone rising some 50 feet above the floor of the valley; into this the surface stream sinks to emerge again at a lower level. The largest cave may be entered either from the upper or lower end: we chose the latter. We had the guidance of a gallant member of the Royal Irish Constabulary, under whose barracks the ramifications of the cave extend, who is always ready and willing to pioneer any visitors wishing to explore its intricacies. The outlet of the caves of Boho is entered from a deep ravine which is most easily reached by way of the police-station. After claiming the assistance of our guide we descended a steep bank and, on reaching the dry stream bed, made our way up its slope. Here a sheer wall of rock some 50 feet in height confronted us over which, in times of flood, the river pours and forms a magnificent waterfall. It was now bone dry, the river finding a lower course. Skirting the wall on the left hand side we found on the top a vertical rift in a still higher cliff; this is the true exit for the waters in flood time. The cave mouth is 5 feet wide and about 20 feet high. Through this we walked and found ourselves inside a spacious vault flanked by jointed pillars of limestone. The limestone throughout the greater portion of the cave has been laid down in beds ranging in thickness from a few inches to two feet which give the chamber a very curious appearance, as the stone has weathered considerably along the bedding planes.

Our way lay clear before us and we followed a straight and lofty passage for 40 yards until we were brought to a halt by its division into two branches. Looking backwards from this point the daylight was still visible in the distance. Next the question arose, right or left? Our guide, after consideration, finally decided upon the left as being the nearer way through to daylight, so that way we went and, after twisting here and there, finally struck into a tunnel running in the same direction as the "daylight" passage. We at last reached a point 120 yards from the entrance where the way again divided into two. After exploring in both directions we found that either was suitable but that the one to the left (or South) brought us into the daylight sooner. We traversed this and emerged under a wooded bank in the field just above the road leading to Carn House and close to Boho Post Office. Looking about the meadow we discovered that our way of exit was not the only one out of—or rather into—the cave. There were no less than seven openings, all about 15 feet below the level of the ground. We explored them each in turn, and found that they all led back into the passage we had just quitted; some directly and others indirectly by various twists and turns. The total length of the underground passage from entrance to exit we made by rough measurement to be about 150 yards; but this figure by no means represents the sum of the many ramifications of the cave, which form a regular subterranean maze, in which the explorer, unless aided by compass or guide-string, may easily lose himself. The distance on the surface between the entrance and the exit is 125 yards. When the river is in full flood, it would seem to completely fill up the cave from floor to roof; at such times the beautifully wooded ravine below the cave mouth must present an awe inspiring sight.

It will be recollected that the "daylight" passage at its termination was found to divide into two, and that we followed the left hand passage. We also explored the right hand one, and traced it finally, through many complex passages, into the straight tunnel near the upper exit. This passage was the only part of the cave in

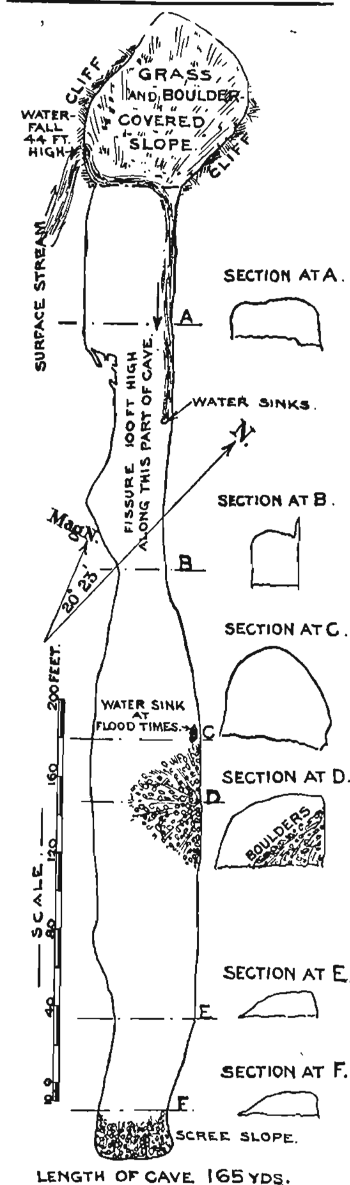
which any stalactites were found; they were, however, very fine ones and well worth a visit.

Lower down the ravine we noticed two lofty openings on the left hand side, which invited exploration. The first one would seem to act as an overflow channel when the others are fully charged. At its commencement it is 6 feet wide and 80 feet high, and can be followed in for a considerable distance until further progress becomes impossible as the roof and the floor come together. The second passage, which at its entrance is 30 feet high, soon becomes very shallow. At a higher level it seems to run above the first one just described, as sounds in one are distinctly audible in the other. We followed this passage for some distance, but soon gave it up, as progression along its stony floor by crawling was too irksome and uncomfortable.

About a mile from Boho, up the wide valley mentioned earlier, and some 400 feet above its floor, is the Great Cavern of Coolarkan, or Pollnagullum (The Hole of the Doves) as it is called on the Survey map. The entrance to this lies at the bottom of a great pit flanked on three sides by steep grassy slopes and on the fourth by a cliff about 40 feet high, over one part of which a stream falls in a silvery cascade. The bottom of the pit is strewn with large boulders masking the entrance to the cave we had come to explore. Clambering over the rocks and under an arch about 5 feet high we at once found ourselves in a lofty vault some 45 feet wide with a level floor, along one side of which the stream noisily splashed its way into the darkness ahead. As we walked inwards the roof continued to rise until, at a point 40 yards from the entrance, it attained a height of at least 100 feet. Here the cave is 30 feet wide, so that a chamber of no mean size is formed. We noticed that the stream sank at this point, although in wet seasons it would seem to flow much further along the cave. This great cavern pierces the heart of the hill in a straight line for a distance of 165 yards and, curiously enough, almost directly under the stream which afterwards flows through it. At about two thirds of the length of the cavern a pile of fallen

boulders, evidently caused by a collapse of the roof, mounts up about 30 feet on the left hand side and stretches more than half-way across the cave, which is here 57 feet in width. Looking back towards the entrance the view was superb as the daylight feebly filtered through the moisture-laden atmosphere and half illumined the dimly discerned depths beyond. At the far end of the cave we were stopped by a great mass of fallen rocks which lay piled right up to the roof nearly 20 feet above and proved an impassable obstacle.

Cuilcagh Mountain is situated some 12 miles to the South-West of Enniskillen and on its northern side three streams run down towards Marble Arch, to sink at three points about a quarter-of-a-mile apart. M. Martel gave a partial account of these three sinks and also a more detailed one of Marble Arch and Cradle Hole,* two fine caves through which a considerable stream flows. Our party explored both these latter caves but did not



* Irlande et Cavernes Anglaises, pp. 19-49.

survey them: we contented ourselves with M. Martel's plan, and, as the caves seem to have altered considerably since his visit, I propose to leave any description of them until after a further visit, when we may perhaps find more alterations have taken place. The drive from Boho to Marble Arch and back took us over four hours each day, so that, although we spent two days at the caves on Cuilcagh, we were very much pressed for time. However, we managed to explore several caves which had not been fully explored in the past and several of them not even recorded.

Our drive led us through the village of Belcoo and then along the southern bank of the Lower Lake Macnean. Shortly after passing the grand limestone cliff known as Hanging Rock, which rises almost sheer out of the lake, there being just room for the road between, we noticed a fair sized stream running from a wooded slope some 100 yards from the road and 50 feet above it, and naturally inspected its source to discover that it rose in the middle of a pile of loose, moss-covered stones, while a few yards further up the hill side there was a low arch about 30 feet wide. The cave we found there was, although small, well worth a visit. The floor immediately inside the entrance dropped about 15 feet to a still pool of water, while on all sides were steep banks of nearly black clay, of a type which we only met with in one other place (Cat's Hole), and of which we learned more by sad experience later. This cave simply consists of one chamber about 40 feet long and 30 feet wide, but it is possible that further chambers might be exposed if the mud banks were altered by a flood.

On arriving at the gate of the Cladagh glen we found Mr. Bowles the head keeper waiting for us, and a great help he was on both our days in that district, entering into the sport like a veteran cave explorer. The year seemed at its best for a walk up the bank of the Cladagh river; but beauties of flowers and trees soon palled, as we were each carrying a considerable weight of ropes, ladders, life-belts, food, and clothing. After a walk of about a mile from the gate, through scenery very similar to that of Clapham Park, we turned a corner and arrived

at the Marble Arch. This consists of a beautiful limestone arch, some 30 feet high, which spans the stream, while the sides of the glen are covered with trees, and the grass was so thickly carpeted with primroses, violets, and all manner of wild flowers that one could not take a step without the feeling of committing a sacrilege.

As I do not propose to describe our work in Marble Arch Cave itself, it will be sufficient to say that we had a most excellent time there, despite the fact of one member falling head first into deep water.

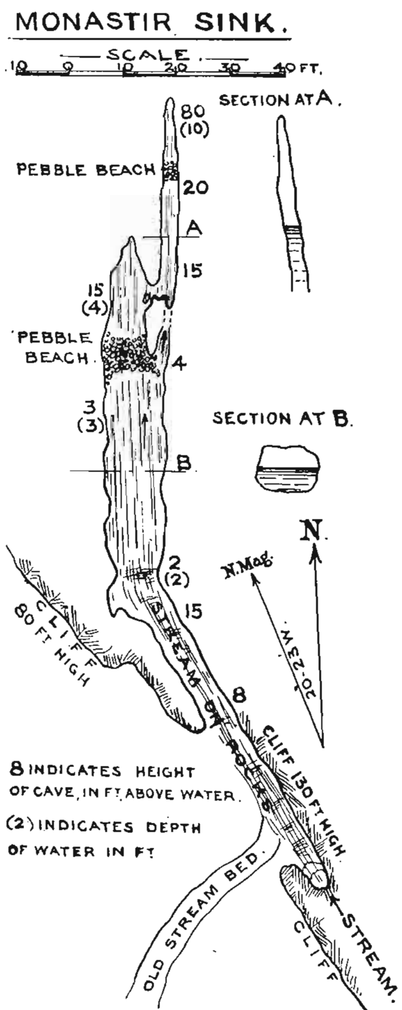
After leaving the plantation in which Marble Arch is situated the party spread out with the intention of walking up to the sink of the Monastir—the central of the three streams on the plateau. We had in view the exploration of a point marked on M. Martel's map as "Effondrement récent" and on the Ordnance map as Pollnagapple (The hole of the Horses). This was found soon after passing Cradle Hole and at first sight seemed to be simply a large opening about 60 feet deep and 80 feet in diameter in the floor of the valley. We had almost decided that there was nothing to be done here when one of the party decided that he would climb down it. This proved fairly easy and, although from the surface there seemed to be no opening at the bottom, a shout quickly caused the rest to follow. Well it was that we did so. A low arch in one corner led into a very fine cave, at least 50 feet high, with a steep rocky slope up one side. The leader climbed this and illuminated the cave with magnesium. The sight was magnificent. All the walls of the chamber were covered with bright yellow stalagmite, forming a picture such as is rarely seen. As we were leaving this chamber we heard, close to its entrance, in one corner of the main pot, a roar of running water. The sound came from the floor, from between jammed boulders, and appeared to be some depth below. After nearly an hour's work we at length cleared a passage, and the two lightest members of the party, carefully roped, made their way down. It was unpleasant work, as every rock seemed loose, but with care a depth of 20 feet was reached, and then it was considered better to return. The jammed

rocks were overhanging a vast chamber, which must have been at least 50 feet deep, while the roar of the river below had become much greater. One felt like a fly crawling in a basin of lump sugar, with the fear that at any time the lumps might collapse and carry the explorer into the depths below. Evidently the whole floor of the main pot is composed of boulders, wedged into their present position, which will at some time fall into the cave beneath and form a pot-hole some 100 feet deep. Leading into the main wall of the pot at a point some 10 feet below the floor we noticed a low bedding-cave which on further investigation may be found to lead to something of interest.

As part of our work we decided to attack the three inflowing streams in order, commencing at the most westerly, which is named the Sruh Croppa River in the Survey Map. In times of ordinary rainfall this stream sinks through numerous small holes in its bed, but in times of flood flows on and falls over a cliff some 30 feet high into a large hollow called Cat's Hole. In times of excessive flood this overflows and the water runs down the meadow below towards Marble Arch.

When we arrived at Cat's Hole we found it quite dry, and at once scrambled into it, to find an arch about 10 feet high leading into a cave which turned directly under the stream bed. This cave we found was about 40 feet high and 60 feet wide, and its floor was covered with enormous blocks of rock thickly coated with heavy black mud. Working between and over these boulders we reached the apparent end of the cave at a distance of about 75 yards from the entrance, the passage being absolutely straight for this distance. There was, however, a continuation of the fissure at the higher level and with a little difficulty we made our way along this for a further 20 yards, naturally getting thickly plastered with mud. At the end of the passage there was barely room for one person, but below was a small hole from which came the sound of running water. After clearing away a considerable number of loose stones two of the party climbed down while the third "played" them from above with the rope. The hole was very narrow and

excessively muddy and, at a depth of about 40 feet, ended in several still smaller holes, down none of which could we force an entrance. The running water sounded very clearly from here and seemed to be only a few feet away, but we could not make our way through to it. Cat's Hole is, without exception, the muddiest place we have been in, and from the similarity of the mud we came to the conclusion that its waters have their exit at the muddy spring on the main road from Belcoo, which we had visited earlier.



From Cat's Hole a short walk across country eastwards brought us to the Monastir River, a stream which seems also to go by the name of Owenbrean (The Foul River). This stream after running through a beautiful limestone gorge, the cliffs of which rise to at least 150 feet, sinks in its bed, to reappear close to the mouth of the cave which we had come to explore. In times of flood, however, the ordinary sinks are not enough to carry off the

water, and the whole valley becomes a lake of a depth, at times, of 30 feet. The valley is cut off at its lower end by a limestone cliff, which we found by measurement to be 130 feet high and overhanging at least 20 feet. At the base of this cliff are two openings. The east one is small, and from it flows the stream which sinks further up the valley. The west one, however, is about six feet wide and eight feet high, and receives the stream, which has only flowed for a few yards in the open. We found that the roof at once rose, although the passage only widened very slightly, and at a distance of about 60 feet from the entrance we were stopped by a long deep pool, which looked the more uninviting from the fact that the roof came down to within about two feet of the water level. None of the party at first cared to enter the water, so we made small rafts of bits of wood and floated them down the stream with lighted candles. This gave us a certain amount of confidence, as the stream seemed fairly slow; so after stripping, two of the party ventured in, dressed in boots and hats, in the latter of which candles were fixed. For the first 40 feet the water was about three feet deep, while the roof was just above their heads. Then they reached a small beach of pebbles and sand: here the roof rose to a considerable height. The fissure in which they were then standing ended in front and the water again became very deep, but on the right, and just beyond the pebble beach, was a low opening. The men worked their way to this, clinging with hands to grips on the walls while their legs dangled in deep water. The opening led into another fissure parallel with the first, and in this they had their greatest difficulties. The bottom could not be touched, the roof was out of sight above, and the walls were so close together that if either man had missed his hold on the wall he would have found difficulty in swimming, owing to the lack of space. With great care they climbed along the right-hand wall, and at a distance of 20 feet from the low opening arrived at another pebble beach. Immediately beyond this the water was very deep and the walls came together, so that no further advance was

possible. They lit the passage up with magnesium, and even then could not clearly discern the roof, although they could see at least 80 feet up. Climbing was impossible, owing to the sharpness of the rock edges and to the fact that the explorers were wearing no clothes. So, being convinced that no further progress could be made, they reluctantly returned and without any mishaps arrived at the entrance again. While some of the party prepared tea under the shelter of the cliff—for it was now raining hard—two others walked up the valley to inspect another cliff some hundred yards above, on the left or west side of the stream. After tea they led all the party to this cliff and pointed out an uninteresting looking hole almost hidden by brambles. This hole was about three feet high and the same in width, and seemed to be unworthy of notice. However, after crawling through a low passage for a few yards we entered a most beautiful chamber about 100 feet high, 200 feet long, and with a width, at its greatest, of about 20 feet. All the walls are brilliantly white, while high up are numerous holes through which the light streams, illuminating the whole chamber. As this cave seems not to have been known before, we decided to name it Templebawn (The White Church). Trails of ivy and other creeping plants hung down through some of its openings, and the whole scene was one never to be forgotten. After taking a few photographs of this most beautiful place we returned to the cliff, where we had tea, and as time was getting on and rain coming down heavily we decided that we had no chance of doing any more serious work ; but we wished to see the inflow of the third stream. Leaving all our ropes and baggage we went at full speed eastwards for about half a mile and arrived at the third river, which seems to have no name. This stream runs through a narrow valley, and while a portion sinks into the rocks other portions flow on to the cave Pollasumera (The Cave of the Horse-leech), which was our last point for the day. We found that the stream sinks finally at the base of a high cliff in which are two parallel caves about 10 yards apart. That to the left, or west, is only very short, although it has an imposing

entrance. The other cave, however, is a much finer one. The entrance is about 35 feet high and about 10 feet wide, and was at the time of our visit quite dry, although it evidently at times is completely flooded. We walked along the loose rocks of the floor for about 150 yards, at which point the roof had come down to within about five feet of the floor. From here the passage became very winding, and divided, so offering several alternative routes. All these, however, rejoined each other, until, at a distance of about 250 yards from the entrance, we found ourselves on the shore of a deep underground lake and in a chamber with a roof only slightly above the surface of the water; but we were luckily able to reach the side at several places and came to the conclusion that nothing further could be done there. Magnesium was ignited, giving us most beautiful views of the lake from the various approaches, and we then reluctantly made for daylight.

A quick trot across the bogs through the rain soon brought us to the Monastir sink, where we picked up our ropes and hurried down to the main road, which was reached shortly after 8 p.m. There are many pot-holes and caves on Cuilcagh which we had not time to look at, but we hope to have the opportunity of carrying on later the exploration in this, perhaps the most speleologically interesting, district of Ireland.

Our party consisted of E. A. Baker, Charles A. Hill, R. Lloyd Praeger and the writer.

Where mention of the Survey Map is made the 6-in. sheets of Co. Fermanagh are referred to. Sheet 20 includes Arch Cave and the plateau above, sheet 21 the caves of the Boho district, and sheet 32 the Marble Arch district.

GAPING GHYLL AGAIN.

By S. W. Cuttriss.

Mr. J. H. Buckley in his account of the descent of Gaping Ghyll in July, 1906, says, "As this was a surveying party only, no further attempt was made to explore the pot-hole, this being left for a future expedition. It is hoped that the exploration of the new passages, which must exist to carry the water from the bottom of the pot-hole, will lead to further discoveries." To prove how far these conjectures might be realised was the motive prompting another expedition in the spring of 1907.

For the purpose of this descent twelve men* braved the elements under canvas in Arctic weather from May 18th to 21st. Mid sleet and snow showers the usual preliminary work of diverting the surface water into the side passage and preparing the tackle for a descent of the Main Hole by ladders was completed without loss of time.

Additional ladders and ropes were lowered, and by the expenditure of considerable energy, accompanied by groans and ejaculations of a forceful character, these were carried, pushed and dragged along the passages to the top of the subterranean pot-hole. The ladders having been made fast to a convenient mass of rock the descent was made to a depth of about 80 feet when a talus slope of loose rocks was reached, which continued for another 20 feet and formed the bottom of that portion of the chasm. A curious feature of this part of the cave was the presence of several large holes in the vertical flakes of limestone forming the side walls, with the artificial appearance of stage property rather than that of natural caves. At the level of the bottom of the ladders an opening was noticed. An examination revealed a continuation of the pot, and stones being thrown down it was found to contain deep water. Nothing further could be done without additional ladders, so a return was made to the surface.

*The entire party consisted of Messrs. Booth, J. H. Buckley, Chadwick, Cuttriss, R. J. Farrer, C. Hastings, A. E. Horn, Ireland, F. Leach, Ledgard, L. A. Lowe, Robinson, Rule, and Waud.

Next day two more ladders were obtained and the final descent of 60 feet to the surface of the water made by T. S. Booth, A. E. Horn, and C. Hastings in turn. The lower cavity is in the form of a fissure about 10 feet wide and 30 feet long enlarged at the further end by the action of falling water. At the end where the descent was made is a talus of loose stones terminating at the edge of a vertical rock which descends sheer into water about 5 feet below.

The fissure on the opposite side of the water is a mere crack in the rock, and there is not the slightest possibility of further progress being made in that direction. The water was plumbed to a depth of 40 feet without finding a bottom.

Like all the other caverns in Gaping Ghyll this pot-hole is undoubtedly an enlargement of one of the vertical joints in the rock and probably continues downwards to the base of the limestone. The level of the water, from the measurements taken, is at an elevation of 810 feet, O.D. and taking the moor level at 1,330 feet O.D. this gives a depth of 520 feet from the lip of Gaping Ghyll to the water. A very accurate surveying aneroid taken to the bottom gave a reading of 520 feet from the surface. It will be fair to assume therefore the actual depth from the lip to the water level to be at least 500 feet. As the water where it emerges near the mouth of Clapham Cave is about 805 feet O.D. these measurements thus show only a difference of 5 feet between the two places nearly a mile apart. The water in the pot-hole evidently stands at the saturation level of the limestone, and as past explorations in Clapham Cave and other pot-holes show that water at this low level generally drains away along shallow and nearly horizontal bedding planes there seems little prospect of discovering a practicable passage between Gaping Ghyll and Clapham Cave by following the underground stream.

The deep water in the pot-hole suggests that at one time there may have been an outlet at a much lower level

in the valley, probably at the base of the limestone itself, such as can be seen at the present day at Austwick Beck Head. This outlet most likely has been choked up and covered with glacial drift as there no evidence now exists of any such opening. It would seem that prior to the Glacial Epoch many of the subterranean cavities and their outlets on Ingleborough and the neighbouring hills were of much larger dimensions than we now find them. However, the drift is being gradually washed out again and they should tend to increase rather than diminish in the coming ages.

To turn from speculations to actualities; one of the pleasing incidents of the expedition was the descent made by Mr. R. J. Farrer, who, although he had never previously set foot on a rope ladder, pluckily undertook the arduous task of negotiating 350 feet of "a squirming length of unmanageable awkwardness" and expressed great delight at what he saw underground.

The untiring zeal of Hastings was rewarded by a large number of excellent underground photographs. The fine view of the shaft into the main chamber which accompanies these notes was only obtained after repeated failures and by the expenditure of an incredible amount of magnesium powder.

A second expedition during 1907 was organized at—literally—a day's notice and eleven men† camped at the Pot on Saturday, September 21st. The objective on this occasion was the investigation of another subterranean pot-hole, the entrance to which had been discovered since the Whitsuntide visit by another party of explorers, at the N.W. end of the Main Chamber.

Owing to the extraordinary dry weather of that month there was no surface water falling down the Main Shaft, the ladder descent being thereby much facilitated.

As on the last few occasions, it was decided that the exploring party should descend at once and remain below all night, while those on the surface would have the

†This party consisted of Messrs. Addyman, Booth, J. H. and F. Buckley, Constantine, Cuttriss, Green, A. E. and L. Horn, C. Hastings, and F. Leach.

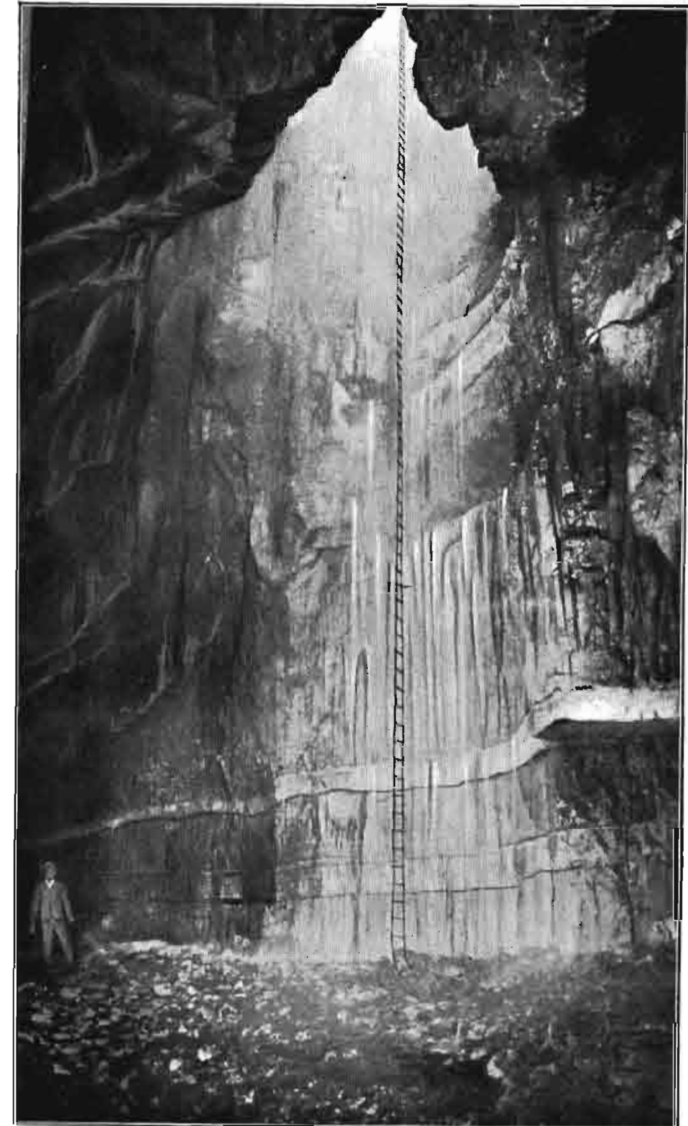


Photo by C. Hastings.

GAPING GHYLL.

THE SHAFT FROM THE FLOOR OF THE MAIN CAVERN.

opportunity of a night's rest in camp in order to prepare them for the arduous work of rope-hauling on the morrow. The actual descent was, towards the end, made in utter darkness, as it was found impossible to keep a candle alight while on the ladders. By 9 o'clock five men were down, with all the necessary tackle, Hastings excelling himself by descending from the Ledge with two rucksacks weighing over 50 pounds on his back.

A supper of hot soup and other delicacies having been disposed of, a move was made to the chamber South of the N.W. slope. Careful examination showed very little change in the floor of this cavern since it was visited in 1896. It is evident that water enters it at times from the main chamber, as below the stalagmite lip, over which the descent by ladder is made, a deep hole has been scooped out amongst the loose rocks there by the descending water. The floor elsewhere is covered with a thick deposit of silt, and in places, close to the walls, it is at a lower level, thus showing as in the main chamber where the water drains away; but no opening through which a person could possibly pass was found.

An oak plank lying on the silt afforded further evidence of the flooding of the cavern by water from the main chamber.

In 1896 though the N.W. slope was carefully examined no passage was found there either. Since then this end of the main chamber has been practically neglected, the work of later exploration being made in the opposite direction. We were therefore surprised to find that there is now a comparatively wide though shallow opening in the N.W. face of the rock wall, which has been exposed by the falling away of some of the loose rocks. On creeping along this for a few yards, a narrow slit like a letter box opening, was found in the floor. By partially undressing we managed to squeeze one by one through the slit into a little cavity about 8 feet deep.

This cavity gave access to a passage which rapidly increased in height as we proceeded. About 60 feet from the Letter Box the floor fell away in a short steep boulder slope and ended abruptly. The fissure continued down-

wards to a great depth, while the limit of its upward extension could not be seen even with the aid of magnesium light. The sides were pitted and water-worn, showing that a considerable volume of water must at times flow down it from the main chamber. At the time of our visit there was not a trickle anywhere. Stones thrown down told of a rocky bottom, and while the heavy man of the party sat on the end of the ladders at the top of the boulder slope, the leader descended. The bottom, a slope of loose boulders, was reached at a depth of 80 feet, but no outlet could be discovered. The total depth here, from the lip of the Main Shaft, is 440 feet.

The exploration not having occupied so long a time as was anticipated, attention was then given to the old S.E. passages to see if any change had taken place in them since they were visited in 1896. As far as the Mud Chamber no material change was apparent, the main passage being quite dry, as heretofore, and with no traces of water having entered it. The other high level outlets from the main chamber at present known, viz., the two at the N.W. end and the S. passage leading to the distant pot-hole are apparently sufficient to carry off the heaviest flood water. The S.E. passage would thus appear to be the only safe retreat in case any explorers were imprisoned by a great and sudden inrush of water.

In the Mud Chamber a surprise awaited us, for what had once been a steep sloping ridge of silt, like the roof of a house, was now considerably denuded, bare boulders being exposed in place of the ridge. On the west side it is now easy to walk down the wet clay and slippery stones to the bottom of the cavity. On the east side also a considerable amount of silt has disappeared, exposing here and there clean rock faces. The general character of the descent too is quite altered, and as it was evident that to reach the bottom of the cavern more tackle would be required than we had with us, the attempt was reluctantly given up.

Returning to the Main Chamber about 6 a.m. we telephoned to the men at the top announcing our arrival and by 4 p.m. everything was packed up ready for

despatching home. The remarkably good time in which the expedition was completed was largely due to the efforts of those who remained on the surface.

Referring to the plan facing page 210 of this volume of the *Journal*, it is important to remember that none of the passages or caverns shown to the West of the "Junction" have yet been surveyed, that portion of the plan being only a rough outline drawn from hurried notes made during the actual work of exploration.

MERE GILL HOLE.

By E. E. Roberts.

Mere Gill is the beck which gathers in the northern cove between Simon Fell and Ingleborough, and at about 1¼ miles from the Hill Inn falls into a rift with a mysterious pool of varying level at the bottom. In dry weather, when this pool is low, gravel can be seen at the foot of the waterfall, which is about 40 feet high, and a fair number of men have climbed down thus far, entered a side-hole under the fall and explored the passage within. At first this passage is low and rises slightly, but suddenly the height increases greatly, the floor begins to slope downwards and at about 100 feet in there is a sudden drop. Only one party is known to have descended this pitch.

At Whitsuntide, 1908, Messrs. Payne, Hoessly, Oechlin, Boyd and Roberts made further progress. In spite of some rain the pool was falling steadily during the two days' work, but the underside of the great mass of rock which spans the middle of the rift, and at low water is seen to form a bridge, was never revealed. The beck was in its normal condition and the party descended where it enters the rift. The waterfall over the cavern entrance was dry. Inside, the waterfall on the left of the straight and roughly horizontal gallery was also found dry; that at the end was still flowing. This water follows a short zigzag passage to the left and falls into a deep shaft.

A beam was fitted over this shaft in convenient natural seatings, a pulley rigged up, and the party descended with the aid of a fixed rope and a safety line passed over the pulley. There is a broad ledge two thirds the way down, and the total depth of the shaft is perhaps 60 feet. Round a very sharp corner dry standing ground is reached in a small chamber. The stream continues down an extremely lofty but very narrow zigzag passage which ends in another big drop. One stands here in a small opening high up at the end, below the roof of a huge chamber of limited width but unknown length. The further descent of 80 to

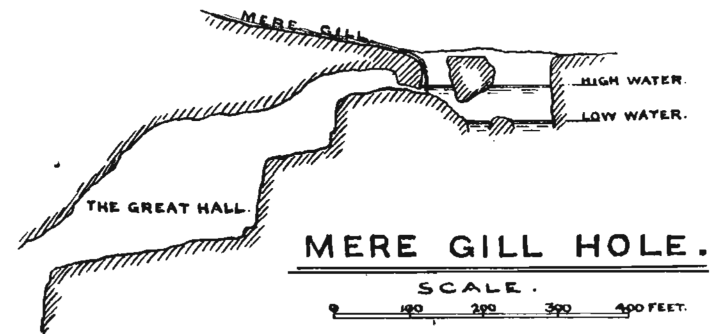
MERE GILL HOLE.

Descending the Hole.

Photos by E. T. W. Addyman.

The Mere at Low Water.

100 feet has to be made in the water, and the party manipulating the ropes is compelled to stand right back round the first corner. The limited working space thus causes considerable risk of the ropes getting twisted together. Some 20 feet down this second pitch is a fairly wide ledge, and beneath an undercut rift it is possible to relight a candle temporarily. The rest of the descent is freely provided with pinnacles which catch any knot or loop there may be in the ropes. A rise in the stream and a recollection of the doubtful weather sent our party quickly back to the surface.



Returning on Whit Monday, two men were again sent down the second pitch. The narrow floor of the chamber appears at first to be level, but the water has cut deeply below this. A steep pitch was descended, and a straight narrow passage, of even width and containing very deep pools, was followed steeply down for a length of 300 feet to a third great drop, in face of which again nothing further could be done.

In the night of July 4th, another attack was made with strong reinforcements. The pool was extraordinarily low and the underside of the great bridge clearly visible. Thirteen men descended the first pitch, but much time was lost in trying to improvise pulley gear at the second. Five men reached the head of the third pitch, and two were lowered to a ledge some distance beneath. Below there appears to be a very vertical drop of at least 50 feet, with a pool at the bottom.

The cavern is remarkably clean and the rock solid. Its general direction is into the mountain, the reverse of the surface stream. A party attacking the hole should be prepared to be soaked for many hours; they should number at least eight for working the ropes; and some efficient means should be devised for maintaining a light down the very wet second and third pitches. No exact measurements were taken during the expedition, but the end of the passage cannot be less than 250 feet below the top of the hole.

The accompanying vertical section is little more than an impression of the cave, and is not to be supposed accurate.

CLUB PROCEEDINGS, 1905-1906.

The Annual General Meeting was held at the Club Rooms on 23rd October 1906, when the Committee presented their 14th Annual Report. The Club then consisted of 9 Honorary and 91 Ordinary Members, being an increase of 8 Ordinary Members during the preceding twelve months.

During the year 6 General and 10 Committee Meetings were held. Six Lectures were given as follows:—

1905—November	22nd.	"Speleology," by Mons. E. A. Martel, in the Philosophical Hall, Leeds.
December	12th.	Club Evening. Short Papers.
1906—January	16th.	"Over the Hills and Far Away," by Mr. W. Cecil Slingsby.
February	13th.	"Climbing in France," by Mr. W. P. Haskett-Smith, in the Philosophical Hall, Leeds.
February	27th.	"A Trip to Jamaica," by Mr. James Backhouse.
March	13th.	"Old Climbs Re-visited," by Rev. L. S. Calvert.

The attendance at the Lectures was well sustained.

On 22nd November 1905, the Club was honoured by a visit from M. Martel, who gave a most delightful lecture on European Caves,* illustrated by a large number of slides of Subterranean Scenery. M. Martel enjoys a world-wide reputation as an enthusiastic and intrepid explorer of caves and pot-holes, and by coming over from Paris to visit us he paid the Club a graceful compliment, which he has further emphasized by allowing himself to be added to our list of Honorary Members.

Representatives of the Club were invited to attend the Annual Dinners of the Scottish Mountaineering Club, the Climbers' Club, and the Rucksack Club.

Two Club Meets were held during the year, the first at Whitsuntide, was devoted to the further exploration of

* This appears in the present number, see pp. 278 *et seq.*

Gaping Ghyll, when a large number of members attended to assist in the work entailed and to avail themselves of the opportunity to descend the pot-hole. The second was held on the 29th September at Chapel-le-Dale, and was well attended. The success of the Meets this year was greatly enhanced by the delightful weather.

At the request of the National Trust, the Club, in co-operation with other Leeds Societies, appealed for subscriptions for the purchase of the Gowbarrow Park Estate, near Ullswater, which has now been secured for the use of the nation.

At the instance of a Committee formed to erect a memorial to the late Mr. C. E. Mathews, the Yorkshire Ramblers were invited to join in the movement. A memorial has been placed at Chamonix by the Alpine Club, and the Climbers' Club and the Yorkshire Ramblers' Club intend to place a suitable memorial in the neighbourhood of Snowdon.

CLUB PROCEEDINGS, 1906-1907.

The Annual General Meeting was held at the Club Rooms on Tuesday 29th October 1907, when the Committee presented their 15th Annual Report.

The Club then consisted of 11 Honorary and 102 Ordinary Members, an increase of 2 Honorary and 11 Ordinary Members in the twelve months named.

During the year 7 General and 8 Committee Meetings were held. Six Lectures were given as follows:—

1906—October 30th. "Scrambles amongst the Alps," by Mr. Edward Whymper, in the Philosophical Hall, Leeds.

November 27th. Short Papers. "The South East Arête of the Nesthorn from the Bel Alp," by Mr. Geo. T. Lowe, and "A Fine Record," by Mr. J. A. Green.

December 11th "Gaping Ghyll," by Mr. A. E. Horn.

1907—January 15th. "Rambles and Scrambles in the English Lake District," by Mr. Claude E. Benson.

February 9th. Annual Club Dinner.

February 12th. "The Development of Yorkshire Rivers and Hills," by Professor Kendall.

March 26th. "Barbary and Spain." by Mr. John J. Brigg.

The Lectures were again well attended. Our old friend Mr. Edward Whymper was good enough to give us a delightful lecture entitled "Scrambles amongst the Alps" on 30th October 1906. Mr. Whymper's Lecture, illustrated by a series of extremely interesting lantern slides, was greatly enjoyed by a large audience of members and their friends. It is pleasant to remember that Mr. Whymper allowed himself to be elected our first Honorary Member in 1893, and the Club is indebted to him for many acts of kindness during the years that have elapsed since his election.

The Committee acknowledged gifts of books, journals, &c. to the Club Library, and invited members to make greater use of the Library and where possible to make additions to it. Representatives of the Club were invited to attend the Annual Dinners of the Scottish Mountaineering Club, the Climbers' Club and the Rucksack Club.

The Annual Club Meet was held on 5th October 1907, at Reeth-in-Swaledale. Unfortunately, Reeth, which is an excellent centre for dale and fell rambling, though not for pot-holing, is somewhat difficult of access, and the meet was not very numerously attended. It is increasingly difficult for the Committee to find fresh and suitable places for the Club Meets unless the members are able and willing to prolong their visit. An extension of the meets from Saturday to Monday night would make it possible for the members to go into many desirable districts hitherto unvisited by the Club, and the Committee hope the members will make an effort to support them in their attempts to increase the scope and interest of these Meets.

The fifth ANNUAL CLUB DINNER was held at the Hotel Metropole, Leeds, on the 9th February, 1907. The President, the Rev. L. S. Calvert, was in the chair, and fifty-five members and friends were present. Amongst the guests were Vice-Chancellor Hopkinson, of the Victoria University of Manchester, Mr. F. S. Goggs of the Scottish Mountaineering Club, Dr. Taylor of the Climbers' Club, and Mr. L. J. Oppenheimer of the Rucksack Club. The Dinner was followed by some excellent and amusing speeches and an admirably arranged musical programme. Vice-Chancellor Hopkinson who proposed the toast of the Yorkshire Ramblers' Club in a speech of great charm and interest, was enthusiastically elected an Honorary Member. He said :—

" I have a toast to propose which, in every assembly of self-respecting Englishmen, is received with enthusiasm—I mean, ' Ourselves.'

You will observe that, if I may not be accustomed to public speaking at all events I am accustomed to hearing public speaking and after-dinner speeches, because this is the way they begin : by making excuses for being there at all, and for speaking.

With regard to the first, I do not know that I can claim to be myself a rambler, but I daresay, in the course of the remarks I shall have the privilege of addressing to you, you will find that I am amply qualified for a rambler. Rambling has been defined as going from place to place without object, and my qualifications to be a rambler in that sense will be apparent before I sit down.

Now I must make a confession. I really ought not to be proposing this toast, except on this ground : I cannot claim to be a Yorkshireman, but I am half a Yorkshireman, and second to none for love of Yorkshiremen. I cannot qualify on any other ground. I am more or less fond of climbing, but I have done none of those fancy things one reads of in journals. Over the lower pitch of the Devil's Kitchen is quite sufficient for me, at my time of life, or even Deep Ghyll, entering from the easy way. I don't know what sort of thing you do now, but that is my level. In a year or two I shall perhaps be progressing to something else.

Now I have another confession to make. Your Secretary kindly sent me your *Journal*, but when I would have read it to-day I found that I had left my glasses at home, and without them I could not read it—could hardly decipher a word.

I have merely, therefore, had an opportunity of looking at the pictures, and recalling some pleasant occasions when, enjoying the experience of such an experienced cragsman as Mr. J. W. Robinson one found various ways on the Pillar Rock interesting and occasionally exciting. Reading the large lines of some of the headings, I find that the club has been devoting a good deal of attention to those districts which go a considerable distance below the ordinary level. It struck me that there was a good motto you might now take for your club, and I suggest that it should appear in future editions of your *Journal*. It is this line : 'Flectere si nequeo superos, Acheronta movebo.' I daresay most of you will be familar with the motto, which means, ' If we cannot get to the top of Ruwenzori we will stir the puddles at the bottom of Gaping Ghyll Hole.'

But as I cannot be a climber except of what I might call ' fair middling kind of second class '—there is one thing in which I think I can join heartily with the most enthusiastic one here, and that is, love for your county of York. I think sometimes that we look perhaps too much on climbing from the gymnastic point of view. I do not mean to say there is not a great amount of advantage in that kind of strenuous work, which tightens up the nerves and muscles and makes you feel stronger, more vigorous, and more fearless. But the thing which binds us together most of all, however, is the love of the kind of scenery which you have in Yorkshire, and also the investigations into the archæology and into the history of the county which is so interesting and brilliant.

We picture ourselves far away in the North-west, where the turbulent water comes in flood, boiling over Caldron Snout, or where the Tees takes its plunge from the upper moorlands to the finest waterfall in England.

On the historical side there is the Minster of York, its noble towers rising from the broad agricultural plain of York. Or, again, we do not forget that you in Yorkshire claim perhaps the most interesting, historically, of all the monastic monuments of England, in the most beautiful Abbey of Hilda, which looks out upon the northern sea. Amongst your architectural glories also is the beautiful Abbey of Fountains, amongst the groves of the park which surrounds it. Perhaps

best and most interesting of all, in its picturesque beauty, is Bolton's old monastic pile. Leaving the ecclesiastical buildings, I do not know that throughout England there is any old tower or old castle of more surpassing interest than Bolton Castle, in Wensleydale.

Speaking for myself, I know you will pardon me if I feel enthusiastic about this county of York and its scenery. I was born in a city on the other side of the Pennines, which has its virtues, but we can hardly say that the beauties of nature are the strongest amongst them. I remember well that my first taste of the joys of country life was by the side of the infant Aire, not very far from Malham. My greatest delight in childhood was to paddle in the Aire between Airton and Malham, or to learn to swim in the river. And for my part, I am rather sorry to think that some of those districts have changed. When I was a boy, it would seem extremely probable that there would be a nymph in the pool at the bottom of Janet's Cave. I do not say that I ever saw one there, but it would have been an exceedingly suitable place for one, fashioned in the costume that an artist would have assumed for her. Now, the motor car, with its smell, its dust, and its noise, is there, and the brake and the char-a-banc; and the quiet solitude of Janet's Cave is gone, and for ever; and in the presence of the motor car it is necessary to consider the proprieties of life, and no longer is one able to take a plunge in that pool.

Speaking of motor cars reminds me of a story, in which the motor car was used to point the moral and adorn a tale of religious instruction which is still given in some of the schools I believe, though I am not quite sure. I do not know whether that is so on this side of the hills, but I am told there are schools in Lancashire where religious instruction is given. The story is of a child who was asked what was meant by "the quick and the dead." The answer was: "The quick is those that can get out of the way of the motor car, and the dead is those that doesn't."

There are few points of the country that I have not wandered over with delight. I think that is a pleasure that becomes keener the longer you live, although it might not be stronger with regard to particular scenes. There may be scenes which impress you more in childhood than in after life; but as you get older your tastes get wider and more catholic. I do not think that even as a little child I could take an intenser

delight than I now feel in the gorse-covered downs that lie above the cliffs along the side of the East Riding of Yorkshire. I do not think that with all the enthusiasm of youth one could take a keener pleasure in the red roofs that nestle in the cliffs of Robin Hood's Bay. One loves as much as ever the beautiful hills that border the valley of the Swale; more than ever appreciates the picturesqueness of the town of Richmond. I think one still may feel that the wilds of Wharfedale are as beautiful as ever they were in one of the earliest days.

I am quite sure that throughout the whole of the lands that we may wander over—whether it be in the more striking beauties of the Alps, the wilder glories of Norway, or the more brilliant climate and the softer beauties of the hills of Greece—there is nothing that one can turn to with more abiding love than the various forms of beauty which are expressed in the different scenery of the County of York.

As Ramblers I am glad of having the opportunity of meeting you to-night. The interest you feel in nature, and the discoveries with which your society has been connected, give me an interest not only in your county, but in you. I wish prosperity to your club, feeling assured that here you are uniting to a common love of nature a common joy in the active purposes of mountaineering and of walking, and the joys which come from the hearty good fellowship of those who meet together for common delights. I give you the "Yorkshire Ramblers' Club," coupling with it the name of the President."

The President, in responding, said:

"It is my experience that at club meetings of this kind there has been one invariable rule, which is that, apart from the Royal toasts, the first toast has always been entrusted to the President of the club, and not until to-night did I find the reason for this.

In listening to Vice-Chancellor Hopkinson's charming speech—which, I am sure, we are all delighted with, because it has been somewhat out of the usual round of the speeches we have had on similar occasions—I see the reason why the President should speak first, and that is that you do not wish to see the occupant of this chair, whom you have honoured by placing in that position, to be unduly humiliated by coming in a poor second.

Well, gentlemen, we have all listened with very great pleasure to all that Dr. Hopkinson has told us about our beautiful county. I know sometimes one may be too respect-

ful of Yorkshire. It was only two or three months ago that I was down in Kent, and it was on the occasion of our disaster in cricket. Somebody said to me, "Yorkshire all out for so much." I said, "Good gracious, what is Yorkshire about?" Then a lady chimed in, "And *I* think it is what is Kent about?" Yorkshire is not content with fancying itself equal, but it is always wanting to be on the top. I do know we fancy ourselves a good deal, but I think after hearing Dr. Hopkinson we shall be still more proud of this great county of Yorkshire.

Gentlemen, I cannot lay claim to any of the descriptive language that Dr. Hopkinson has used, but I must say a few words about this club of ours. We have increased in membership, yet, after all, membership is not the gauge of the strength of the club. In looking round, I cannot help seeing that there is an increase in the *bonhomie* and good fellowship that should be, after all, the great strength of any club.

From what Dr. Hopkinson has so kindly said about us, a stranger might think the Yorkshire Ramblers confine themselves to rambles in their own county, but I think we shall see that great things have been done by them outside the county, and outside England itself. We have Mr. Ullèn, who has been performing wonders in Norway. I do not care to mention the names in the presence of past masters of the Norwegian language—but you can read the account for yourselves in the *Journal.* Then we have great and new explorations in Gaping Ghyll, and a very charming lecture on that subject was given us a short time ago by Mr. Horn.

Other explorations of a different kind have been made in Scoska Cave, and last but not least I notice that our club has exercised great influence on the University of Cambridge, because, in the paper which was set for physical geography this year I notice in the most prominent position the question, "Define a Pot Hole?" I venture to predict that on that paper the Yorkshire Ramblers would have scored full marks. All those things, of course, one can but glance at here. They are put down in detail in that excellent volume, the *Journal.* I think I shall not be unduly praising ourselves when I say that the *Journal* has had a marked influence in bringing this club of ours to greater notice before other clubs and the world at large, and I think you will agree with me when I say that the present number is in no way inferior to its predecessors. It strikes me as being full not only of very pleasant stories, so to speak —which are true—but it is a most instructive number.

I am afraid, however, that in what I am saying I am only giving you dry-as-dust details, but my predecessor has unfortunately taken away all the *bon-mots* and I am left with nothing but dry facts. Our friend, Mr. Charles Edward Mathews, said, "We don't want sense in these speeches, we want humour." Well, gentlemen, I am afraid a study of these points in the adjacent room has had a somewhat chastening effect on me to-night, and therefore I beg you will pardon any shortcoming in that respect. I fancy I can hear the sentiment which was voiced by a Yorkshireman not long ago when his counsel was making the best case he could for him in his defence. All the Yorkshireman said was, "He is a dreary beggar, is yon'" Well, gentlemen, I am fully conscious of what you think—but happily, like the counsel, I cannot hear what is said.

We have been honoured, as you know, many times by the foremost climbers in the world, and by the greatest scholars, who have not thought it beneath them to come and give us most instructive lectures. Mr. Edward Whymper, Mr. Horace Walker, Mr. Charles Mathews (of honoured memory) have been with us at the festive board, and I am quite sure we are all the better for their happy words on many occasions, but I venture to think, gentlemen, that in no case have we been more indebted to a guest than we have been to-night to our genial friend Dr. Hopkinson.

Brilliant achievements, as you know, have not infrequently in times past been united to a love of the hills and mountains. I know we may flatter ourselves and hope that Dr. Hopkinson has thought this club of no insufficient merit to come here to join us to-night; but at the same time we must remember to whom we owe that presence, and that is to the influence of one who has been a member of the Yorkshire Ramblers from time immemorial. Mr. Cecil Slingsby has brought to our dinners more than one of these distinguished men, and fortunate is that club which enjoys his companionship and his fellowship. He has gone away from us for a bit—but after all is said and done, his chief interest is with the old Yorkshire Ramblers, and he cannot stay away from us. At this time of night, it is not for me to go on, being a dreary person, so I will conclude by saying to Dr. Hopkinson: We welcome you, sir, in the heartiest manner, and with our whole heart we thank you for your presence here to-night, and for the charming speech you have given us."

At this point, Mr. Lewis Moore proposed the election of

Dr. Hopkinson as an honorary member of the club. So sudden a proposal, said Mr. Moore, was contrary to the constitution of the club; but he asked them to carry it with acclamation, and so identify Dr. Hopkinson more closely with the county for which he had such a genuine love.

The proposal was carried with great enthusiasm.

Responding to his election, Dr. Hopkinson said: "I wish to thank you most sincerely for the more than kind welcome you have given me, and for the high honour you have just conferred upon me by electing me an honorary member of your club. It is perfectly true that what first brought me here was an old friendship with a true friend and a generous companion, with whom it is always such a pleasure to go on any occasion. It is that friendship which brings me here, and it is new friendships which make me glad to continue here as one of your members."

Mr. A. Campbell, who next gave the toast of "Kindred Clubs," made amusing references to the Britisher's disposition to form clubs. The principal factors in the formation of such clubs as theirs were a common love of nature, and good fellowship; and never was it more necessary to have such clubs than in the present age of commercialism. They could look back to happy memories of their club life. He could not say much about the Alpine Club, except that they all regarded it with pious worship.

Speaking of the Scottish Mountaineering Club, Mr. Campbell mentioned that he had recently visited the north of Scotland. He enjoyed himself immensely, but his jaws were sore. It was the language—the names of the hills, that did it.

The Rucksack and other Clubs were spoken of in a friendly way.

The toast having been enthusiastically drunk, Mr. Goggs first responded on behalf of the Scottish Mountaineering Club. He said that it was not the first time that he had had the honour of being present at a Yorkshire Ramblers' Club Dinner, so he did not feel a stranger. He felt simply a climber amongst climbers. In the sport of climbing, there was a brotherhood and a freemasonry which was unknown, or not known to the same extent, in any other sport. He hoped that the kindly feeling which had existed between the two clubs would long continue.

Mr. W. Cecil Slingsby responded on behalf of the Alpine Club, of which, he mentioned, he had been a member for over a

quarter of a century. About fifty years ago, a body of men met together who had climbed in the Alps, and they then formed the Alpine Club, which was the first club to recognise climbing as a great sport. In time, of course, the Alpine Club had a numerous progeny. The first born of truly British Mountaineering clubs was the Scottish Mountaineering Club. They had the very greatest sympathy with that club, and the Yorkshire club looked upon the Scottish Mountaineering Club as its elder sister. The second-born of British Clubs was the Cairngorm Club; the Yorkshire Ramblers' Club came next, and then the Climbers' Club. The good feeling existing between these clubs was all that could be desired, and he ventured to express the opinion that each one of the clubs had justified its existence a hundred times.

Fifty years ago, proceeded Mr. Slingsby, the only really recognised mountaineering playground was the Alps. The second playground was the Caucasus, and then in order the Andes, Norway, Skye, the Himalayas, New Zealand, the English Lake District, the Selkirks, and Wales. Finally it was discovered that the mountains of Scotland formed a fruitful field of discovery.

Prof. Clapham briefly proposed to the toast of "The Visitors."

Mr. L. J. Oppenheimer responded, and remarked that in the Yorkshire Ramblers' Club the Rucksack Club had a good ideal to aim for. He believed they had some of the Yorkshiremen's enthusiasm in the newer club, which was to follow the example of the former in producing a journal.

This concluded the toast list, and the gathering broke up shortly before eleven o'clock, after a most enjoyable evening.

The following MEMBERS have been elected since the issue of the last number of the *Journal*:—

Honorary Members.

HOPKINSON, ALFRED, K.C., M.A., B.C.L., L.L.D., Chancellor of the University, Manchester.

MARTEL, E. A., 23, Rue d'Aumale, Paris.

YOUNG, GEOFFREY WINTHROP, Stamford, Lincolnshire.

Ordinary Members.

ADDYMAN, E. T. W., 9, Buckingham Mount, Headingley, Leeds.

BARRAN, CLAUDE ROULSTON, Moor House, Headingley, Leeds.

BARSTOW, FRANK H., Lynwood, Park Drive, Harrogate.

BOTTERILL, MATTHEW, 122, Hyde Park Road, Leeds.

BUCKLEY, JAMES, 34, Cardigan Road, Headingley, Leeds.

CHAPPELL, LIONEL SHEARD, 11, Grosvenor Terrace, Harrogate.

GREENWOOD, WALTER H., 58, Queen's Road, Leeds.

HEPWORTH, JOSEPH, 19, Park Drive, Harrogate.

IRELAND, ERIC G., 8, Limedale Road, Moseley Hill, Liverpool.

MARSHALL, REV. C. C., M.A., St. Chad's Vicarage, Far Headingley, Leeds.

PAYNE, FRANK, Ashgate Cottage, Ashgate, near Chesterfield.

ROBERTS, ERNEST EDWARD, M.A., Arran, Bagdale, Whitby.

RULE, ALEXANDER, M.Sc., Ph.D., 110a, Hampton Road, Southport,

WINGFIELD, C. R. B., Onslow, Shrewsbury.

Re-elected Members.

ANDREWS, EDWARD, 8, Elmete Avenue, Roundhay, Leeds.

LEIGH, PERCY T., 6, Portland Crescent, Leeds.

HARD KNOTT PINNACLE, ESKDALE.

The pinnacle mentioned in Mr. Percy Lund's paper, "Easter in Eskdale" (*vide* p. 22 of this volume of the *Journal*), as being high up on the W. face of Hard Knott was climbed on June 8th, 1908, by Messrs. Erik T. W. Addyman and Frank Barstow.

YE CLOMBERER.

(A Character omitted by Chaucer.)

With us ther cam a CLOMBERER alsoe
Who eke to Canterberie wolden goe.
A thikke man he was and therto brerde;
Hys bodie was y-swathed with mony a yerde
Of hempe. He bare hys loggage on hys bak
Y-stocked within a bolkie rukkesak.
Hys bote was all y-clynked with stele and nale;
The semblaunce had itte of a knyghte's male;
Hys legges were alle y-puttied to the knee,
As leeches swathe men in chirurgerie.
A lethern botel on a strappe had he
Wherein hys cordials straunge he wolde carye
From Scottisland, from Fraunce, or eke Almayne,
The wyche on montaynes was hys wone to drayne.
Between ye dorepostes was hys resting sete,
With one agaynst hys bak, and one hys fete;
To wrigl to ye lintel was hys wone;
And mervel was he did not tombel don.
Hys honde was like a monky's in ye gripe;
He sought hys chambre by ye water-pipe.
Rite seldom was he on hys horse's bak;
He code not ride ne more than can a sak.
Bot whan he found hymselfe y-domped in selle,
With hondes and spurres code he cling right well.
On fete he was a champion perfyt;
In Clomberers' Clobbes took he gret delyte.
And certainlie he was a good fellawe;
He trolled a stave that alle men might knawe,
A merrie lilt, 'I'm not a climber now';
Certes! he made a maist ungodlie row.
Hys talk was alle of gollies and of cracks,
And in hys honde he bare a sturdie ax.—

CLAUDE E. BENSON.

IN MEMORIAM: JOHN WILSON ROBINSON.

Amongst British mountaineers the name of John Robinson is a household word, and the number of members of the Alpine and other kindred Clubs with whom he was on terms of closest intimacy, and who have enjoyed the privilege of climbing with him amongst his native fells is very large. To know Robinson was to love him, and when on August 20th, 1907, the hand of death gently touched him and lulled him to his last long sleep, all of us realised that a great personal loss had come upon us. He was essentially a lovable man, a most delightful and ever cheery companion, possessed of a rare sense of humour, which never flagged no matter how cold and biting was the wind, how heavy the pitiless rain, how dense the mists on the fells, or how dark the night. Physically as well as mentally strong, Robinson was a born mountaineer, one of the few climbers who could read the face of a mountain like the pages of a book. His knowledge of the much-loved Cumbrian fells was unique. His natural modesty often led him to attribute to others the success of a brilliant climb which was due to himself. As Mr. Haskett-Smith was undoubtedly the pioneer of first-rate Lake District Rock-Climbing, Robinson was the great local exponent of the craft, and it was fortunate that these two giants of the sport became fast friends over a quarter of a century ago. Each became a pupil of the other, and each found an able master and an apt pupil.

Ah! It was always delightful to face some hitherto unclimbed ghyll, buttress, or rock face with dear old Robinson, and many a time have I had this good fortune, accompanied by Messrs. Haskett-Smith, Hastings, Walker, Woolley, Charles or Edward Hopkinson, Solly, or other men tried and true. Many a tryst have we kept in Great Doup on the Pillar Fell, in Hollow Stones, at Sprinkling Tarn, or at the foot of the Napes, Robinson having walked over from Lorton, we only from Wasdale Head.

What days of hard toil, rollicking fun, successful accomplishment, or failure and disappointment were those! What tons of grass or bent, bilberry roots, ling, juniper, sedums and moss, added to loose stones and rock we had to hurl down the North Face of the Pillar, on both sides of Gable, on Great End, on Scafell, Sergeant Crag, and on many another rugged rock, before firm finger grip or foothold could be found, and how hard Robinson worked we all remember! Many a bit of brilliant rock-climbing have I seen him tackle. Perhaps the best and most difficult was on our first attack on Moss Ghyll. At that time the wall below the Tennis Court Ledge was curtained with lovely moss, in some cases in long sprays. This suggested the name Moss Ghyll. With ruthless energy we stripped the green covering off the line of ascent and then found the loosest of loose walls. After making ourselves into a sort of human pyramid, Robinson climbed up it, and then came the real work. It is not too easy even now, but it is child's play compared with what it was when it was first tackled. When, with the help of the rope I reached the grass ledge I was so delighted that I shouted out, "There's a tennis court here." Of course we were beaten at the "window," which was also my poor fortune on a second occasion, and had to descend the wall. Robinson again took the post of honour and came down last. It is very difficult to realise now the exceptional difficulty opposed to us by that wall, but then is it not also the case with nearly all the good rock-climbs? Even Scafell Pinnacle from Jordan Gap, where now-a-days there is such an abundance of hold on the slab, was very different when I was first taken up it by the two pioneers. The cracks then were not above an eighth of an inch wide and deep.

Robinson loved to introduce strangers to the wildest corners of his much-loved fells. Many a time has he taken some active young girl on the Pillar Rock; once he and a brilliant climber of the fair sex descended the North Face, also the Scafell Pinnacle by the chimney route. Robinson was one of the Cumberland Yeomen or Statesmen who—until Agricultural depression set in—were the backbone of England, but are now disappearing so quickly. He possessed in a high degree, all the best traits of character of the Scandinavians, and I feel certain that his forelders were Vikings who hailed from Norway. In addition to this was he not the best type of a Cumbrian Yeoman? What better could one wish for? He had a very great admiration for our Club, many of the members of which he numbered amongst his best friends. If he had lived a few months longer and had been hale and strong, he would have come to give us a lecture in Leeds.

It is well to have known John Robinson, and it is good to possess such a rich treasure of happy memories connected with a friend so staunch, tried and true.

WM. CECIL SLINGSBY.

On April 18th, 1908, a number of members of the Alpine, Climbers',

Fell and Rock, Yorkshire Ramblers', and other Clubs, gathered from Wasdale Head and Buttermere with the object of erecting a cairn on the Ennerdale side of the Pillar, in Memory of J. W. Robinson. The site chosen was a knoll at the West End of the High Level Route, on the East Side of the Great Doup, and in full view of the East face of the Rock, with which his name will always be associated. A large cairn was then erected and, just below it, a face of rock marked for the placing of a bronze tablet which was being prepared.

On June 13th, the tablet was taken up Ennerdale in a cart and then dragged up the mountain side to the spot, where with due ceremony it was fixed in the presence of a number of Robinson's friends. Mr. Slingsby officiated and made appropriate remarks. The tablet bears the following inscription :—

FOR REMEMBRANCE OF

JOHN WILSON ROBINSON

OF WHINFELL HALL, IN LORTON,
WHO DIED 1907, AT BRIGHAM,

ONE HUNDRED OF HIS COMRADES
AND FRIENDS RAISED THIS.

HE KNEW AND LOVED AS NONE OTHER,
THESE HIS NATIVE CRAGS AND FELLS,
WHENCE HE DREW
SIMPLICITY, STRENGTH, AND CHARM.

"WE CLIMB THE HILL: FROM END TO END
OF ALL THE LANDSCAPE UNDERNEATH,
WE FIND NO PLACE THAT DOES NOT BREATHE
SOME GRACIOUS MEMORY OF OUR FRIEND."

Mr. Haskett-Smith, Mr. George Seatree, and Mr. W. Cecil Slingsby took active parts in gathering funds for the memorial, and the thanks of subscribers are due to them for the satisfactory way in which the work has been carried out.—ED.

Photo by T. Gray.

ERECTING THE ROBINSON CAIRN.

REVIEWS.

MOUNTAIN SICKNESS AND ITS PROBABLE CAUSES.

BY T. G. LONGSTAFF, M.A., M.D.

(LONDON: SPOTTISWOODE & CO., LTD. 1906.)

In this short book the author has given a concise and interesting account of the signs and symptoms of Mountain Sickness. This he does by relating more or less in their own words the experiences and feelings, first of various mountaineers, especially those who have attained the greatest height;—secondly of balloonists:—thirdly of scientific observers in Pneumatic Chambers;— and lastly he gives his own. The character and causes of this illness are studied both from practical and scientific points of view, and the general results shortly and plainly stated.

The whole book reads lightly and pleasantly, keeps the reader constantly interested, and makes the subject, which in itself is very abstruse, comparatively simple and straightforward. The scientific side is very lightly treated, and though he implies that ordinary Migraine accounts for many of the symptoms he makes no mention of the condition called Acetonuria which sometimes occurs in Mountain Sickness, and is found in some diseases where there is semi-starvation and want of Oxygen.

Every Mountaineer ought to read the book: it will give him some hours of pleasant occupation, will teach him all that is worth knowing up to the present time about Mountain Sickness, and may be of value to him in future expeditions.

F.H.M.

NEW ORDNANCE SURVEY MAPS.

ONE INCH TO A MILE AND TWO MILES TO AN INCH.

(LARGE SHEET SERIES.)

In noticing these new issues almost unqualified praise can be given to the many and various improvements effected, especially in the One Inch Maps.

As in the smaller sections issued a few years ago the hill shading is brown (engraved lines for the One Inch Map and fine screen impression for the Half Inch), roads sienna, waters blue and woods green.

In the maps of the hilly districts it is pleasing to see

considerable additions to the nomenclature. For purpose of example the immediate surroundings of Wasdale Head may be taken. On Scafell the names Hollow Stones, Mickle Door, * Broad Stand and Lord's Rake now appear. The Pillar Rock is named and indicated, though faintly. Wind Gap, Little Scout Fell and Dore Head each appear; while not only Mosedale Beck but its tributary, Black Beck, is named. This naming of many of the tributary becks is a very acceptable feature, for though long familiar their names could only be found by referring to the Six Inch Map.

Throughout the district under notice the added detail includes other long-wanted bits of information and renders the particular map much more useful, though, as an exception, on turning to Great Gable the words Napes Needle may be seen placed immediately above the words Styhead Tarn, but whether this addition so placed would render easier the finding of that pinnacle even in clear weather is highly problematical. Generally, however, the added names are welcome, and whereas in the old black shaded maps the reading of names was difficult, the lighter brown shading in the new maps allows the names to be read with comparative ease.

The maps of this Large Sheet Series average 18in. × 27in. as against 12in. × 18in. of the previous issue, while the cost per sheet has not been raised in as great a proportion.

Praise must be bestowed on the sensible, though not new, method of folding and casing, the result being that the map opens as do the pages of a book and any part of it can thus be readily consulted in the open without first exposing the whole to wind or rain. It may be suggested, however, that the top and bottom margins might each be reduced a quarter of an inch, as at present the folds fit so closely that even in the study some care is required to avoid injuring the edges, a fault which would obviously be accentuated in a wind on the open fell.

It is regrettable that the same complete meed of praise cannot be extended to the new Half Inch Series. These are shaded, coloured and contoured in the same manner as the One Inch maps, but owing to the smaller scale and the various sizes and forms of type used and the apparent attempt to incorporate, partly by these means, a greater amount of information, the result is not pleasing to the eye, and the maps convey little suggestion of the surface modelling of the

* The spelling is that used on the Map.

country. This new departure in scale is designed for the use of cyclists and as a general purpose map. It challenges unfavourable comparison with the beautiful maps on the same scale issued by Messrs. John Bartholomew & Co., but while a glance at a section of Bartholomew's map reveals the whole surface structure of a tract of country, on the ordnance map it is necessary first to find a given starting point and then patiently to trace out mile by mile one's intended route. This disparity is accounted for almost entirely by the fact that Messrs. Bartholomew have adopted what may be termed a natural scheme of altitude colouring for their contours. On their sheets the low-lying fertile lands are green, and with rise in altitude one passes through gradations of brown until the hill tops are reached, whose tint naturally suggests the peat and heather, while the names everywhere shew plainly upon the clear colouring.

A close comparison of these maps dealing with the same tract of country shews little advantage in point of detail to either production. The ordnance survey certainly indicates by the letter P that at a certain village there is a post-office; by T that there is both post and telegraph; while windmills and windpumps may also be discovered by the curious and diligent searcher whom they may concern; but, such details apart, most map-users will readily give the palm to the older series.

It may be of interest to local readers to know that sheet 9 of the new Half Inch Series (called the Leeds and Bradford Sheet) ranges from Clapham in the north-west to Ramsbottom in Lancashire, whilst its eastward limits are from Easingwold in the north to Hemsworth on the southern border of the map.

Further particulars of the new maps may be obtained from Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, the wholesale distributing agent for the Government.

J.H.B.

The Netherworld of Mendip:

Explorations in the Great Caverns of Somerset, Yorkshire, Derbyshire and elsewhere.

By Ernest A. Baker and Herbert E. Balch.

(Clifton: J. Baker & Son [1907].)

By gathering together and publishing in book form the substance of various articles on cave exploration which have appeared in certain English and Irish papers the authors have produced a work which we venture to think will be well received by the increasing number of people who take an interest in cave exploration, either as a sport or as a science.

The preface tells us that of the 19 chapters those dealing with the Scientific results are by Mr. Balch "who has been writing on the geology of Mendip, more among the caves, for upwards of twenty years," while "the accounts of actual experiences in which the sporting side is predominant" are by Mr. Baker, whose *Moors, Crags and Caves of the High Peak* we favourably noticed on p. 92 of this vol.

The Caves of Somerset occupy the greater part of the book. Yorkshire is represented by a single chapter recounting an exploration in Stump Cross Cavern, two chapters are given to Derbyshire Caves and one describes a visit to Mitchelstown Cave, Ireland.

The illustrations are excellent, but the few plans given of the caves have been so reduced in scale as to render them almost useless. This fault is so apparent that the authors will no doubt see that any work of this kind they may bring out in future is free from it. A clear and correct plan is of greater importance, as a record of an exploration and of more use to the reader, than any number of pages of description.

The book is further evidence of the interesting and valuable work that is being done by English Speleologists. It is written in a style that will be found attractive even by those persons who have been slow to see wisdom in the burrowing propensities of followers of the sport.

The Alps in Nature and History.

By W. A. B. Coolidge.

(London: Methuen & Co. 1908.)

Occasionally—but with somewhat long intervals of time between—new books on the Alps appear which well deserve the conspicuous places accorded to them on the library shelves of the Alpine reader.

Some consist of reminiscences and impressions which help the reader towards a little understanding of that spell which the Mountains hold over the climber, and are generally furnished with tale and incident which thrill the reader as in imagination he shares in the joy of difficulties overcome on peak and glacier. Among such, Moore's "Alps," Leslie Stephen's "Playground," Whymper's "Scrambles," Tyndall's, Freshfield's, Conway's, Dent's and other writers' works, long ago elevated to the importance of Alpine classics, quickly come to mind.

But there are other excellent Alpine books of a different class which, though not having as great an influence towards the growth of mountaineering as those named, are also of considerable importance. Ball, Murray, and Whymper's and the Climbers' Guides are all books of high excellence and great usefulness.

There is however another important class of Alpine book of which but few examples exist so far, and this need not be wondered at, for its author should have an extensive knowledge of Alpine literature, be a historian of wide reading and judgment, a mountaineer of experience, and have an intimate acquaintance with the life and habits of the Swiss people gained by permanent residence amongst them. These qualities are combined in Mr. Coolidge to an unequalled degree, and of this there is good evidence in his latest book "The Alps in Nature and History." Its value consists in the accumulation of a mass of historical facts and figures relating to the Alps which no other book that we know of on the subject contains, and of the arrangement of these in such order, and at times with such completeness as to make it one that no future student of Alpine history should be without. Though it abounds with names, dates and heights of peaks it is not a book of the gazetteer kind—merely for reference, it is essentially a readable book, and mainly of very great interest.

Beginning with a short description of what are commonly known as the Swiss Alps—those great chains of snow-covered mountains with their lateral buttresses which lie N. of Italy—the author makes the too frequently forgotten distinction between them and the Alps or pastures as they are known to the mountain dwellers. The topography of the mountains, the earliest known accounts of the snowy regions, and the modern theories of the life of a glacier are all well described, and then we have two very interesting chapters on the flora and fauna

of the Alps by authorities on those special subjects—the one on "Alpine Flowers" by Mr. George Yeld, and the other on "The Beasts and Birds" by Mr. Howard Knox.

As the book proceeds its value becomes even more evident. The history of the peoples of the various Alpine districts, their different languages, dialects and religions are all ably dealt with, and then follow two long and important chapters on the Political History of the Alps and the great Historical Passes. The former of these two has been no uncommon subject with past writers, and much time and ingenuity have been expended in endeavouring to identify certain western passes with past events in Roman history, but the history of the scores of other less known passes has never before been so fully dealt with in an English work.

This, the first half of the book, will appeal to the general reader and student, but the mountaineer will find the second half of still greater and indeed engrossing interest, and here Mr. Coolidge's knowledge shows itself in a marked degree. "The Exploration of the High Alps" up to the end of 1865 —a vast subject, "Modern Mountaineering" and "Alpine Guides," are chapters of exceptional value, though each necessarily of moderate length in a single volume of demy octavo size, and there is also a charming little chapter entitled "A Year's Round in the Alps." But we regard the last fourth of the book on "The various Divisions and Groups of the Alps" as the most important of all. This subject has been treated by previous authors—both English and Continental—and at greater length, but few if any of them had the personal knowledge of the extensive subject that he was handling as Mr. Coolidge has, and this has enabled him to give us information not to be found elsewhere.

Two appendices are added, the first giving the heights of the principal peaks and passes in the Alps, and the second a list of the peaks in the order when they were first ascended. The latter is of extreme value and must have necessitated a very great amount of research. Its usefulness would, however, have been enhanced by the addition of the names of the men who first conquered the peaks. Some are named in an earlier part of the book, but they might have been repeated here with advantage.

The book is adorned with fine illustrations from photographs by Signor Sella, Mr. Alfred Holmes and others. These are particularly acceptable because of their uncommonness, among them being a striking view of the Roththal face of the Jungfrau from the Ebnefluhjoch and a charming view of the Jungfrau range from the Blumlisalphorn.

The book is worth double its published price.

The Journal of the Fell and Rock Climbing Club of the English Lake District.

Vol. I. No. 1.

Edited by G. F. Woodhouse, M.A. and Edward Scantlebury.

(Barrow, 1907.)

The youngest of English Climbing Clubs has been formed in a district in which it would have been surprising if the appeal of its founders had not met with quick and gratifying response. Though the first meeting of the Fell and Rock Climbing Club was held not much more than two years ago the number of its members already reaches to over 200, and the list includes the names of some well known English mountaineers.

It is not certain that an increase in the number of Climbing Clubs in Great Britain is conducive to the best interests of Mountaineering, and the question might well be asked whether it would not be better for Clubs with like tastes and aims to combine and form one central club with branches in districts where men may conveniently meet to practice or talk about their favourite sport and listen to the reading of papers of interest. If however there be justification for the addition of another Climbing Club to the already long list of such, surely votaries of the sport who reside in or near the Lake District can show it, for amongst its mountains English climbers most do congregate and there is perhaps no part of the country where a club of this kind is so likely to succeed.

So sure do the Committee of the Fell and Rock Climbing Club seem to have been of its sound growth and usefulness that the burden of a Club Journal was soon taken up, the first number making its appearance within 12 months after the formation of the Club. We congratulate the joint Editors, Messrs. Woodhouse and Scantlebury on the general excellence of the 100 pages of matter and illustrations which it contains. An excellent portrait, in photogravure, of the late J. W. Robinson, who was one of the Vice-Presidents of the Club, appropriately forms the frontispiece, and an appreciatory "In Memoriam" notice of that much respected man among mountaineers is contributed by Mr. George Seatree, his fellow

Vice-President. The origin and aims of the Club are stated, this being followed by a short sporting paper by the late Mr. Robinson. A welcome re-print is given of Mr. Williamson's historic articles on "The Climbs of the English Lake District," which appeared in *All the Year Round*, in 1884, and we are promised a supplement to this in the next number of the Journal. Other papers of note are "A new climb on Scafell Pinnacle" via the Low Man Buttress nose; "The Crescent Climb, Pavey Ark" by Mr. Fred Botterill, and one descriptive of the climbs to be found on Gimmer Crag by Mr. Andrew Thomson.

The number is profusely illustrated and well printed. Though it contains a few printers errors these are of little consequence, but we suggest that in the spelling of place names a little consistency might be shown. The Editors should make up their minds whether Westmorland or Westmor*e*land, and Wasdale or Was*t*dale are the more correct ways of spelling those place names, and not use first one spelling and then the other.

We heartily wish the Club and its Journal continued success.

Since the above review was written, No. 2 of this Journal has appeared.

It is, if possible, better than No. 1, and contains over a hundred pages of well written papers, reviews, and other matter of special interest to the members of the Club.

Mountaineering reversed is given a prominent place, for Mr. George Seatree leads off with a very readable paper on Alum Pot, in which he expresses the pleasures he experienced during a day of pot-holing with some of our members.

A sequel to Mr. Williamson's article on The Climbs of the English Lake District, which was reprinted in the first number, is contributed by Mr. George D. Abraham, and though necessarily short will be found of much use to climbers who are not well acquainted with the district.

Where all is good we merely mention in particular, Mr. Woodhouse's "With Map and Compass," and Mr. Oliverson's "The Rope, as used in Rock Climbing."

If the same high excellence of this Journal continues to be maintained, there ought to be a large demand for copies. Illustrations form a great feature, and the List of Lake District Hotels, Inns, Farm-houses, &c., that is appended to this number make it alone worth buying.

MY ALPINE JUBILEE.

1851-1907.

BY FREDERIC HARRISON.

(LONDON: SMITH, ELDER & CO. [1908].)

This is a delightful little book.

Apparently prompted by the jubilee gathering of the Alpine Club, Mr. Harrison has been prevailed upon to collect and publish in book form some letters and articles which he wrote for the "Times," "Cornhill" and "Westminster Review" and these he has prefaced by half-a-dozen letters addressed from Switzerland to his wife and daughter, in 1907. To all he has given the title of the book, though from the text it would appear that his own Alpine career began some 57 years ago.

The style of the letters, in which the scholar appears in almost every line: the happy reminiscences related of days spent in valley and on glacier, pass, and peak in the few years which immediately preceded the formation of the Alpine Club: when the natives saw but few strangers and the mountain sides had no comfortable huts: before the railways had opened Switzerland to the European public, and when the only Inn at Zermatt was at Seiler's Chalet with its eight or ten rooms: all make charming reading.

Mr. Harrison claims to have "founded" Mürren as a "station," for he tells us that when in 1853 he and his brother crossed the Tschingel Pass (or does he mean the Sefinen Furgge?) from Kandersteg to Lauterbrunnen "there was neither inn, nor hut, nor so much as a glass of milk to be got in the two or three poor chalets there," and that at Lauterbrunnen, Interlaken, and Thun he and his brother "filled the hotel registers with vehement praise of the views and air of Mürren, and rebukes to the indolence of tourists who neglected so magnificent a station."

Even to-day one need not wander far from Mürren to experience the same joys of quiet amidst grand surroundings that Mr. Harrison felt 56 years ago; for out of all the crowds who now visit the place in summer but few tourists appear to leave it except to re-enter the train which took them there. Yet "Nature is as lovely, as sublime, as ever, and the railways, pensions and grand hotels, and circular trippers are after all but scratches on the surface and flies upon the granite rock."

We do not gather from the author's modest references to his own ascents of high peaks that these were numerous,

though he does tell us that he has crossed most of the celebrated passes in Switzerland. But, what of that! When a man can see as he sees and has the gift of describing in charming language the feelings which Alpine scenery inspires, we are grateful to him for their expression, without asking for his climbing record.

Perhaps the article on Mountaineering which is reprinted from the "Westminster Review" of 1864 and forms the longest article in the book will appeal the most strongly to our readers. We take the liberty of extracting the following from it as a sample of what the book contains. He says:—

> "Of the more ready modes in which a busy man may feed his passion for earth, the best is Alpine climbing—the best, not only for the special beauty and variety of scene, but as being that form of nature which fills the spirit most deeply with emotion, and drives it into simplicity and seriousness. Oh, unforgotten hours, for how many causes is your memory dear! What can a man say who struggles to recall you?—how tell, how remember with method or completeness the full measure of exhilaration—
>
> Trasumanar significar per verba
> Non si poria—
>
> the tramp in silence under the morning stars; the bush which precedes the dawn, and the glowing circles of sunlight round the distant peaks; the ring of the crisp ice in the early morn; the study of the path, and the halt merry with shouts and jests; the snatched meal, preposterous but delicious; the grappling with some mad ice-torrent, and the cunning path wound upwards through a chaos of *séracs*; the wild and fairy loveliness of cavern and chasm; then the upward strain across some blinding wall of snow; the crash of the ice-axe and the whirr of the riven blocks; the balanced tread along the jagged ridge; the spring at the last crag, and then the keen cheer from the summit?
>
> What a summit! what a reward for work!—the world as it were, and all that it holds, the plains and hills, the lakes, rivers, towns, villages, meadows and vineyards, myriads of peaks snow-tinted, and valleys infinite, opening before the amazed eyesight in circle beyond circle, and all around and beneath broad wastes of snow and unimaginable gulfs. And then comes home to the dullest a sense of awe at standing thus looking out over the earth amidst force so portentous and expanse so vast—a creature oneself how slight, how ignorant, and yet how strong and sovereign! Then, filled through and through with awe and joy, the last look taken, one turns again to work, to the mad whirl of the glissade, the still more treacherous descent, the dripping glacier-bridge at noon, the effaced footprints, the cheery tramp through slush and snow, happy and bespattered, stumbling and laughing, drenched and merry—the tread at last on the springing turf as on that of a long unseen home; the first mosses, the highest pines, and the log huts, one after another; the first few and ever-increasing marks of man and cultivated earth and civilised existence, the blessed signs of human life and social aid, the nestling village, huts and barns, the long files of gentle herds, the half-golden patch of corn, the quaintly poised bridge, the lowly roof and flashing cross of the village church, the kindly 'good night' of the peasant, the simple welcome and the homely glow of the hospitable hearth."

This is a delightful, moving picture, every detail of which many of our readers will recall to mind.

We commend the book to all lovers of the Alps whether mere tourists or mountaineers.

ADVENTURES ON THE ROOF OF THE WORLD, and TRUE TALES OF MOUNTAIN ADVENTURE.

BY MRS. AUBREY LE BLOND.

(LONDON: T. FISHER UNWIN.)

On the re-issue of these two books of mountain adventure at reduced prices we take the opportunity of saying a few words about them.

In the main the contents consist of the cream of the tales of mountain adventure which are to be found in the best of our Alpine books. To each tale Mrs. Le Blond has added appropriate introductory remarks and explanations, while her occasional comments on the incidents related are, as would be expected, thoroughly sound.

The books are worthy of commendation. The illustrations are plentiful and excellent; but it is a little astonishing to find Jean Antoine Carrel's name under a portrait of *J. J. Maquignaz*, and a view shewing the two Gabelhorns, Rothhorn and Weisshorn, named *The Dent Blanche*. These mistakes appeared in the first edition of the "Tales," but ought not to have been repeated in the second.

MY CLIMBS IN THE ALPS AND CAUCASUS.

BY A. F. MUMMERY. (SECOND EDITION).

(LONDON: T. FISHER UNWIN. 1907.)

Though this edition of Mummery's 'Climbs' bears the imprint "Second," it has been re-issued no less than five times, one impression being in French. That edition contained a portrait of Mummery, which now appears in the English edition also as a frontispiece. A most interesting introduction by Mrs. Mummery, with extracts from letters he addressed to her during his last and fatal expedition, is also given. It is good of Mrs. Mummery to have opened these letters to the world of climbers, who will eagerly listen

to a little more about the expedition than has been told by one of his two companions.

A short appreciation of Mummery in which his characteristics are viewed from other than the mountaineer's side, is contributed by his friend and co-writer of a book on Economics—Mr. J. A. Hobson.

These are the new features in the last edition of a work now so well known to mountaineers that it is unnecessary to repeat all the good things that have been said about it and its author.

The handsome get-up of the first edition is maintained in the second.

GUIDE TO THE WALKS AND CLIMBS AROUND AROLLA.

COLLECTED AND WRITTEN BY WALTER LARDEN, A.C.

(LONDON: S. CHICK & CO. 1907.)

Those who make the head of the Val d'Arolla their centre will appreciate the boon which this printed pocket edition of Mr. Larden's well-known Guide Book is sure to be found.

Its publication was due to the suggestion of Dr. T. Brushfield who undertook to gather the necessary funds, and as all surplus receipts are to be devoted to charitable purposes in Switzerland—most probably to the relief of the widows and families of guides who have lost their lives in the Alps, the enterprise deserves success.

If the book should pass into a second published edition we hope with Mr. Larden that *the* authority on the history of the Val d'Herens will be induced to enhance its pages with particulars of the ascents of more of the surrounding peaks and other information of interest to mountaineers, thus making it more on the lines of Conway and Coolidge's "Climbers' Guides." It would also be a convenience if the heights of the peaks and passes were given.

The use of a number of simple line drawings of the chief mountains instead of the few more expensive wash drawings—and on ordinary text paper instead of plate paper—which has the fault of sticking when damp—would be an improvement. As for the text, the names of the contributors are for the most part sufficient guarantee of the accuracy of the descriptions. Several of our members' names appear among them.

We observe that Mr. Larden advises climbers to purchase Conway's "Climbers' Guide to the Central Pennine Alps"; but this has been out of print at least six years.

THE HEART OF LAKELAND.

BY LEHMANN J. OPPENHEIMER.

(LONDON: SHERRATT & HUGHES. 1908.)

We believe most climbers, and particularly those who know the heart of Lakeland well, will agree with us after reading Mr. Oppenheimer's book in saying that it is wholly delightful.

Seldom is an author gifted as he with the qualities which specially fit a man for writing a book of this kind. He is an ardent lover of Nature, a first-class climber with a keen eye for the beauties of Lakeland, a talented artist, a good photographer, and his style of writing is clear and interesting. In his book are gathered articles written years ago, and to these are added others which, to some extent, link them up and form a suitable introduction and finish to the whole. Scenes and climbing incidents are pictured with a master hand.

Beginning with "Early Impressions" he takes us to Wasdale Head at Easter, when its hotel is filled with a jovial gathering of climbers, and he makes the reader almost feel the actual delight of the day's sport on the surrounding fells—the start, the day on the crags, the return, and the enjoyable evening around the hearth with men of kindred taste and not widely different opinions on their favourite topic—then much to the fore. Again, he tells of the conquest of new gullies and of new routes up crags, while in other chapters he chats no less interestingly about days on old climbs, which though many times previously done, never lose their charm with the true and best rock climber. Other chapters tell of moments of quiet and meditation when the hills seem to breathe their secrets to some men, and particularly to those from busy towns, who find Lakeland so perfect a setting for deep thoughts. Appropriately the book concludes with "Castles in the Air"—dreams of possibilities of a happy ending of life's days in the land the author loves so well, but dreaded anticipation of the not impossible time when railways will not only disturb the quiet of Lakeland dales, but may also rack the sides of its passes and fells.

Mr. Oppenheimer knows his subject well. He has roamed over it in all seasons and weathers, for only by so doing is it possible to gain a true insight into its many wonderful moods and beauties. His name is associated with some of the best climbs made in recent years, and in his accounts of these, climbers will follow him with that feeling of enjoyment which only climbers know.

Some prominence is given in the book to the advantages of Buttermere as a centre. In the main we agree with the author that it has been unduly neglected by climbers, but the comparisons he draws between it and Rosthwaite and Langdale are, we think, made a little too much of and to the disadvantage of the two last named places, for in his list of climbs within "easy reach" a number of well-known ones are not included. On Great End the central and S.E. gullies are not the only climbs, and surely the 9 gullies on Bowfell links should also be included in the Langdale list! Nevertheless, Buttermere is well favoured in its comparative proximity to some of the best climbs in Lakeland, and is surrounded by some of the grandest fells, and wood and lake scenery to be found in the district.

We take exception too to the name Mr. Oppenheimer has given to the miniature Dru-like buttress which lies on the north-west side of Stogdon's Gully on Bowfell. It is known to the local shepherds as Hen-Tor, Hen-Taw, or Hent-Haw, and one of these picturesque names is given to it by the Ordnance Surveyors. Why seek to change the name?

Let those people who ignorantly imagine that climbers care for and see nothing of interest in Lakeland but grim and dangerous crags, on which they foolishly risk life and limb, read Mr. Oppenheimer's chapter on the service that was held in Grasmere Church in memory of our late Queen. As a study of some of the dales-people, and their surroundings, it is charming. His tale of the little fussy pew-opener advancing up the aisle unconscious of the fact that his charges had already entered a pew he did not intend for them is amusing. Dr. John Brown, of blessed memory, has told a similar tale, but with a different ending, for whereas the Grasmere sidesman relieved his injured feelings on some whispering children, Dr. John Brown's dour Scotsman, James, pulled the visitors out, marched them further up the kirk to the place he had appointed for them, and shut them in with a snap.

We heartily commend the book. It is tastefully got up, well printed, and the illustrations of crag, mountain, dale, leaf, wood, stream, pool and cloud, are numerous and very beautiful.

Reviews of Mr. George D. Abraham's "The Complete Mountaineer" and Mr. Ashley P. Abraham's "Rock-Climbing in Skye," are held over for our next number.

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We hope the boys of the present day will show their gratefulness to Mr. Whymper for granting Messrs. Nelson a concession to publish the "Scrambles," at this low price by purchasing and reading it. Many a mountaineer has been led by it to take up the sport, and we trust it will have a like influence on some of the rising generation. It is, however, curious to see an edition of the "Scrambles" without the beautiful woodcuts which graced the earlier editions.

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