

VOL. VI.

1936.

No. 22.

THE YORKSHIRE RAMBLERS' CLUB JOURNAL.

Edited by ERNEST E. ROBERTS.

CONTENTS.

	PAGE
A Fortnight in the Lepontine Alps	W. E. EVANS 277
Round Sutherland	The Editor 284
Mountains of Yorkshire	J. B. CRAWFORD 296
A Note on the Caves of Mejevo	HAROLD BISHOPSON 304
The Royal Grotto of Postumia (Adelsberg)	J. W. PUFFELL 306
The Gaping Hole Accident	R.C.F.C. 314
The Underground Course of the Manaster River	G. S. COVENTO 320
County Caves—A Brief Diary	P. N. BARTLEY 320
Sam, the Ingleton Plumber	P. W. SYMONDSON 331
Three Letter Days	The Editor 334
Chippings .. .. .	.. .. . 341
On The Hills .. .. .	.. .. . 347
Cave Exploration .. .. .	.. .. . 349
Reviews .. .. .	.. .. . 357
Club Meets 371	Club Proceedings 373
	New Members 376

ILLUSTRATIONS.

Binn	Puffell 277
Albrashott	To face page 280
A Western Loch .. .. .	.. .. . 292
On Star Puff .. .. .	.. .. . 296
Stann Force (Sedburgh) .. .. .	.. .. . 300
The Diamond Pillar .. .. .	.. .. . 310
The Pool Marble Arch .. .. .	.. .. . 314
La Meije .. .. .	.. .. . 340
Ernest .. .. .	.. .. . 348
Alum Pot .. .. .	.. .. . 356
Matterhorn and Dent d'Hérens .. .. .	.. .. . 360
At Ayegarth .. .. .	.. .. . 372

PLANS.

Grotto of Postumia (Adelsberg)	Page 313
Marble Arch Underground System .. .. .	.. .. . 317

Published by the Yorkshire Ramblers' Club, 10, Park Square, Leeds, 1.

Copies from Hon. Librarian, Metropole Hotel, Leeds, 1.

THE YORKSHIRE RAMBLERS'
CLUB JOURNAL.

THE
YORKSHIRE RAMBLERS'
CLUB JOURNAL

EDITED BY
ERNEST EDWARD ROBERTS.

VOL. VI.
[1930 to 1936
(Nos. 19-22).



LEEDS:
THE YORKSHIRE RAMBLERS' CLUB.

—
1936.

CONTENTS.

	PAGE
Corsica in May. <i>The Editor</i>	1
The Outer Hebrides. <i>M. Botterill</i>	13
Some Notes on the Sauerland. <i>J. D. Ellis</i>	19
Three Summers in the Club. <i>S. H. Whitaker</i>	25
About Nothing in Particular. <i>C. E. Benson</i>	36
The Toast. <i>C. E. Benson</i>	43
Lost Johns' Cave. <i>Innes Foley</i>	44
Gavel Pot in 1885. <i>C. Hastings</i>	60
The Charles Inglis Clark Hut, Ben Nevis. <i>The Editor</i>	63
In the Adamello and Brenta Groups. <i>E. H. Sale</i>	89
A Novice's Holiday at Saas Fee. <i>D. Shaw</i>	98
A Trek in Northern Rhodesia. <i>E. J. Woodman</i>	104
June Days in Ross and Skye. <i>D. L. Reed</i>	112
The Cairngorms. <i>C. E. E. Riley</i>	119
The Eisriesenwelt. <i>J. W. Puttwell</i>	122
More about Nowt. <i>C. E. Benson</i>	127
From Barn to Barn. <i>H. P. Devenish</i>	133
North, East, and West. <i>H. A. Crawford</i>	135
Over Tailbrigg Forty Years ago. <i>S. W. Cuttriss</i>	136
Forty Years on, 1892-1932. <i>G. T. Lowe</i>	169
A Glimpse of the Drakensberg. <i>G. S. Gowing</i>	176
Mount Ophir, Johore. <i>G. H. Lowe</i>	181
Six Days in Dauphiné. <i>F. Oakes Smith</i>	185
The Roman Wall of Hadrian. <i>G. T. Lowe</i>	195
An April Rush to Cumberland. <i>D. L. Reed</i>	207
A Week-end at Buttermere. <i>W. E. Evans</i>	213
Goyden Pot, Nidderdale. <i>H. Yates</i>	216
Rumbling Hole, Leck Fell. <i>The Editor</i>	229
St. Michael's Cave, Gibraltar. <i>H. Brodrick</i>	235
Caves in the Dove and Manifold Valleys. <i>H. Yates</i>	240
A Fortnight in the Lepontine Alps. <i>W. E. Evans</i>	277
Round Sutherland. <i>The Editor</i>	284
Mountains of Yorkshire. <i>J. K. Crawford</i>	298
A Note on the Caves of Majorca. <i>H. Brodrick</i>	304
The Royal Grotto of Postumia (Adelsberg). <i>J. W. Puttwell</i>	308
The Gingling Hole Accident. <i>N.C.F.C.</i>	314
The Underground Course of the Monastir River. <i>G. S. Gowing</i>	320
County Clare—A Brief Diary. <i>P. N. Bartlett</i>	329
Sam, the Ingleton Plumber. <i>F. W. Stenbridge</i>	331
These Latter Days. <i>The Editor</i>	334
On the Hills	72, 150, 252, 347
Cave Exploration	75, 153, 256, 349
IN MEMORIAM:—	
Douglas Gordon Culross	66
William Cecil Slingsby	66, 144
William Arthur Wright	140
Robert Kidson Swales	141
Frank Ellet	142
Claude Ernest Benson	243

	PAGE
IN MEMORIAM—(continued).	
James Henry Buckley	244
Samuel Wells Cuttriss	245
Edward Andrews	245
Lewis Moore	246
CHIPPINGS :—	
Friendly Italy	70
Two Narrow Escapes	70
Those Underground Lakes	71
Alpine Hare	71
Alpine Club and Kindred Clubs	145
The Centre of the Climbing World	145
Dow Crags or Doe Crags	145
Fashion and Popularity	146
Travelling Changes	147
Martel	148
The Deepest Gulfs	148
Extensive Yorkshire Caverns	149
Ben Nevis Hut	248
Switzerland	248
Caving in Fiction	248
Footpaths	250
Sartorial	250
<i>The Life of John Buncke</i>	251
Plans	251
Rescue Organization	341
Do or Die	342
Technique of Alpine Mountaineering	343
Place-Names of the North Riding	343
Afforestation	344
Warned Off	344
Compass Deviation	345
Personal	346
CLIMBING NOTES :—	
Kangchenjunga	73
Kamet	150
Everest	252, 347
Skye, Sron-na-Ciche, Engineer's Slant	253
Norway	255
Mourne Mountains	348
CLUB MEETS	85, 163, 271, 371
CLUB PROCEEDINGS	87, 166, 274, 375
NEW MEMBERS	88, 168, 276, 376
REVIEWS	80, 157, 263, 358
ILLUSTRATIONS :—	
William Cecil Slingsby	<i>Frontispiece</i>
Paglia Orba	<i>To face page</i> 4
Uccello, Minuta, and Capo Larghia	,, 12

ILLUSTRATIONS—(continued).

	PAGE
Crags of Beinn Mhor (S. Uist)	<i>To face page</i> 16
The Riingsbrae from Soleitind	28
On the Way up Skagastöltind	32
Upper Glen Nevis	60
Glen Nevis in Summer	64
Brook Kerith: Castle of St. Hilarion	72
Dent Blanche	80
Gaping Gill Flood, 1929	84
Monte Disgrazia	89
Adamello (North Face)	92
Alphubel	100
Ceres Mountain, Michell's Pass	104
Victoria Falls, River Zambesi	108
Liathach	116
Lord Macdonald's Forest	118
Eisriesenwelt, Von Mörk Dom	124
Königsspitze	152
Aiguille Verte	158
Tour Noir	162
Les Bans	169
Beacon Buttress	176
The Sentinel	180
The Padang Batu	184
Les Écrins	188
Below the Col des Bans	194
Wastdale	212
Loch Linnhe	252
By Ullswater	264
Bempton Cliffs	272
Binn	277
Albrunhorn	280
A Western Loch	292
On Stac Polly	296
Black Force (Sedbergh)	300
The Diamond Pillar (Adelsberg)	310
The Pool in Pool Chamber (Marble Arch)	324
La Meije	340
Everest	348
Alum Pot	356
Matterhorn and Dent d'Hérens	360
At Aysgarth	372
PORTRAITS :—	
D. G. Culross	<i>To face page</i> 66
W. Cecil Slingsby	,, I, 68
W. A. Wright	,, 140
R. Kidson Swales	,, 142
Frank Ellet	,, 142
C. E. Benson	,, 242
J. H. Buckley	,, 244
S. W. Cuttriss	,, 245
Lewis Moore	,, 246
PLANS :—	
Lost Johns' Cave	<i>To face page</i> 52
Goyden Pot	,, 228

	PAGE
PLANS—(continued).	
Rumbling Hole	233
St. Michael's Cave, Gibraltar	239
Grotto of Postumia (Adelsberg)	313
Marble Arch Underground Water System	327
 INDEX	 377

THE
Yorkshire Ramblers' Club Journal

VOL. VI.

1936.

No. 22

A FORTNIGHT IN THE LEPONTINE ALPS.

By W. E. EVANS.

" Parlez-vous anglais ? Good."

" Parlez-vous anglais ? Blast."

With these two opening gambits, Crowe and I made our way in June, 1934, across France and half of Switzerland to the village of Binn. As the location of Binn baffled the omniscient Mr. Thos. Cook, it may not be out of place to define it. South of the Rhône valley, Binn is nearly centrally situated on the north side of the chain of the Lepontine Alps, the ridge of which here forms the Italian frontier, and is about half-way from Brigue to the Rhône Glacier.

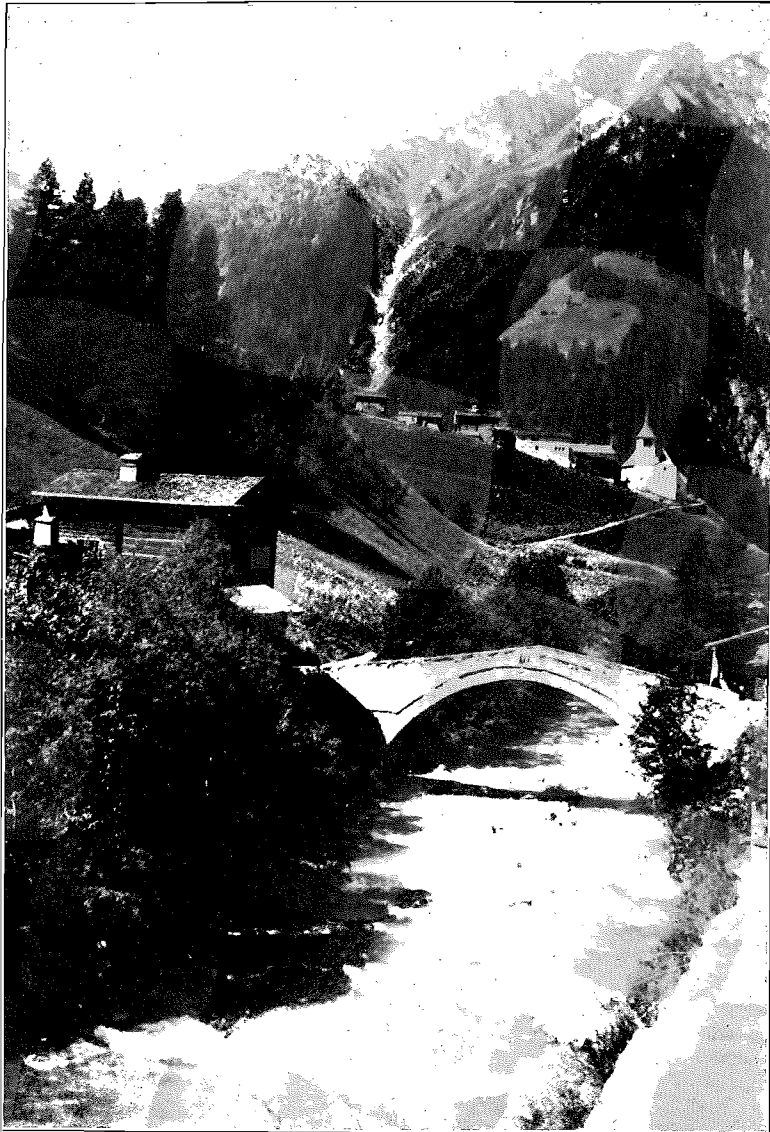
Very good, but why go there? The main stream of mountaineers, flowing contrary to the laws of gravity up the Rhône valley, is dammed and diverted at Sion and Visp; a part, bound for the Dolomites perchance, continues a few miles, and then dives through the Simplon; the few survivors who go further, rocking and lurching up the quaint little Furka Railway, must surely aspire via the Eggishorn to the heights of the Oberland, for nobody, it seems, turns south beyond Brigue—nobody, that is, with nails in his boots. This, at least, was the opinion of a professor in the classics, who had come, in his old age, to enjoy a restful holiday at Binn, but who spoke with the authority that only a score of seasons in the Alps could give.

Eager to drink from this fountain of wisdom, we innocently confessed, one evening after dinner, that this was our first visit to Switzerland.

" Whatever made you choose Binn ? "

We blushed, and tried to explain. We admitted that we had found the rock very rotten.

" What would you expect with this geological formation ? "



BINN.

Photo by W. E. Evans

Undaunted yet, we countered by claiming that we were at least getting good experience of snow-climbing.

"No more than you would in Wasdale in the winter, I imagine."

After that we discussed the Test Match.

Let me say immediately that we had no regrets at having chosen Binn, and, with the greatest deference, I hold the learned professor's scorn to be misplaced. For a party of two, with some mountaineering and rock-climbing experience in the British Isles only, but no knowledge of snow or ice, the choice of a suitable district is difficult. Guides were a luxury we could ill afford. A friend who knew this district told us that here we should find variety of climbing, nothing beyond our powers, no glaciers, and no need of guides. We took his advice, and are grateful. The only hotel has an English-speaking proprietor, who knows the needs of climbers; it is clean, comfortable, and inexpensive despite the adverse exchange.

In writing of the days we spent in and around the Binntal, I am conscious that those who have climbed in the Alps will find them unremarkable, yet to us the pleasures were unique. We had all the joys of discovery and endeavour in a new field. The first sight of high hills; to carry an ice-axe, not because "there may be some snow in the gullies," but as an essential piece of equipment; even to start out before dawn; all these are adventures at first. If I write at all, I must record them.

The approach to the Alps has been too often described. A sleepless night in a stuffy French train does not aid the appreciation; but we were not disappointed, only strangely excited, by what we saw as we travelled up the Rhône. Later, the ten mile walk from the nearest railway at Fiesch to Binn seemed a never-ending purgatory. It was exceedingly hot, the road was dusty, our clothes and shoes were all wrong, and our rucksacks too heavy. Of course, it was uphill all the way. The thought of climbing mountains was singularly distasteful.

Yet, as we approached the hotel at Binn in the staring midday sun, sweating, tired, foot-sore, and wanting above all

to sleep, even then we knew that the Ofenhorn must "go." It should wait only until we had made our preliminary canterers, "found a length," as it were.

The walk to the Eggerhorn, a good view-point overlooking the Rhône, was typical of the district. The path first winds upwards through fragrant pine-woods, where, almost at every turn, a snow-capped peak, sometimes a new one, sometimes the same in a different aspect, shows itself ever lovely, through a break in the trees. Then it crosses the upper pastures, a many coloured carpet of June flowers, to the ceaseless yet never wearisome sounding of cow-bells. Higher still, where the soil is thinner and poorer, are the gentians, surely the bluest things on earth! The purity of that deep colour, that scorns to flirt with either green or purple, fascinates the eyes.

Coming back that first day, I remember how, with great caution, we avoided crossing some hard snow, many feet thick, which bridged a little watercourse. We knew, a week later, that it would have borne an army!

The Wannenhorn, about 9,400 ft. high, gave us a taste of both rock and snow, but presented no problems. I had, however, the utmost difficulty in dragging my leaden boots up the last five hundred feet, and felt extraordinarily weak and shaky at the top, where it took a long rest and much lunch to return to normal. The obvious explanation is altitude, but why did we feel nothing of it the day before, at nearly 9,000 ft.? Later, up to our highest point of about 10,500 ft., we experienced nothing which could be definitely attributed to altitude.

We descended by an easy, but excessively rotten rock ridge, and a long snow slope, fairly hard, and steep at the top. With Crowe anchored safely on the rock, I cautiously kicked steps down to the limit of the rope, drove in the axe, belayed, and watched Crowe proceed with equal caution until he was the rope's length below. We continued thus for, perhaps, 500 ft., and half an hour, while the bottom of the slope seemed no nearer, before I lost patience. I had slipped once, and stopped myself comfortably with the axe. So we tried a glissade, and ten minutes later we were down in the Fleschen glen again, having had the time of our lives! This, however, was the only

good glissade we had during the fortnight, because we were usually descending western slopes, softened by the afternoon sun, but it was the start of our confidence in snow. At first we always went for rocks in preference, to the great astonishment of our ex-guide landlord. We found later that snow was faster both up and down.

The Ofenhorn does not dominate the Binntal. It is too far off for that. But its splendid form, isolated, and framed between the slopes of the valley, is a constant exhortation, whether seen at dawn, at noon, or by moonlight. It was under a full moon that we set out at 3 o'clock. Three hours steady going up the gently rising valley took us to the final slopes of the Albrun Pass, a pony-track into Italy. Turning east here, in less than an hour we were on the snow-slopes, which we took to calling glaciers on the authority of the map. I think the only glaciers we ever saw were those in the Oberland, from the opposite side of the Rhône valley, but it is a convenient word, and sounds well!

Already the loveliness of the day and what it disclosed had surpassed anything we knew. We had seen the day breaking behind the Ofenhorn, and printing its form on our minds as it did on the sky; westwards, everything was rose-tinted, the little clouds against a turquoise sky, the tops of the mountains, and then their lower slopes, as the shadows of the higher peaks in the east drew in before the rising sun. When those shadows overtook us, we made our first stop. There were other mornings when we reached the snow, the sunshine, and breakfast-time together; it is a happy concurrence.

There followed an hour of step-kicking up a broad couloir in sunshine which enhanced the contrast between dazzling snow and the high black walls of rock which make the Eggerofen an impressive approach to the peak. Then a rock scramble up a ridge with one pitch whose exposure, rather than its difficulty, called for the rope. The west peak, to which it led us, is separated from the higher east peak by a little col; the distance is, perhaps, 200 yards; the time, five minutes by the guide-book. Alas, the ridge was wickedly corniced, and a flank attack was indicated. A tricky descent of some loose rock was followed by a 300 ft.

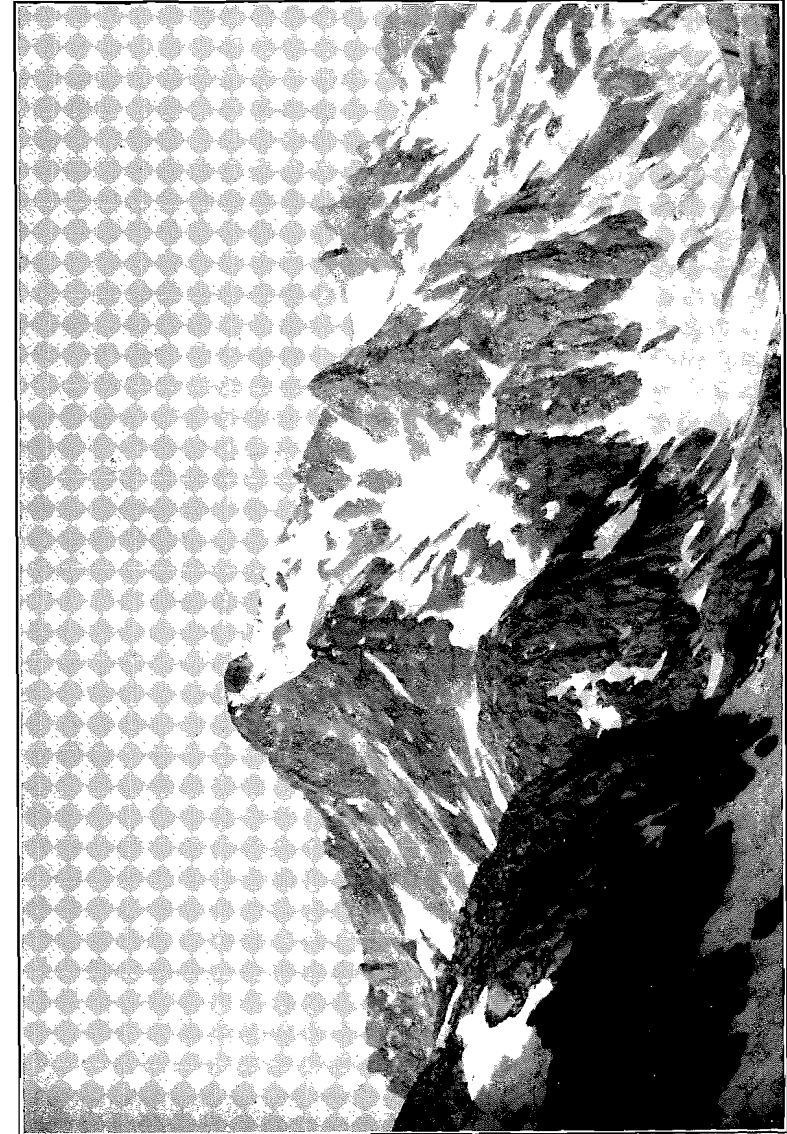


Photo by W. E. Evans

ALBRUNHORN
(THE SCHIENHORNS SEEN TO THE RIGHT).

traverse of a steep slope of soft wet snow, in which we floundered nearly to our waists. It was good to escape from the morass, and scamper up the final rocks to our first 10,000 ft. peak. The book's five minutes had taken us fifty. Was that snow dangerous? Neither of us knew; both thought it was; by tacit agreement, the subject was not raised until we had safely recrossed it, with the peak in our pocket!

Meanwhile, the sky had darkened, a soft snow had begun to fall, and more black clouds were riding up from the south. There had been distant rumbling, too, from Italy. We had not descended far before the storm was with us, with all the proper stage effects—thunder like whip-cracks about our ears, lightning of incredible brilliance heightened by reflection from the snow; "Phsst" said my ice-axe to every flash, while Crowe reports that the brim of his hat hummed a merry tune. I cannot understand why the experience was not more alarming; true, it was not a violent storm, and we hastened to leave the ridge on which we were when it broke. Yet there must have been elements of danger in it, and perhaps we should have been wise to dump our axes until it had passed. I was too much interested in the phenomena to be frightened, and I remember only being delighted that I was so lucky as to be present at such a performance, instead of having to be content with the comparative inadequacy of written accounts—even Whymper's.

We had other good days after this, but there was something unique about the hours spent on the Ofenhorn which we never quite recaptured. There were pleasant off-days, basking in the sun, and lazily watching the countless butterflies, as lovely and varied in their colours as the June flowers amongst which they were so busy. There were strolls through the pine woods, and attempts to solve the annoying problem of how to photograph dark foreground and distant snow with any recognisable result. There was even an occasion when I was moved to write what I thought were verses on an Alpine valley, a clear indication that it was time the valley was forsaken for the hills again.

The ascent of the Bettlihorn is to be recommended for the magnificent views it gives. From the summit, every peak of the Lepontine chain, from the Blindenhorn to the

great bulk of Monte Leone, its bowels pierced by the Simplon Tunnel, can be identified, the whole a castellated rampart above the plains of Lombardy. The Lepontine Alps resemble the Coolin in this, that their passes are comparable in height with their peaks, the highest and lowest points in the ridge being 11,670 ft. (Monte Leone) and 7,900 ft. (the Albrun Pass). Northwards from the Bettlihorn, the dark trough of the Rhône valley, with its silver thread of river, is seen, and beyond, the giants of the Oberland, the high ground so foreshortened in the clear air, that the peaks seem to jostle one another amidst a maze of twisting glaciers.

Almost our last expedition was to the Helsenhorn, a fine snow peak on the frontier, and the highest within our cruising range from Binn. The landlord, on hearing of our objective, sighed. Our predilection for rocks, which was past his comprehension, had led us earlier to ignore his advice, and he was not unnaturally a little peeved.

"Ach, you vill lose der vay again," he said.

But not only did we find the way and keep to it, but kept the guide-book time to the summit to boot, so that this excursion had a certain neatness of execution which pleased us. There were, however, aesthetic pleasures which far outweighed these childish things; it is a delightful climb. A steep ascent at the head of the leafy Langtal, beside a fine cascade, leads to a great amphitheatre, the floor mossy, flat, with a peaceful stream meandering across it, the walls a full 3,000 feet of rock, broken only by the entrance whence we came. On the right are the cliffs of the Hüllehorn, ahead is the Ritter Pass, safe from a frontal attack, on the left the rock buttresses of the Helsenhorn. The only access to the rim of this great cup in the mountains is in its south-east corner, where the route to the Ritter pass finds the walls broken, and less steep. This we followed to the snowline, where we stopped for rest and food.

The sun was rising over the Helsenhorn behind us, as we watched the shadow sweep across and down the flank of the Hüllehorn a kilometre away. The artillery opened fire. As each snow-filled gully came under the sun's rays, its imprisoned rocks began to tumble, until, in a quarter of an

hour, there were four or five batteries engaged. The noise, like thunder, echoed and amplified by the encircling hills, seemed out of all proportion to its cause; at the distance, the falling stones could hardly be seen, and their downward progress seemed gentle and leisurely. It was a fascinating entertainment, and especially interesting by comparison with the little avalanches of new snow which we had seen falling from the Schwarzhorn a few days before. Again at a distance, it was incredible that the slowly falling wave, its soft whiteness seeming imponderable, should be the cause of the muffled thunder that filled the Fleschen Glen. These incidents, more than anything else, impressed on us the greater scale of these than our British hills.

A steady climb on rock and as yet unsoftened snow brought us uneventfully to the top. Two curious things we had seen. An apparently cheerful spider at 10,000 ft. in the middle of (to him) a vast expanse of barren snow, and innumerable small leaves on the melting surface, having been blown perhaps 5,000 ft. to this height by some great wind, which we were content to contemplate without asking further demonstration of its powers.

It was a day of un-English clarity of atmosphere; there seemed to be an end of visibility only where sheer distance annihilated form. The fleckless sky deepened from an azure horizon to cobalt at the zenith. To the west, the mountain masses beyond Monte Leone, containing all the giants of the Pennine Alps, too distant to identify, made of the skyline a jagged frieze. Looking north, the Oberland was a wonderful sight. The sunlight burnished the rock to a glowing purple-brown, above which the glistening peaks stabbed the sky—Finsteraarhorn, Aletschhorn, Grünhorn, the Eiger group—so many that were only names until that hour, when, in the perfect silence sometimes attained on mountain tops, and very seldom elsewhere, we found also "a great easing of the heart."

* * * * *

Lausanne: a calm summer's evening beside the lake, a dinner chosen with care and perfectly cooked, a suave and satisfying wine, all partaken in the most charming company, brought this successful fortnight to an elegant close.

ROUND SUTHERLAND.

By THE EDITOR.

The Sutherland clearances, fishing, bad roads, and strange isolated mountains, the worst climate in Britain at Cape Wrath, and a population of the scantiest, about sum up all I knew of the far north-west of this island. The late J. H. Buckley once drove up to John o' Groats and elsewhere, and was deeply impressed by the long, lonely, and desolate stretches of road. It was always my intention to get to the neighbourhood of Cape Wrath when the opportunity came to go in one of the drier months. As for the roads, reassuring information came from I.C.I. men who had been, that a man who habitually took his car off the tarmac had nothing to worry about.

The opportunity came in 1934, and I left Leeds with my cousin on 16th June after three weeks of glorious weather following a Whitsuntide of evil memory and general flooding. To start in the cream of the year was to give Sutherland every chance. After a week-end at Biggar, we went north on the 18th, via Stirling, but taking the road to Crieff where one abruptly enters the Highlands, winding through the Sma' Glen (Glen Almond), across to Amulree, and down to Dunkeld on the usual route to Inverness. I thought I had seen plenty of broom in my life, but in Scotland the sheets of blossom were stupendous, and in the Highlands it was everywhere, far exceeding any show of gorse. We had a glorious drive, but at Dalwhinnie a breeze got up and the sky was overcast. From Speyside over to Inverness there is a most extraordinary alternation of dense and splendid woodland with wide bare moorland. I regret that I have forgotten the names of the lairds whose determined policy of planting effected this enormous change for the better. Ten miles beyond Inverness, in a shower of rain, we pulled up for the night at Beaully, over 200 miles of a run.

Beaully is a pleasant place, in the tourist's eyes much more suitable as a stopping place than either Inverness or Dingwall further on. One is here in that narrow strip of lowland coast, in which, although the Lowlands (with a capital) are generally

reckoned to end at Nairn, the inhabitants of the towns consider or considered themselves as anything but Highlanders. If you don't believe it, read Hugh Miller of Cromarty, *My Schools and Schoolmasters*, Chap. XXII., and many earlier passages.

Beyond Dingwall we left the characteristically lowland highroad for a characteristically Highland road to cut across the hills from the Cromarty to the Dornoch Firth at Bonar Bridge. The first few hundred yards raised some misgivings, but the road soon settled down into a recently made tarmac surface, and the John o'Groat's buses and other traffic which passed during our first halt soon reassured us. Beyond Bonar Bridge we were in the Sutherland type of country, and on the kind of road we had heard about, too narrow as a rule for cars to pass, but provided with occasional passing places. We came across some unfortunate ladies who had been ditched by a lorry. The only help we could give was to tell them that plenty of people had been ditched in the Highlands but did not talk about it, and that the rescue van would have them out in five minutes.

Beyond Lairg we entered on 20 miles of appalling desolation to a hamlet called Altnaharra, on the Tongue road. Vast gentle flat slopes with nothing on them and the poorest of flora, stretched away far to the west where loomed bold hills. Even the becks failed to bite into the surface, and it was a relief to strike the great torrent pouring down to Altnaharra and Loch Naver. The day had turned out showery and overcast and anything but warm. The idea of bagging a Munro, Ben Klibreck, had to be given up; we only saw slopes running up to a cloud. The road was nine feet wide, ran in long straights with mostly good surface, and had passing places with signs every hundred yards. Seemingly all the roads across Ross and Sutherland from one coast to the other had recently been overhauled.

Nearer Tongue, Ben Loyal was a fine sight in its towering isolation above the moor and Loch Loyal, and the day improved. The roadside was more attractive by the lake with a few birches and wild flowers. I even found one of the more uncommon kinds which I was hoping to see.

A climb over desolation again, and we ran steeply down into Tongue, which stands on the east side of one of the great north coast inlets with a magnificent view of Ben Loyal (Scottish rendering of the Gaelic *Laoghal*). Between us and Cape Wrath were three of these great sea-lochs, Kyle of Tongue, Loch Eriboll, Kyle of Durness. Down by the sea is a great house with extensive woodlands. Those who think trees won't grow in Sutherland because the climate is so severe should see these—there is everything usual, sycamores, limes, sweet chestnuts, etc., growing freely.

Most people would not hesitate over pronouncing "tongue," but in a region of which the place-names are Gaelic and Norwegian, one does not expect the liberties of English spelling, and the name was probably of two syllables originally. It is a direct Norwegian name, for in the story of *Burnt Njal*, the most famous Icelandic saga, Flosi and the Burners rode west over Thurso-water, to another Tongue, the house of Asgrim Ellidagrim's son, and had the cheek to call for breakfast. Thereafter, provoked beyond the law of hospitality, Asgrim tried to pole-axe Flosi.

We had anticipated that we were early enough in the year to have no difficulty about accommodation, but it was very soon brought home to us that the only large business in Sutherland is looking after fishermen, not casual tourists or ordinary visitors. The hotel was full and booked up for months ahead, but has some little rooms in an annexe for *passagiers*. The class of client means, of course, that they do you very well.

The 20th was bright and clear. We went south to the head of the Kyle on a fair but narrow road with few passing places. I left the car at eleven and crossed wide dry levels in the direction of the *col* N.E. of the smallest and most westerly peak of Ben Loyal. There was no doubt that Sutherland had been through the same drought as the rest of Britain. In an ordinary season my route would have crossed the most terrible bogs. The slopes of Ben Loyal shoot up from the bogs with astonishing suddenness, but carrying a sprinkling of trees, and I was soon looking across an amazing scene, sprinkled with tarns, to Ben Hope, the most northerly Munro. From the *col* I was cut off by a

line of stiff crags, but there was no difficulty on the slope of the peak itself, and I was up at 12.45. Cloudberry were abundant and I was lucky enough to see some Dwarf Cornel, a delightful little flower of which the North Riding once had some patches, but I fear has lost them nowadays.

My little peak, unnamed, 1,750 ft., conspicuous on yesterday's drive for its isolation from the main mass, gave a most striking view of the two nearer peaks of Ben Loyal. It looked, in fact, as if I might be a long time in finding a way up. The face of the two of them was simply one line of superb crags towering for the most part above a long and narrow tarn. However, above the *col* at its head was something of a break in the line, and I was very lucky in spotting a deer-track which went up an exciting scramble of steep grass and slabs. It was a glorious day of sun and cool wind with a grand view out to the sea. I was very pleased with having come what is probably the finest route over Ben Loyal, one not suggested in the S.M.C. Guide.

I passed over the second of the two peaks at 1.45, crossed to the main ridge, and halted out of the wind below An Caisteal (2,504 ft.) at 2.20. On the way I had seen Sea Thrift and Moss Champion, and sent a flock of hares scampering off one summit. An Caisteal is a fine granite tor with at least one climb on its S. side and a huge sloping slab on the N. The North Summit, another granite tor, was twenty minutes away, and from it I reached the bogs in 35 minutes, during the last part of which I was glad the wind was cool. Another twenty-five minutes by almost as dry a route as on the way out took me to the car, 5¼ hours.

Pleasant as was this day it turned quite cold after our picnic tea and we were not surprised to find Thursday very misty and gloomy. From Tongue we drove round the head of the Kyle, and leaving some natural woodland behind went five miles down till opposite Tongue, then over six miles of upland, a dreadful wilderness, no rock, no becks, and no sign of Ben Hope which I had come to climb. We had begun on the Sutherland coast road, a great joke among roads, a joke 100 miles long. Once it had been two cart-ruts, now with the help of the excellent Archaean rock, its rawness smoothed by mixture with earth, it is the highroad from

Tongue to Durness, to Scourie, to Loch Inver, and south to the Achiltibuie road. It is seven feet wide, you daren't get off it, and in most places as it is either sunken or raised, you can't; passing places are few and far between. After your first meeting with another car, you learn to call out mechanically, "passing place," to impress on your mind what the situation is when you spot something ahead, whether to push on in hope or go back at once. The Ministry of Transport has just made a heavy grant to Sutherland, so if you wish to test your driving and the comfort of your car, get there soon.

A steep descent to Loch Hope, a glen parallel to Loch Erriboll, running into it near its mouth, and we turned south along the lake on a "road" which goes through to the Altnaharra of our route north. It was a pleasant drive; half way along Loch Hope one enters thick natural woods of birch and willow, no firs, and the scenery is that of the Highlands we were used to. The road is 6 to 6½ feet wide, and after a time we began to realise we might be in trouble; there were no passing places. There was nothing for it but to push on prayerfully, and after six miles, at the very head of the lake, we found a place where fishers had already parked a car, with room for another.

Ben Hope was a marvellous Alpine sight, great buttresses covered in the lower parts with trees towering into the face and losing themselves in the cloud. In fine weather I expect it looks much less impressive, but I notice that J. H. B. Bell found quite a sporting ascent from this side. To-day there was no point in trying it.

The idea of going over from here to Loch Erriboll by a road shown on the map and seen on the hillside fell flat, there was certainly no bridge, and there did not appear even to be a made road to the ford. The flora was extraordinarily poor, so after lunch we bolted back down Loch Hope as fast as I dared drive, then over the hill to Loch Erriboll. Bare and desolate as are the hillsides and shores, and gloomy as was the day, it was a grand and striking scene. The road was very bad at the head of the loch, mere shingle, and later on we met a car and went back a bit to the only passing place

we had seen for miles. Next we passed a long stretch of crofter dwellings. The road here was solid enough but rougher than anywhere else on the whole 100 miles.

Several warships were lying in Erriboll and on this western side there were numerous parties ashore, playing football, etc. We met detachments marching, who appeared to be soldiers, not marines. Later we learnt that the Admiralty own much of the uninhabited land round Cape Wrath, and that the fleet regularly conducts firing and landing exercises there.

A really grand piece of rocky coast, by the open sea for the first time, came next, one little bay after the other. All at once we had a narrow blue inlet running close in on the right, and a beck flowing under the road from the left. There was no bridge—here was a pot-hole! Some people say that I went to Sutherland because of the Cave of Smoo', and I will confess that amongst the luggage were the wire ladder and another. The afternoon was brighter, but on getting out of the car the bitter wind by the sea gave one quite a shock. A run round showed that the pot was probably more than one ladder, and one was glad to take shelter in the cove. We were a mile or so from Durness, and several boats were drawn up here. At the head of the cove is an enormously wide arch; the stream comes from a side cavern within, cut off by a barrier and containing a huge deep pool curving into the darkness to the left. By climbing on to the barrier and a little out on the right wall, the waterfall can just be seen. Somewhere I have come across a writer who had had a boat lifted over the barrier and who got a better view.

There is a temperance hotel in Durness, but the fishing hotel, where I had fortunately ordered rooms, is at Keoldale on the Kyle of Durness, two miles on, forty from Tongue. The journey is possible on foot, as two ferries cut off many miles. A walk in the evening showed that the flora by the coast was quite interesting and the weather showed signs of being warmer. After two poor days out of three we were wondering if Sutherland weather was always bad, but the *Times* indicated that the South was having a poor time and next morning we were positively cheered to open a copy, 24 hours late, which had a column headed "Ascot Ruined."

Friday was spent in a walk right along the coast from Keoldale to Faraidh Head (Far Out Head) and round to Durness, and as the day wore on the weather became warmer and more sunny. As far as the narrow isthmus there was sand, and low cliffs, after that the rocks rose to a striking height. It was the first time I had seen a really rocky coast, other than chalk, and the views were most impressive, particularly along to Cape Wrath. *Dryas Octopetala* is common high up in the Alps, it is rare even in the limestone of Northern England, but here it was fifty-fifty with the grass on the sea-cliff, flowers mostly over, but with abundant very large blooms on some inland banks. Sea Thrift was abundant, and *Silene maritima*, the white Campion of the Wasdale crags in July. There were many patches of Yellow Iris.

To reach Cape Wrath it is necessary to use the Keoldale ferry and then to tramp eleven miles along a dreary road and eleven back. The usual method is to make up a party and do the journey in a wonderful old motor which the hotel people have taken across in pieces and reconstructed on the west side. There is an area S. of Cape Wrath, about 10 miles square, where there is not a human being.

The 23rd was a blazing hot day. Eight miles up Strath Diomaid and over a pass we suddenly came from the drift and peat-covered region of the north coast into an entirely different type of country. In a few miles we passed the head of a sea loch in delightful scenery—more bracken, more birches, more rock. The bones of the land, the Archaean gneiss, stuck through in hills and knolls, the road swung round a hillock, past a lochan, over a burn, up and round another hillock, along more burns and by more lochans, past Laxford Bridge where for the first time we might have turned back across the county to Lairg, and so to Scourie. Then on, another fifteen miles or so of twisting road through a lonely and delightful land, where the only sign of life was some fisherman's car parked handy to some lochan, duly assigned him on the list daily exhibited in the Scourie hotel.

We lunched near Kylestrome in the superb surroundings of the Kylesku Ferry, half way up a huge sea loch, by the amazing strait above which it splits into two mighty arms. Opposite towered Quinag, great peaks behind a great corrie

flanked by impressive crags. If Quinag is not the most famous peak in Scotland as a local guide-book claims, it is certainly one of those worth travelling far to see, and to climb. Kylesku Ferry is easy, the ferry boat runs up and on, the ramps are not too steep and are free from seaweed, but the bump on to the boat is still sufficient to damage the tail ends of the more absurdly built modern cars.

Beyond Unapool the car climbed steadily for some miles on to a moor at 849, E. of Quinag. At the bottom was a gate opening on to a vile road N. of Quinag. Namesakes of mine, a father and a son, in an excellent £5 Humber, had passed us while halted at Kylestrome, and were so attracted by Quinag that they took this road and after ten miles of adventure, awful surface and hills almost too much for the car, emerged on to a comparatively Christian road at Drumbeg. As for our road it got looser and looser, and sometimes very narrow, but was always passable. Then we saw Suilven and Canisp in front, and Ben More Assynt to the left, and so down to Loch Assynt, a great sheet of water, seven miles long. Inchnadamph is at its head on the road to Bonar Bridge on the E. coast.

What a difference, a nine foot road with passing places, a racing track! I fairly trod on the gas till we had to stop to look at the view near the end of the lake. Then winding down a delightful glen, to the woods and open sea of Loch Inver. The hotel is small, and the word was—"booked till the end of September, Inchnadamph probably the same." It looked like Bonar Bridge that night, but the landlord relented and mentioned that there *was* a boarding-house. Seaview House, Miss Forbes, is an excellent place, with a large sitting room upstairs and there we stayed. Later we saw our friends coming in after their tremendous round from Kylesku, and brought them in. The summer days are long in these latitudes; we saw the sun shining at ten p.m., and went out to post letters at eleven in broad daylight.

One hot day had passed, but it was nothing to the next, which scorched the skin of my face as it has only been scorched in the Alps. I went up Suilven with George Roberts, jr., his first mountain. It involved a long walk up Glen Canisp, so to save some grind we took his car up to Glencanisp Lodge.

This is a private road, but the inhabitants of the lodge are not so fierce as is usual. Meeting us on the road two of them backed their car ever so far and then gave us advice about not going further. Nevertheless a man with a car with a low bonnet who can see where he is going is not to be deterred. The track beyond had once had a foundation wide enough for a car, and for half a mile we proceeded crushing down bracken, gorse and broom, till stopped by a narrow gap in a wall. Here we left the car, for good I thought, and followed a very bad path for miles. Then we struck up heather slopes past some tarns, and by very steep grass slopes went up the N. side of Suilven, just beyond the formidable looking Grey Castles, the sea end. The wonderful view was rather spoilt by haze, as the day passed.

From the summit, back along the ridge, up the middle peak, and then along the ridge, to be startled by a sudden gap and the formidable appearance of the precipitous face of the lowest peak. Keeping to the left of the crag it gives a short and pleasant climb. We kept on to the bitter end of the ridge, rounded the head of Loch na Gainimh, bathed, and found Glen Canisp decidedly long in the blazing sun. At 7.15 we contemplated the car, at 7.30 it was apparently fixed for ever across the road with a pair of wheels in each of depressions which had once served for ditches. On such expeditions carry a spade, the handle of the jack is quite inadequate for digging turf. The brain wave which sent us away at eight was to use two long and heavy stones which could be rolled. Driving off these the car heaved forward an inch or so up the bank, one stone was rolled forward and jammed in place, the clutch released, then the same process for the other wheel, and bit by bit the back wheels mounted to the top of the stones. The spray of rubber when driving off edges was wonderful, but the tyres seemed none the worse. A little filling in and the back wheels were on the solid foundation, and we proceeded on a triumphant career through the gorse bushes, very late for dinner.

On the 25th my car carried the party to the shade of the trees by Loch Assynt Lodge, and by the wrong path first, through bog myrtle and deep heather to the right one, the same two fared forth to bag all the peaks of Quinag. Five

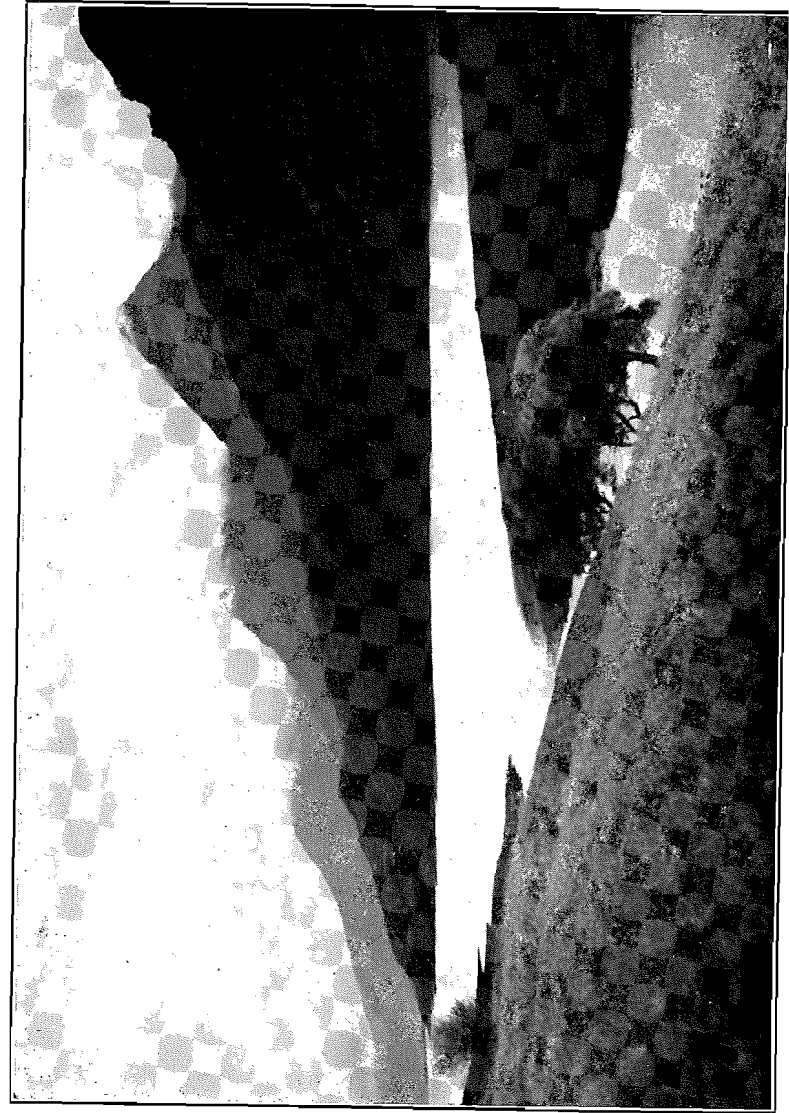


Photo by E. H. Side

A WESTERN LOCH.
(LOCH SHELEAG).

peaks ran in a line on our right and the highest was on a great spur behind the middle one. The path was a tremendous help, the walk to the pass only a mile, and the variety of scene much greater than on the Suilven day. From the pass we traversed the slopes of the middle peak, point 2,448, gradually ascending till we were right under the dip in the ridge north of it, then straight up a very steep slope.

The hillocks and rock basins of the west coast are Archaean rocks, the strange isolated mountains are Torridonian, the next younger rock, and some of them, like Ben More and part of Quinag have caps of gleaming white quartzite. Torridonian is a sandstone, which goes several better than millstone grit in its absence of holds and in the rounded edges of its strata. We gained the ridge through a break in a line of formidable crags stretching far to the north, our left, passing through rocks of the "hot cross bun" type, i.e., the ends of the arêtes went up in towers which looked like great piles of stone buns. Where the Torridonian is not in impossible faces, it gives many an amusing climb, where a new technique, the arm-hold round a segment of "hotcross bun," has to be learnt.

It was a glorious day; we saw islands, sea, sea-lochs, a land covered with hundreds of tarns, and a perfect mountain view. The heat was delightful, but up there on Quinag the sun was at times almost intolerable. I have read that in the tropics the sun is an enemy, and I had the feeling then that the sun was almost hitting me. Never in the Alps have I had such a terrible scorching as on the peaks of Quinag.

We had gained the ridge in an hour and three-quarters, and after a long rest went on over a 2,000 foot point a mile to Sail Ghorm, 2,551, 2.40 p.m. There were grand views down the line of crags, and we saw many a narrow ridge and tower of the quaint Torridonian kind. There must be many climbs on Quinag, waiting. From Sail Ghorm we came back and climbed slowly to our third peak, 2,448, then without much descent went east to the highest summit, 2,653, a quartzite-capped peak (4 p.m.). Returning most of the distance, we had to go down quite a long way and then climb very steeply up to 2,306. The sun was at its worst, and Spidean Coinich, 2,508, looked a terribly long way above. One more effort

and all was over, bar shouting. Quinag is a grand mountain! An easy line down was spotted, the pass below gained in 35 minutes, and the path to the road at a cowhouse, not at the Lodge, travelled in seventeen. Here by the trees and the lake the midges fell upon us.

On Tuesday our friends went on, but my cousin and I remained at Lochinver to loaf by the sea, and let my face heal. Iris was everywhere and in the gardens a profusion of the old Scotch yellow rose. The summer flora seemed quite early with a curious lingering of spring flowers. At Lochinver were the only firs we saw on the coast run.

North of Inverness one is beyond the influence of the Prince Charlie legend with its curious suggestions of Scotland as a Roman Catholic country, ruled by Englishmen, and held by English troops. Sutherland went Protestant early and began to settle down 100 years before the rest of the Highlands. Clan Mackay held the north of the county, the Sutherlands the south. The Mackay, the first Lord Reay, fought through the Thirty Years' War, and is stated to have recruited 12,000 Scots. Another Mackay led the Scottish army at Killiecrankie. The fighting forces from this now desolate district in the old days are surprising, the Sutherlands mustering 2,000 claymores in 1745. A month before Culloden a French force compelled to land at Tongue was captured by the Mackays, Munros, and M'Leods; the day before Culloden the Sutherlands and Mackays with hardly any loss destroyed another force of 250 Jacobites at Dunrobin. Prince Charlie would have had a poor chance had he landed among these stout Presbyterians. The names of the clans which formed the seventeen independent companies holding the Highlands after the departure of the regulars, Mackays, Macleods, Munros, Macdonalds of Sleat, Rosses, Gunns, etc., show that beyond Inverness you have left behind the clans of Charlie's dramatic and gallant adventure.

The 27th became a morning of heavy showers during which I wrestled continuously with the problem of removing part of the engine tray to locate and recover a nut dropped in from the oil filler. After lunch we went south on the last twelve miles of bad road, eight of them far and away the most difficult driving experienced. Innumerable corners were so sharp

and narrow they had to be taken on second gear, remembering that if you gave the left mudguard too much margin off the wall you might drop the right rear wheel into the ditch. Some much needed passing places were being built, but to-day we met no one. The slimy road made it a trying drive, but we touched nothing.

Modern cars with their poor view are not easy to drive on a road like this, and the more extreme forms are a serious nuisance. More than once I have had to get out to assist drivers into a passing place. In one case the driver was so sunken that even at the sixth attempt he dared not turn his wheels sufficiently at the right time, into what appeared to him a sea of heather diving into peril. We never should have got past without man-handling his car, but for a weakness in the ditch which enabled me to drop in my near wheels and climb out again.

The following day a driver swore he had seen no passing place, but ran up his wrong side and invited me to try. There seemed an inch or two to spare so I biffed his mudguard, as neither of us could see the leading edge. Having since torn the flywheel casing when backing, I shudder to think how I got past finally. In spite of the cut bank I ran my off wheels on top somehow and drove past, the flywheel casing scraping off the edge, no doubt. Fifty yards ahead was a passing place, and very soon another!

The worst was over at the River Polly, where was one of the lonely wood and iron schools one sees as a sign of some houses in the neighbourhood. The problem of staffing these little Highland schools must be a very serious one, to which there is nothing to-day in England comparable. By now the clouds were breaking up and we had remarkable views of Au Stac, Cul Mor and Cul Beag. Once on the 9 foot road west to Achiltibuie we turned east and flew inland past Loch Lurgain, till we struck the road from Lochinver to Ullapool, then ran N. past Inchnadamph, a 50 mile round in all.

But at Inchnadamph the map showed that Traligill, coming from Ben More Assynt, disappeared in the ground. The afternoon was now glorious, so we sought and found the swallet, two miles up from the hotel. It took the whole beck under a low arch, but after 20 yards the cave narrowed

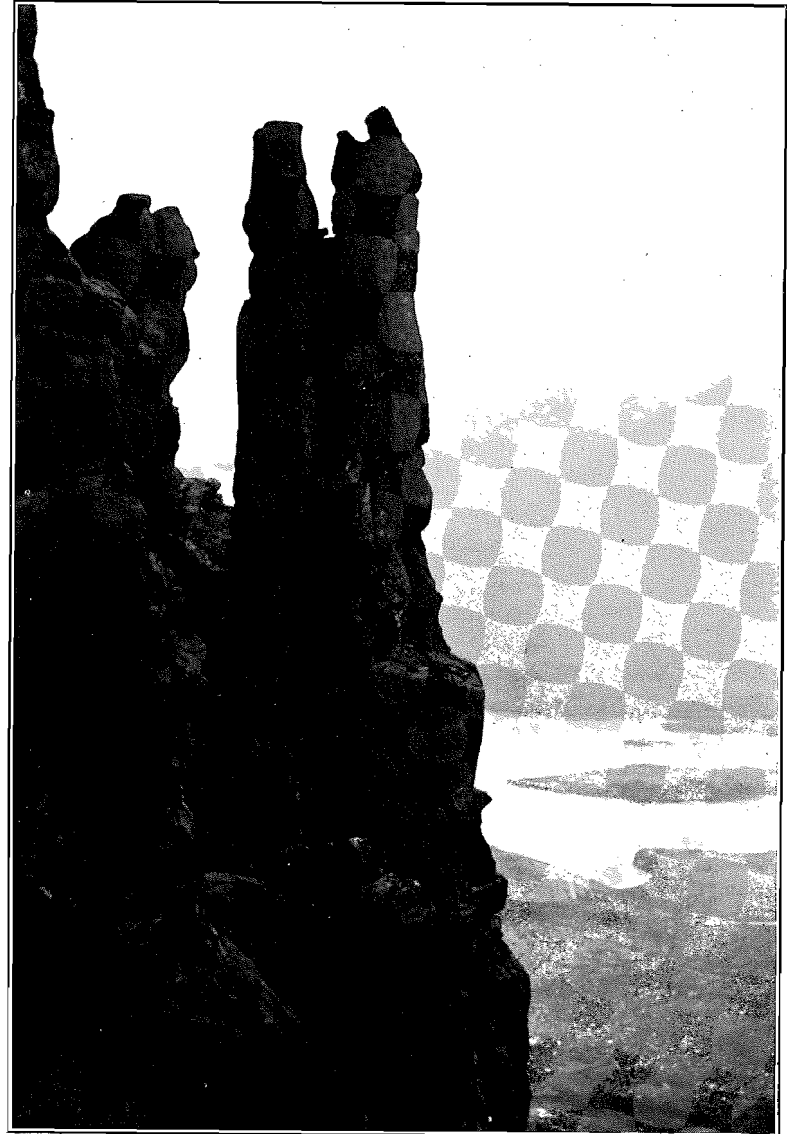
and needed proper outfit to follow. The dry bed was followed down for quarter of a mile to a rising, and 200 yards lower the burn was joined by another rising.

The Cave of Smoo' (Durness) is formed in Cambrian Limestone, the next stage less ancient than Torridonian, and a thin exposure of Cambrian quartzites and limestone runs south to the head of Loch Assynt, where it widens out a bit. I have since discovered, through Platten's help, that half a mile above Traligill are two caves, Cave of Roaring, and Cave of Water, which seem worth attempting. The glen next south of Inchnadamph is dry for a mile and contains a powerful spring. It is called Allt nan Uamh (Cave Burn) and is well known to bone-diggers.

On Thursday, another day of really hot sunshine, we left Lochinver, passed through the two glens to the south so gloriously covered with birch woods, and made to-day more comfortable but still cautious going over the twelve bad miles into Ross-shire. Stac Polly and companions were glorious. By Loch Lurgain on the good road we stopped, and I went straight up the steep slopes by the gully direct to the W. top of the remarkable ridge of Stac Polly, 2,009. I was only 70 mins. though the last bit was up a slab and by a pretty climb among "hot cross buns." Again there was glorious heat and good visibility.

Stac Polly has grand crags at either end with stiff climbs on them but along the top is an easy scramble. The ridge is accessible at many points but the fine rocks along it must offer many excellent short climbs and sporting pinnacles. I got back to the car after three hours, and though on top I felt good for another peak or two, in this land of island peaks it is difficult to make oneself drive on another four miles, get out, and start a second peak all over from almost sea level. Anyhow I failed miserably to tackle Cul Beag, just above the road, and we went along into Ross, turned south to Ullapool and on through the magnificent woodlands stretching for miles up Loch Broom and beyond, up to 700 ft. above sea, almost to the fork of the Dundonnell road.

The Ullapool woods are not produced by a doubtful struggle with man and animals. Here there has been planting and one sees not only park land trees as at Tongue, but also many fine firs and pines. From the first sight of Loch Broom the



ON STAC POLLY

Photo by E. H. Sale

well remembered forms of the Teallach peaks kept us company, where years ago Bell and I made first acquaintance with the weird piles of Torridonian rock. From the Dundonnell fork we tore along to-day over the wilderness on an excellent nine foot road past a single house, the Altguish Inn, across Ross-shire to Garve, a road along which years ago we had crawled and bumped from mound to mound and rock to rock, and been glad of the ancient motor, a pioneer of the buses, which bore us.

At Garve you get the best dinner in the Highlands, and that is saying something. Also at the foot of Ben Wyvis you have quite lost the strange Sutherland country and entered on glens and among mountains of a more familiar type.

Contrast and contradiction were the impressions I carried away. The grand trees of Ullapool and Tongue, the dense natural woods of stout thick birches resembling those of the Sognefjord, but occurring only at long intervals, are very puzzling. I should hardly think man can have been responsible for a general destruction of trees. The temperature maps give the January temperature as that of West Wales and Somerset, but the July temperature as 3° less than that of the mass of Scotland, which in turn is 3° less than that of the South Coast (which is 3° less than London town). This would make the spring very prolonged, and a warm period for ripening seeds may be very uncertain. Trees may then grow well, but spread too slowly to gain ground unaided against animals in our geological age.

If Sutherland belonged to the State, it would be an ideal country for the erection of huts, and for the marking of routes. There the builder of a cairn would be a benefactor. At the time of the row over Lloyd George's Land Valuation Bill, the Duke who owns practically the whole county, I believe, offered it to the State in a sense, that is, the Treasury found that his retaining all the water rights made the offer of no value. It is a great pity no offer for complete purchase was made him, and the lands annexed to the Crown.

Like the Coolins, the west coast of Sutherland is one of the things to see in these islands. If you go, order rooms at one place at least or you may have to turn back to the east. The country is the fisherman's, not yours, and he stops for weeks.

MOUNTAINS OF YORKSHIRE.

By J. K. CRAWFORD.

I. THE HOWGILL FELLS.

The Pennine Chain, known to British schoolboys as the backbone of England, extends from the Cheviots to the Peak. It consists of three blocks of mountainous country divided by two gaps or passes.

The northern Pennine area lies between the heads of the Tees, Wear and South Tyne on the one hand and the fertile valley of the Eden on the other and includes Cross Fell in Cumberland, also Mickle Fell in Yorkshire. Between it and the next section, the wide and high pass of Stainmore comes sweeping over from Teesdale to Edendale, from Bowes to Brough. An ancient and elevated highway this, used by prehistoric man, brigand, and Roman, and by a modern motor way (except in the snow blizzards of winter) from England to Scotland.

The middle Pennine area falls almost entirely in Yorkshire and "is chiselled into high relief with the mountains and dales of the North-West Yorkshire Highlands" (Kendall and Wroot). South of this in the Skipton district lies the Aire Gap, the lowest and most accessible of all the passes through the Pennines.

The southern Pennine area is the great wrinkle which ends in the Peak district of Derbyshire and on the slopes of which have grown up the industrial towns of Yorkshire and Lancashire.

It is, however, the middle block which is of such interest to the Yorkshire Rambler. Here lie all the two thousand foot tops (about forty) of Yorkshire with the exception of Mickle Fell and its satellites.

The Howgill group, situated partly in the north-west corner of the West Riding of Yorkshire and partly in Westmoreland, are more akin to the latter owing to their geological formation. They are slate hills separated off from the limestone and gritstone of Yorkshire by the line of the Dent Fault, so that approaching them, say from Baugh Fell, there is an abrupt change from the long moorland ridges, coarse

grass and peat bog to smooth steep green slopes. Their steepness indeed and rounded summits give them a distinction and an outline which makes up for lack of great height, as they only range from 1,500 to 2,200 feet. The river Lune, with its head waters, almost surrounds the Howgill Fells, the Rawthey completing the circle, and the West Riding boundary crosses them from Rawthey Bridge to Carlin Gill, a little north of Low Gill Junction. Sedbergh, famous for its Public School, is the natural centre for this region and there are delightful approaches on every side, particularly from Kendal or Kirkby Stephen.

It may be asked, what are the attractions of these hills, which nobody seems to write about and which appear so bare (Wordsworth's "naked heights"). In answer, I would say, firstly, that to a Yorkshireman, they are so unlike his familiar scenery, and secondly that, owing to their comparative remoteness from large centres of population, they afford to the hill-lover a sanctuary of quiet and repose. During my tramps over them I have rarely seen anyone else, and I include a Bank Holiday, which is now hopeless in the Lake District. It is grand walking country with wide expanses of hill and sky. Beneath lie the deep little glens, interlacing and with little room except for the becks which occupy them.

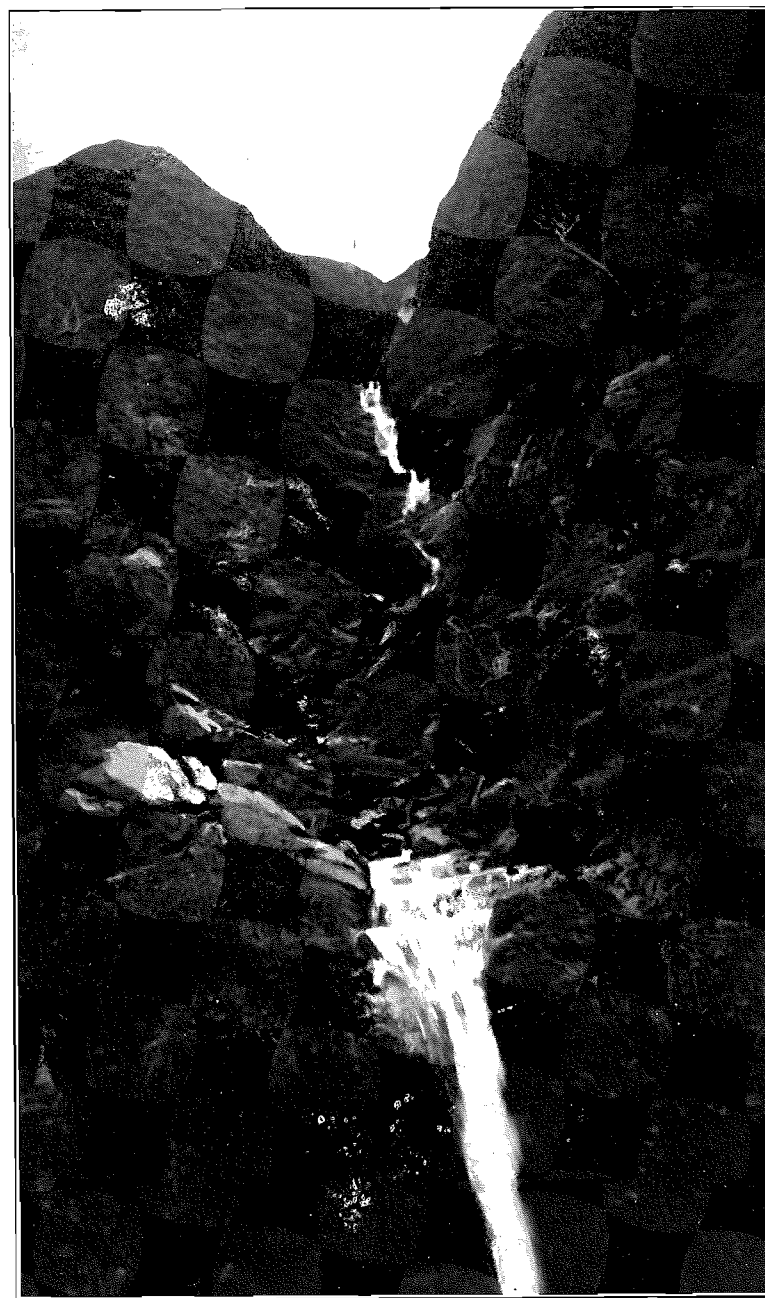
My first introduction to the Howgill Fells was due to the Editor of this *Journal* who accompanied me in traversing them from Crosby Garrett to Sedbergh on a late autumn day. After a wild and stormy night, the rain had ceased and we found it a breezy walk from Ravenstonedale over Spengill Head and steeply up and down Yarlside to the Calf. In fast gathering darkness, we had a little difficulty in descending but eventually picked up the track leading south over Arant Haw and Winder.

Some years afterwards, I again crossed, this time from west to east. E.H.J. and I had been on a walking tour in the Lakes one blazing hot Easter, and finishing up at Kendal, decided to delay our arrival home as long as possible. Alighting at Low Gill Station, we found a rickety foot bridge over the Lune, where Fair Mile Beck enters it. The weather had completely changed from summer heat to grey skies and chill winds, as we pursued the beck upwards. On the top of

Fell Head it was blowing hard with thick mist and we had to use the compass carefully in getting round the head of Long Rigg Beck and on to the Calf plateau, from which we descended past Cautley Crag.

One lovely morning in June, I left Sedbergh by Joss Lane and ascended Settle Beck Gill between Crook and Winder. In half an hour I was in the heart of the hills, a lark singing joyously overhead and a cool north-west wind blowing. Eastward, Wild Boar, Swarth, and Baugh Fells appeared in bulky outlines and a delightful track leads round a corner, where a surprise view greets the eye of the western ridges and combs of the Howgill Fells. I was alone and this gave me ample opportunity to stop at any moment, study the map, take a photograph, and generally please myself, a very pleasant relaxation occasionally.

Continuing down to a saddle (on the one-inch map, O.S. Popular Edition, sheet 20, close to the *t* of Brant Fell) with a wire fence on the right overlooking Hobdale Beck, the path mounts steeply up Calder. Where it turns to the right towards Great Dumacks, I left it and crossed Bram Rigg Top. These hills are very confusing in mist, as a previous experience shewed. The Calf (2,220 feet), the highest summit, is seen as a long ridge beyond the depression which forms the source of Cautley Beck. I soon reached the cairn, which lies at the western edge and consists of only a few stones, commanding a glorious prospect of the Westmoreland Hills. Keeping to the ridge and county boundary over Bush Howe, I dropped to the narrow depression at the head of Long Rigg Beck. From here I had planned to make for Simon's Seat and finish up at Gaisgill, a station away to the north, but instead ascended Wind Scarth and Fell Head, overlooking the beautiful valley of the Lune. My intention was to find Black Force, which lies about a mile to the north. So descending a gill, which is not named, I arrived at the top of a gloomy ravine, where the stream falls sharply into Carlin Gill. The best view is obtained by scrambling down to the foot and viewing the Force from below. I was now practically at the extreme north-west corner of Yorkshire (over 100 miles from Spurn Head) and in a lonely and romantic spot.



BLACK FORCE (SEDBERGH).

Photo by J. K. Crawford

It seemed a suitable place to lunch, despite sinister stories of suicides near by!

A horribly steep climb led back to a track which winds round the western side of Fell Head and descends gently to green pastures. After a while, I stopped and dozed in a sheltered spot, being only awakened by the whistle of a train rattling down from Shap and Tebay. Proceeding down a wooded ravine against which the dark fells made a fine background, I came upon the pleasant hamlet of Howgill and paid a visit to the tiny church. The old man who unlocked the door (he did not look very old) told me he was eighty-three and shewed me a photo in the vestry of his grandfather, who had been the parson there for sixty-four years. The church used to occupy the spot where the grocer's shop now stands, close to the pretty bridge. He spoke also of long severe winters unknown to the modern generation and deplored the lack of contrast to-day. When I complimented him on his wonderful fitness, he put it down to a hard upbringing and simple diet. Saying good-bye, I wandered slowly back along a lane full of wild flowers to Sedbergh in the evening sunshine.

The previous day having been spent wholly on the Yorkshire side of the Howgills, I determined to see something of the Westmoreland portion. An early train took me, a solitary passenger, from Sedbergh to Tebay. From the latter station I walked back along the high road for half a mile or so, and at Lune Bridge struck up on to Tebay Fell. There was a beautiful light over the hills towards Eastern Lakeland contrasting with the darkness of the gorge just below me. Turning eastwards over Archer Moss, where the going is heavy, I kept as high as possible but had to descend to the head of Uldale and mount again to Docker Knott, where another little valley lay between me and Simon's Seat. This was quickly overcome and soon I stood on the grassy summit, viewed from which the perky little tops seemed to pop up in all directions.

Langdale lies far below and by its cheerful stream I ate my sandwiches in complete isolation, except for the sheep, with which this country is well populated. There are no walls to climb here, unlike most of our West Riding hills.

Mists and fine rain now came drifting over from the west as I followed a beck up to the central ridge at Hare Shaw. After crossing two feeders of Cautley Spout and slipping into one, I descended a scree shoot rapidly to the great hollow below. At all times it is an impressive scene, a magnificent fall of water with the dark Cautley Crags on the left and the steep slopes of Yarlside on the right. Indeed the mists flying over the Cautley ridge above the corrie gave a faint suggestion of Arran or Skye. Leisurely keeping company with the beck to its junction with the Rawthey I walked the remaining five miles by footpath and cart track to Sedbergh, for tea and the evening train to Leeds.

II. BAUGH FELL.

The traveller on the Midland route to Scotland, approaching Hawes Junction at an elevation of over 1,200 feet, looks down on his left to the charming valleys of Dent and Garsdale. Flanking the north side of the latter, lies the enormous bulk of Baugh Fell, one of the wettest of mountains and the home of innumerable torrents which tear the bleak hillside. It is not a very interesting climb from any side to its summit, which is seen to be about two miles in length, extending in the form of a crescent and consisting of two flat tops. East Fell has four tarns, situated at the head of Rawthey Gill, across which ravine, a good mile away, lies the cairn of the West Fell, with its solitary sheet of water. Nor is it, one would think, a conspicuous mountain, but oddly enough till very recently it appeared on every map of the North under the form Bow Fell, even on those which ignored Cross Fell.

Many Yorkshire hills are conveniently included in a cross country walk and on one occasion the writer left Sedbergh en route for Hawes Junction (or Garsdale as the station is now called) by way of Baugh Fell. The year was barely a month old, as I stepped briskly out beneath a cloudless sky and in brilliant sunshine, though the wind was cold and snow lay on the tops. After crossing a bridge about a mile out of Sedbergh on the Cautley road and turning down a narrow lane to the farm house of Fellgate, I set off across the long moor towards West Baugh Fell, passing I suppose near the

entrance to Dove Cote Gill Cave, of the existence of which I was not then aware. The way is trackless and boggy and I was soon very warm, glad to sip the mountain stream before breasting the final slope. Seated by the cairn, sheltered from the north wind, the view was magnificent.

Above the dark ravine of Cautley, the Howgill Fells appeared to great advantage, their covering of snow making them appear much higher. The valleys converging on Sedbergh were well seen and the eye travelled from Dent Crag and Whernside to the heights beyond Wensleydale and the Mallerstang group, with Wild Boar Fell prominent. The West Tarn lies close at hand and after visiting its shores I tramped along the broad tableland to the point marked 2,216, rounding the head of Rawthey Gill and encountering deep snow drifts on the East Fell. Steering straight for a plantation across the dale under Rise Hill, I descended steeply and somewhat laboriously to the tiny church of Garsdale. I had now five miles of road walking in front of me (a proceeding I usually abhor), but on this occasion it appeared as nothing, for in this green and sheltered vale, beside the river Clough, which appeared first on one side and then on the other, spring seemed to have arrived. I passed the entrance to Grisedale, ancient home of the wild boar and containing some queer place names (e.g., Mouse Sike) in the few dwellings which comprise its little community. Arrived at the Moorcock, a cup of tea was welcome, before returning to the station for the train to Ribbleshead, where the jolly companionship of a Y.R.C. meet at the Hill Inn and the kindly care of Mr. and Mrs. Kilburn rounded off the day.

A NOTE ON THE CAVES OF MAJORCA.

By HAROLD BRODRICK, F.G.S.

The late C. A. Hill gave a very interesting account of the Caves of Majorca (more especially of the Cave of the Dragon) in Vol. III. of the *Journal*. In March, 1934, I had the pleasure of following in his footsteps to find that in the intervening 27 years conditions have altered considerably. Now both the Cave of Arta and Cueva del Drach are easily visited in a day for each from Palma by car.

In his paper Hill quotes Martel with regard to the Cave of Arta and states that it is "black as the inside of a chimney" owing to "the resinous torches of visitors"; this is no longer wholly the case. The cave is very cleverly illuminated by electric light, numerous switches being fitted so that varied effects can be produced.

The roadways have all been concreted and steps made so that one can visit the whole of the cave in the lightest of shoes. The stalactites in the upper portion of the cave are still coated with the sooty deposit so deplored by Martel, but when one gets to the lower parts of the cave, which would evidently not have been much visited in the early days, one finds that the formations still present their original whiteness. It is impossible to describe the beauties of this cave but I would strongly advise anyone who has the opportunity to visit it.

Tradition has it that it was the last refuge for the Moors on the Island at the time of the Conquest by Jaime I. in 1230; it is said that many of them with their families retreated to this spot and fortified the entrance with timber; two Spanish brothers were lowered over the cliff top and set fire to the wooden fortifications, after which the Moors surrendered unconditionally, naturally to meet the fate of the conquered in those times.

It is interesting to find in the maps of the Island dated 1784 the name of the cave as Cueva de la Ermita (The Hermit's Cave). Its temperature is much lower than that of the other caves which I visited on the Island, possibly

because it is at least 200 ft. below the surface, whereas the others are only about thirty feet below ground.

As is well known, Martel published an excellent survey of the Cueva del Drach, a reprint of which is given in Hill's paper, with a translation of part of his article in *Spelunca* 32 (1903), as a result of Martel's exploration and survey the whole of this wonderful series of chambers can now be visited very easily in the day. The older known portions of the Cave, Cueva Louis Salvador, Cueva Negra and Cueva Blanca are well worth seeing, but the real beauties of the chambers discovered by Martel in 1896 could only be seen by crossing Lac Miramar by boat, and that of the smallest, and returning the same way.

Within the last few years an artificial entrance has been made at the end of the Salle Louis Armand, some 600 yards from the old entrance and the furthest point reached by Martel's party. From here one walks along a very well made track through this very fine chamber, which is about 200 yards long and thirty to fifty yards wide and in which are numerous magnificent stalactites and pillars. This leads after crossing two bridges into a complicated series of passages and chambers known as Salle de Los Herreros filled with a profusion of stalactitic formations of all types. There were numerous attendants here with acetylene lamps and they kept stopping at various viewpoints and illuminating the formations with magnesium ribbon. I understand that by 1935 the whole cavern will be illuminated with electricity.

Martel discovered this chamber from Lac Miramar by passing along a very narrow canal about 50 yards long in a Berthon boat. Two years ago the owner of the Cave, Don Juan Cervera, to whom I am indebted for much information, broke a passage at about twenty feet above the canal so that one can now walk into the Dome Moragues with ease. The Dome Moragues is a chamber about eighty yards in diameter and some fifty feet in height which slopes down to Lac Miramar.

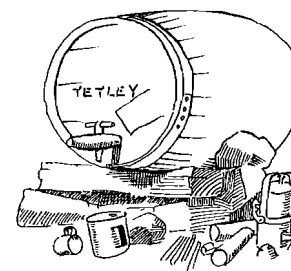
We had been very well conducted to this place, where we found seats for the whole party; all the lights were put out and we sat in darkness; soon we heard very faintly

notes of music and a dim light appeared at the far end of Lac Miramar, some 200 yards from where we were sitting. Three boats electrically lighted came slowly along the Lake, while the string orchestra on the centre one played Handel's *Largo*. The general effect was wonderful, the stalactites reflected in the Lake adding to the weirdness of the scene. The boats passed us slowly and the band went out of sight round the corner of the Lake to continue playing extremely well. Finally, the band re-passed us towards the entrance playing very appropriately *Dreams of Delight*, while the other two boats embarked the party and followed to the entrance. Several journeys were necessary, as the party numbered nearly 100, but as the boats held about 25 passengers each, we were all soon in daylight.

I would advise anyone who has the opportunity to visit this Cave, described by Martel as one of the most beautiful in Europe. It is very interesting from a geological point of view, being situated on the sea coast and is, as Martel points out, a marine grotto, similar to those found in Jamaica and Cuba, and as I understand also in the Bermudas. The limestone of the district is very much hardened outside, being of upper Miocene age, while it is soft below; the sea has evidently penetrated into this softer stratum and worn it away, leaving the comparatively thin crust of the harder rock above. There is no practicable connection between the sea and the Cave but the waters in all the lakes are to a certain extent salt, the degree of salinity decreasing as one gets further from the coast.

The greater portion of the surface of the Island consists of Tertiary Limestones, but these being of a softer texture than the Carboniferous Limestones of Ingleborough, do not exhibit the fine clints to be found in the latter case; one does, however, find clints of a more rounded type in various parts but in no case do the fissures extend to any depth. Most of the land surface consists of disintegrated limestone and is now very well cultivated, the water being pumped by windmills from a depth of about 25 feet. Martel does refer to Pot-Holes, but during my visit to the Island I was unable to obtain any information on this point.

About two miles from Porto Cristo is another cave, Cueva de Ham, which was discovered about two years ago and which is well worth a visit. It is already lighted by electricity and is very easily visited, the owner having made a very good track through it; like the Cueva del Drach, it is in the Miocene Limestone and is full of marvellous stalactites, etc. In one of the chambers, wisely protected with wire netting, is the best collection of pipe-stem anemolites I have ever seen; the whole cavern is not very large but should certainly not be missed.



THE ROYAL GROTTO OF POSTUMIA (ADELSBERG).

By J. W. PUTTRELL.

"See Naples and die" may be the desire of the world tourist, but the ardent cave-hunter would doubtless change the venue of his passing to Postumia, near Trieste, for there is scarcely another cave on earth so noted for its vastness, grandeur of decoration, and historic associations. Here nature shows herself as a perfect artist, and with the simplest of tools (the river Poik and silent, dripping water) has produced an amazing variety of effects of which I propose to write. The old name of the town, Adelsberg, near to which lies the cave, should be written Adlersberg, signifying "Eagle's Mount," for the rocky hill capped by the ruins of a castle is supposed to have been the haunt of eagles in olden time. In the Slavonic language, also, the place is known as Postójna, which signifies an eagle, but since the territory was ceded to Italy, it has been named Postumia.

The earliest records of this magnificent cave date back 300 years, but many interesting inscriptions still legible on its walls such as:—

Handwritten inscriptions on a wall, including a cross and the numbers 12 and 13.

clearly indicate that it was visited centuries earlier. These inscriptions, including the pious one of "Philip Wenger, Praise to thee O God, 1518," ceased about the year 1676, leaving a blank period of 140 years from 1676 to the year 1816 when the cave was explored by Ritter von Lowengeif. This long interval of neglect, after nearly five centuries of local visits, came about because the old passage had become so choked by falls of rock that in one place it was only thirteen inches wide. In 1830 M. Alois Schaffenrath, the district surveyor, completed the first plan and views of the grotto. These I am proud to possess. In 1854, Dr. Adolf Schmidl, one of the most famous cave explorers of the past century, published his fine monograph, "Die Grotten & Hohlen von Adelsberg, Lueg, Planina & Laas," under the auspices of the Austrian Government & the Imperial Academy

of Sciences, Vienna. Other explorers continued the work, such as M. E. A. Martel in 1893, and in later years, cav. Luigi Vittorio Bertarelli, cav. G. Andr. Perco, etc.

When our party arrived by rail from Laibach and Rakek, two days' journey from London, we changed several £1 English notes for 90 lire each, Italian money, then took our seats in a conveyance bound for the cave, entrance fee 35 lire, 7s. 9d. It was a brilliant sunny morning when a wide stretch of pastoral land opened to our view, with a winding stream in mid-distance. To a stranger, the presence of any great marvel of nature would not be apparent, but to the nature-student the stream and the range of limestone hills to the right promised well.

Arriving at the entrance before cave-opening time, we took stock of our surroundings from the bridge below. Evidently in remote ages a great earth movement had occurred here, as the grey rocks were tilted at a steep angle out of their former level state.

The Poik (Germ. *Piuka*, Ital. *Piuca*), having found a weak joint in the tilted strata, had by persistent action formed a wonderful range of caverns since richly adorned with drip-stone. It had been our pleasure to go further north a few days previously and view the Planina cave where this same river Poik issues to daylight after a subterranean journey of nearly ten miles. The hill top above the Royal Grotto commands an extensive survey not only of the Adriatic and the Julian Alps, but by way of contrast, also the featureless waste tableland of the Carso, the source of the fierce wind the *boya*. Below the cave, the view from the bridge over the Poik and gorge clearly illustrates how the grotto has been formed.

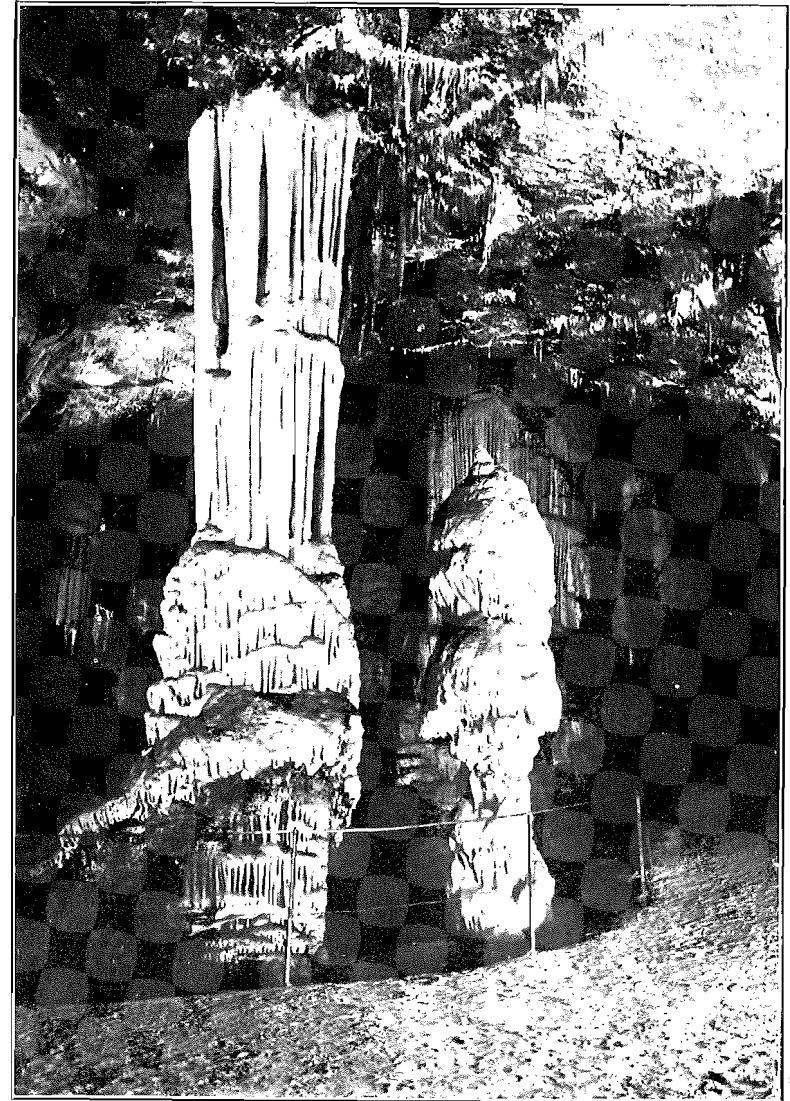
Whilst meditating here we observed people moving towards the entrance and quickly joined them. A splendid wrought-iron grille 20 feet high spanned the opening, and the stonework above showed the date "1819," when the grotto was formally opened to the public. Passing down a corridor we stepped into a miniature train and soon the motor-driven cars were rolling along the narrow-gauge rails. Far below

to the right we saw and heard the Poik rumbling through the first chamber, the lofty "Cathedral" striking at once the impressive note of greatness. We then entered the Ball Room, with its level floor, and mentally pictured the lively scene here on festal days, when hundreds of peasants in their national attire dance merrily in the glare of multi-coloured lights against a natural background of richly tinted formation. Guide-books hint at 8,000 and more dancers, but 800 would perhaps be nearer the number for a dance-hall of its capacity. It is 160 feet long and 100 feet broad. After passing the Crystal Cave we noticed the "Castle Ruin" opposite.

Soon the choice of two ways offered itself. The train took the left passage containing the "Diamond" pillar, then came the Belvedere, and soon afterwards the entrance to "Tartarus," into which dread region the ordinary tourist does not enter, nor will he desire much acquaintance with this modern place of torment for it descends to the treacherous waters of the Poik. It is pleasant to recall that in September, 1893, our Honorary Member, M. Martel (now in happy retirement) did much brilliant work in this area.

Near the Belvedere, darting about in a concrete pool are seen the small blind white and pinkish lizards, the flat-headed *Proteus Anguinus*, one of the strangest creatures living, possessing two pairs of legs and mere dots where eyes should be. Notwithstanding their blindness they appear very sensitive to the glare of the electric light and seem happier when it is switched off and they can again enjoy the gloom. Their skins are so translucent that the hearts, which beat about 55 times in a minute, can be clearly discerned.

Next we proceeded to the Concert Hall, a lofty cave capable of accommodating a large audience and of staging an orchestra of 100 performers. Operas and concerts are given here during the season under the leadership of such famous composers as Mascagni, of *Cavalleria Rusticana* fame. Adjacent, and within the cave, is a real Government Post Office for the purchase and despatch of postcards, etc. Passing to the right from the Concert Hall on foot we observed a stalagmite column appropriately named "The Brilliant" a sparkling introduction to "Paradise," the most beautiful and elegant



THE DIAMOND PILLAR
POSTUMIA (ADELSBERG).

Photo by E. Capello

of all the grottos, the *sanctum sanctorum* so to speak. Joseph's coat of many colours might have compared unfavourably with this gorgeously decorated temple of nature. Every inch of the parent rock is covered by dripstone, the countless faceted enamel scintillating with every rainbow colour like a choice piece of Japanese cloisonné. We reluctantly left this jewel house, a masterpiece of nature, and resumed our tour past the then closed entrance to the Bertarelli Gallery, where there is a bronze medallion of the famous explorer. This passage, 1,600 feet long and only recently opened to the public, connects with the Black Cave and the mysterious Poik, which flows through partly explored channels to issue eventually from the Kleinhausel cave at Planina, where it is known as the Unz. Further on the stream again disappears underground, and on its reappearance to daylight again changes its name to Laibach. Hastening on, for there is much to see in this Aladdin's cave, we commenced the return journey through the "Valley of Limbo" until the largest chamber was entered. This is named "Mount Calvary." Here underground is a hillock with an elevation of 150 feet, ascended by a sinuous path skirting stacks of rocks of varied size and shape.

Ages ago this large cavity experienced the shock of an earthquake when huge rocks were hurled from its roof and sides, creating a scene of the wildest confusion. Happily the scene is now changed, for nature in the long interval has made good by silently and artistically draping everything with glistening calcareous deposits varying in colour from rich crimson to pure white. She has indeed bestowed her favours here with a lavish hand, for the visitor winds his way to the top of the hillock through group after group of stalagmites and tier after tier of majestic cones and columns, here in Doric style, there in Gothic, or yonder Baroque of the most bizarre type. At the foot of Mount Calvary is the terminus of the miniature railway, which affords easy transit to the main entrance by the passage near the "Sepulchre Stall." This takes you through the grand "English Church" and the Column Avenue, also under the curious "Fallen Column" and later by the well-known "Curtain." I have seen longer

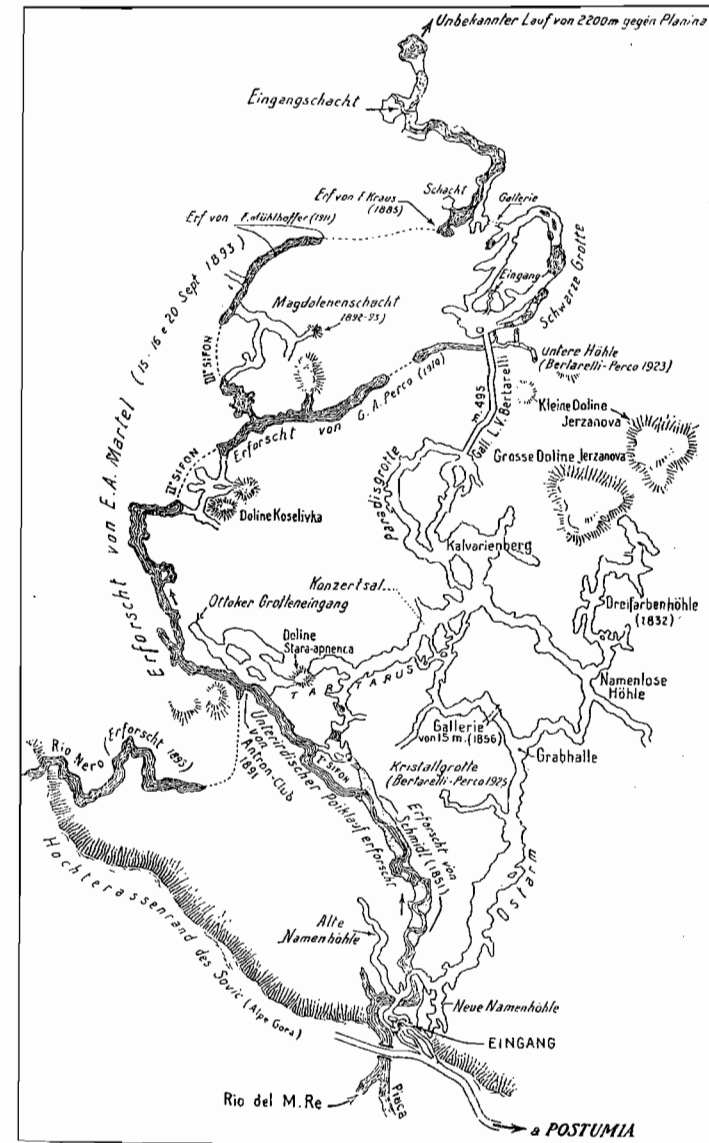
and lustier dripstone curtains, but this transparent white specimen, over twelve feet long, ornamented with a striped border and scalloped edge, is a masterpiece of its kind. Presently we entered the sombre "Tomb Hall," then once more traversed the long gallery leading to the "Cathedral" where again we heard the roar of the now familiar Poik. All too soon we left this wonderland and emerged into the sunlight of a mundane world.

In all our underground travel we had not seen such immense and beautiful scenery, and although possessing a fair knowledge of what has been written about the Royal Grotto, we could only remark in the words of a royal queen, "the half was not told me."

It is not surprising to hear that 200,000 persons visit this premier palace of the nether world yearly. The grotto is brilliantly illuminated (750,000 candle power) and its eight miles of well-made paths, along with the two delightful half-hour motor runs, enable old and young alike to view its treasures with the greatest comfort.

Much is expected from the enlightened directorship of cav. G. A. Perco, and the public as well as the keen student of nature will welcome further scenic effects and the prospect of new grottoes. At Postumia we find the first and as yet the only Zoological Institute devoted to cavern animal life and flora. Three great halls near the entrance are there in use, one for the study of subterranean flora, another for that of cavern animal life such as the *Proteus*, a third reserved for experiments on the influence of cave atmosphere on non-cavern animal life. Thus Italy is in the forefront of all the nations in the scientific study of caves and cave life.

Shakespeare affirms that "to gild refined gold or paint the lily is wasteful and ridiculous excess." Accordingly I will not attempt to further praise the Royal Grotto of Postumia. Give it a visit and if a world tourist you will confess that, though different in character, it ranks with such renowned sights as the colossal Grand Canyon of Colorado, the exquisite Fujiyama of Japan, or the peerless snowclad Himalayas viewed from Darjeeling.



PLAN
GROTTO OF POSTUMIA (ADELSBERG)
(ABOUT TWO INS. TO ONE MILE).

THE GINGLING HOLE ACCIDENT.

By N.C.F.C.

Perhaps the worst accident that has yet occurred in pot-holing, from the rescuers' point of view, happened down Gingling Hole on Fountains Fell on the 13th October, 1934. The Moor & Fell, an infant Club from York, had made the journey to the final chamber, where Weetman, their Secretary, was unfortunate enough on the notoriously rotten scree slope up to the stalactite grotto to disturb a boulder, which crashed against his right leg fracturing it in two places.

Bendle of the Moor & Fell immediately came out for assistance, knowing that their own party of nine could not hope to drag the injured man out of such a difficult cavern as Gingling. (See *Vol. V., p. 215* for description). They had started in at about eleven o'clock on the Saturday morning, and the accident occurred between three and four in the afternoon. Knowing that the Northern Cavern & Fell Club, when in the district, generally meet at the Craven Arms, Giggleswick, Bendle immediately went down there for assistance. As luck would have it eight men were sitting down to dinner at seven o'clock, Downham, Thornber, Bancroft, King, Proctor, Bowen, Johnson, and Buckley.

One man was immediately despatched in search of a doctor, and the remainder hastily grabbed mouthfuls of food and changed into pot-holing rags at the same time. Within an hour the party was up at the shooters' hut on Fountains Fell. It was a horrible night; blinding rain and dense fog had made it no easy matter to follow the Fountains Fell grass track. Coates, the Rainscar farmer, had arrived and he it was who made the whole rescue possible. He discovered the key to the hut, the fellows assisted him with the kindling of roaring fires, and general preparations were made for a prolonged siege. Downham of the Northern followed by Bowen and Johnson set off immediately to ascertain the extent of the damage. The wildness of the night and the dense fog made it an extremely difficult matter even to locate the pot, but eventually the party were sliding down the first ladder and making quick progress along the passages. There

was a considerable amount of water, and the negotiation of the "manhole" which is the second pitch was decidedly uncomfortable. The Canal was as wet and repulsive as ever and the level fairly high, but with little delay the party arrived at the head of the last pitch and came upon the injured man with four of his fellows. Weetman had been placed on a ledge and efforts were being made to keep him warm. They had hauled him up the final pitch, utilising a camera tripod as a splint, but the excruciating agony he suffered was too much and he refused to move without better methods.

It was obvious that more efficient splints would have to be used, so Downham leaving the other men to work Weetman along if at all possible, came out immediately for a couple of boards and a six foot plank to strap the patient to. But it looked to be an almost hopeless task to drag an injured man out of such a tough pot as Gingling Hole, strapped, as he must be, to a plank. Anyone acquainted with the hole knows of the frightfully awkward pitches, and the fearfully and continuously constricted nature of its passages.

At the surface again, Dr. O'Connor of Settle had arrived and very sportingly offered to attempt the descent. Considering that Doctor O'Connor had never even previously seen a pot-hole, being a newcomer to the district, and had not the faintest idea of such an undertaking, to accept the offer was definitely unwise. Back at the shooters' hut it was a distinct relief to find roaring fires, food and steaming bowls of tea. Two boards were obtained for splints and a six foot plank, from wood which Coates had had the foresight to bring up, and Buckley immediately went down with these, 10 p.m. A "directors' meeting" was held and it was decided that the rescue efforts should be worked as far as practicable in three hour shifts. Accordingly with the injections of morphia left by Dr. O'Connor before his return to Settle, Bancroft and Proctor went in. Thornber and his car were despatched to Settle for blankets, etc. for the relieved men, and Downham and the men of the Moor & Fell Club returned with Coates to Rainscar in search of more blankets, food, clothes, etc. It was obvious that it would be many, many, hours before Weetman could be got out on the fell so these extensive preparations were not only wise but very necessary.

Returning fully laden with provisions, etc. and bundles of wonderfully dry and assorted clothes, it was rather a blow to find one man had turned definitely ill below after giving the first injection and had had all he could do to bring himself out. Downham, Thornber and King of the Northern followed by Proctor of the Moor & Fell went in and were soon down at the injured man, who was still at the same point, 1 a.m. Then followed the ordeal of applying splints, undertaken mainly by Thornber, and sliding the patient on to the plank. It was a terrible effort for Weetman, but one he stuck amazingly well; the pain must have been intense.

Then followed the heart-breaking task of really moving him. The Moor & Fell in their attempt to circumvent the descent of the fourth pitch and the very difficult pitch below had adopted the route of a roof traverse and had dropped a ladder—some eighty feet in all—to the head of the last vertical. This meant the descent of a frightfully narrow fissure which was only just wide enough to allow a man to get through, and it was a terrible job pulling Weetman up this pitch. A couple of ropes were tied on, but the first attempt was a set-back, he jammed hopelessly, and had to be lowered again to the bottom. However, by a little constructive ingenuity on the part of all concerned the difficulty was overcome. A chock high up in the crack was used, and Downham by jamming himself in another part of the fissure at its widest point made another perfectly good chockstone for the other rope. By these methods a good straight pull was obtained and Weetman just came through in the widest part. It was very encouraging, but rather a ghastly experience to utilise a human belaying pin, but very soon Weetman was up in the roof traverse. This roof traverse was a ticklish business but he was carefully handled along and just before the finish, say 5 a.m., Bancroft, Buckley and Proctor, had come in again and the patient was kept moving well. Hereabouts Downham, who had suffered somewhat in the fissure and Bowen who had been down the whole time came out with the remaining Moor & Fell men. And so the rescue operations continued and the reliefs worked well in shifts.

The morning dawned fine and clear but bitterly cold, and by seven o'clock, although very fine progress was being made

it was obvious that the terrific strain in the narrow passage was beginning to tell on all the rescuers. Accordingly Downham was driven down to Stainforth by Bendle, and Godfrey Wilson of Giggleswick School, who was unceremoniously dragged from his bed, promised three good men within an hour. Hainsworth of Ingleton came out immediately with a couple and Lord of Settle with another two. Thus adequate arrangements were quickly made and the expedition was assured of enough and efficient help. The gale had played havoc with the telephone and it was no easy matter to get through. Dr. O'Connor was called out of his bed to the telephone and he expressed himself amazed that Weetman was still standing the exposure, but insisted that he simply must be brought out quickly, otherwise the matter would finish itself. Could we run down to Settle for fresh injections? And so down to Settle with a call at the Langcliffe quarry for a stretcher.

From Settle Bendle immediately returned with two of Lord's men and Downham went into conference with the Doctor. O'Connor intimated his intention of attempting to get down to Weetman, and consider the possibility of giving chloroform, &c. It was a very fine offer on the Doctor's part as he was quite definitely scared of the experience. And so the two hurried back to the fell with everything likely to be needed. Hainsworth and Co. had gone in at 9.15, and Lord's party an hour later and the struggle in the narrows was proceeding.

The Doctor in between Thornber and Downham immediately went down, Parker who had come up carrying more splints. It must have been a ghastly experience for the doctor, with all the horrors of the canal and the awkwardness of the pitches, and it was certainly one of the finest efforts possible. Just beyond the bottom of the short third pitch they came upon Weetman. O'Connor set to with his wonderful work, and actually succeeded in setting the leg and putting on plaster bandages in a passage not three feet high, lying on his side in the water. Only those who have been down Gingling Pot can appreciate the difficulties and the work which had been put in during the night. Chloroform was

out of the question, the air current being too feeble, with the consequent danger of putting all the men to sleep.

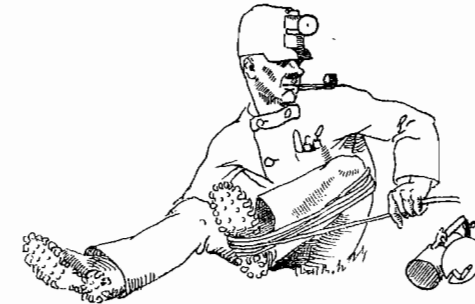
Once the plaster was on his leg, Weetman was taken off the plank and then was able to assist his rescuers much better. It must have been a considerable relief to be free of the thin hard plank, but the method had worked well. The doctor was immediately brought out, much to his relief.

The reinforcements got Weetman to the pool at mid-day, next up the third pitch, then tackled the Canal. It seemed incredibly long—it is said to be eighty yards—the air was none too good, and the water was nearly waist deep. Progress was by inches, Weetman half reclining on people's bodies and pushing himself along with his hands. The "manhole" next proved very awkward, the great difficulty being to protect the injured leg. The final struggle up the slope to the foot of the daylight pot-hole took some time. Very soon there was a great moment of relief and satisfaction for all concerned when Weetman was hauled up, and carried on the stretcher to the hut. Here he was stripped under the Doctor's supervision, and wrapped in comforting warm blankets with hot water bottles. Thence he was carried through a sudden violent hailstorm to the waiting ambulance at Rough Close, 5.30 p.m.

In conclusion, one obtains the impression that all this sounds very weak when considering the efforts made by all the rescue party. No one, other than those men, realises just what terrific labour was involved, and it speaks much for the careful handling of the patient that the fractures did not complicate themselves at all. Weetman had borne the whole ghastly journey wonderfully well. They had gone into the pot at eleven o'clock on the Saturday morning, the smash had occurred at three o'clock in the afternoon, the Northern Cavern & Fell were informed by seven in the evening, the reinforcements had arrived on the Sunday morning, and Weetman was out on the fell before four o'clock on the Sunday afternoon. A remarkably fine effort. Tribute must be paid to Dr. O'Connor for his very fine effort, to the Cavern & Fell for their organisation, the men of the Moor & Fell, for the quick response by Hainsworth and his

men, Godfrey Wilson and his, Lord and his men, Coates the Rainscar farmer for his gesture in opening his house and its resources to the disposal of the party, and to Mrs. Robinson at the 'Craven Arms' for providing food, clothes, restoratives in abundance. Captain Page Hutton-Croft afterwards wrote and expressed his satisfaction that full use had been made of his shooting-box. The whole expedition worked wonderfully well, with scarcely a hitch, and an accident that might have had very serious consequences was well pulled round.

Weetman has made an amazing recovery. A marvellous constitution surely—he hadn't even a bad cold after such an ordeal, which certainly baffled the hospital authorities. O'Connor made such a grand job of setting the leg that the Skipton people didn't even consider it necessary to take off the plaster at all.



THE UNDERGROUND COURSE OF THE MONASTIR RIVER.

By G. S. GOWING.

Easter 1935 should long be remembered in the annals of the Club, for it saw the first official Meet to be held off the island of Great Britain. In the early days of our history the more primitive and perhaps more restful means of transport available to members limited the meets to the vicinity of Leeds. Then, with the advent of the motor-car, we went further afield, to the Lakes, to Wales, and to Scotland. And now we have taken another step and held a meet across the sea in Ireland.

It is not, of course, the first time that the island has been visited by members of the Club; in fact it was the earlier explorations of Rule, Brodrick and others (see bibliography at the end) that suggested the idea of a meet at Enniskillen. The accounts they published in the *Journal* and elsewhere show that they explored the ground with great thoroughness; but still there seemed the hope that new caves might have opened out in the quarter of a century that had elapsed since their work was performed. And so, late on the eve of Good Friday, 1935, a party of nine Ramblers might have been seen boarding the Belfast mail-boat at Heysham, complete with rucksacks, rope ladders and other caving impedimenta, *en route* for the limestone regions of County Fermanagh. The crossing proved to be calm, a good omen, and particularly fortunate for those of us who braved the Bank Holiday crowd that thronged the confined space allotted to the steerage passengers. The party took one car with them and hired another in Belfast and so a few hours' run along concrete roads, a stretch through peat bogs S. of Lough Neagh, and then miles of primrose bordered lanes, brought us to our hotel in Enniskillen in time for lunch. A steady drizzle continued without ceasing from landing in Belfast to the time we turned our backs on the caves on Monday, but with mild temperatures.

The border region of the counties of Fermanagh and Cavan bears a strong geological resemblance to the Craven District.

Masses of Yoredales and grits surmount large areas of carboniferous limestone, in which pot-holes and caves occur. On both sides of Upper and Lower Lough Macnean, south of Lough Erne, such hills rise to about 1000 ft., while a group to the south, culminating in Cuilcagh, reaches twice this height. The caves and pot-holes of the region fall naturally into three groups, those on Cuilcagh, those on the hills north-west of Boho, and those in and around Boho.

After a careful study of the literature, we decided to tackle the first of the three groups, since here appeared most chance of breaking new ground. The previous expeditions had made their base at a little village called Black Lion, but this was out of the question for us, since it is now in the Free State, the caves being in Northern Ireland, with no recognised frontier post for motor traffic between. Enniskillen, although distant some twelve miles, appeared to be the best centre, and here we were lucky in striking an extremely pleasant hotel—the Imperial. A further advantage of this town lay in the fact that it is readily accessible from Belfast by train, those of the party who were unable to use the cars being able to arrive in Enniskillen almost as soon as the rest.

It is not proposed to describe in any detail the country in which the Cuilcagh group of caves is situated, since this has already been done. Suffice it to say that advice from Brodrick and Rule decided us to concentrate upon the system through which the Monastir River makes its underground course from its disappearance at Monastir Sink to its emergence at Marble Arch. The direct distance between these two points is eleven hundred yards—five-eighths of a mile—of which about six hundred yards was unknown up to the time of our visit. As will be seen in the following account, we were successful in reducing this unknown distance to about three hundred yards, a fair achievement for a short week-end under adverse weather conditions. With the above programme in view, we had obtained permission from Lord Enniskillen's agent to have access to the Florence Court property, where the caves are situated. So on the Friday afternoon we called on Mr. Bowles, the head gamekeeper, who gave us a most enthusiastic welcome. He told us that not only did he well remember the earlier visits of members

of the Club, but that he had actually been present, as a boy, when Martel made the first exploration in 1895. He told us moreover that no serious exploration had been carried out since that of Brodrick's parties in 1907 and 1908; in fact, the caves were hardly ever visited at all.

Under the guidance of Mr. Bowles, Junr., we made our way up the glen of the Cladagh (to which the Monastir changes its name) and started our first reconnaissance of the magnificent system of chambers and galleries constituting the cave of Marble Arch, guided by the plan to be found in *Y.R.C.J., Vol. III., p. 64.* After making a rough examination of the Balcony and the chambers lying between the open pots C and E, the Boulder Chamber was entered by L. Our guide told us that the route into the Pool Chamber had been blocked for some years past by a fall of rock and it took us no little time to work out a passage through the maze of immense boulders that formed the jam. But we accomplished it at last, and from there onwards it was easy going through Pool Chamber and Great Chamber to the Junction, where the river had to be waded knee-deep. We then passed rapidly upstream until stopped by the deep pool at the southern end of the Grand Gallery, finding somewhat to our surprise, that the beaches and sandbanks had not altered to any appreciable extent since the map was made in 1908.

On the following day two separate parties were formed, one to attack Marble Arch, while the other explored Cradle Hole. Conditions were disappointing, as a violent storm had raised the Cladagh considerably during the night, and when the first party reached the Pool Chamber they found it flooded to such an extent that delicate traversing along the walls was needed to reach the Great Chamber, while the Junction was unapproachable, water level being six to ten feet above yesterday's. After making a thorough examination of the Boulder Slope and the stalactite passages at its summit, they found nothing new and turned their attention to the Pool Chamber. Here they were amply rewarded, for in the upper south-west corner a passage was found that led, first S.S.W. and then S.E., crossing above the passage from Pool Chamber to Great Chamber, finally ending at a ledge in the side of a cavern of considerable size. This cavern,

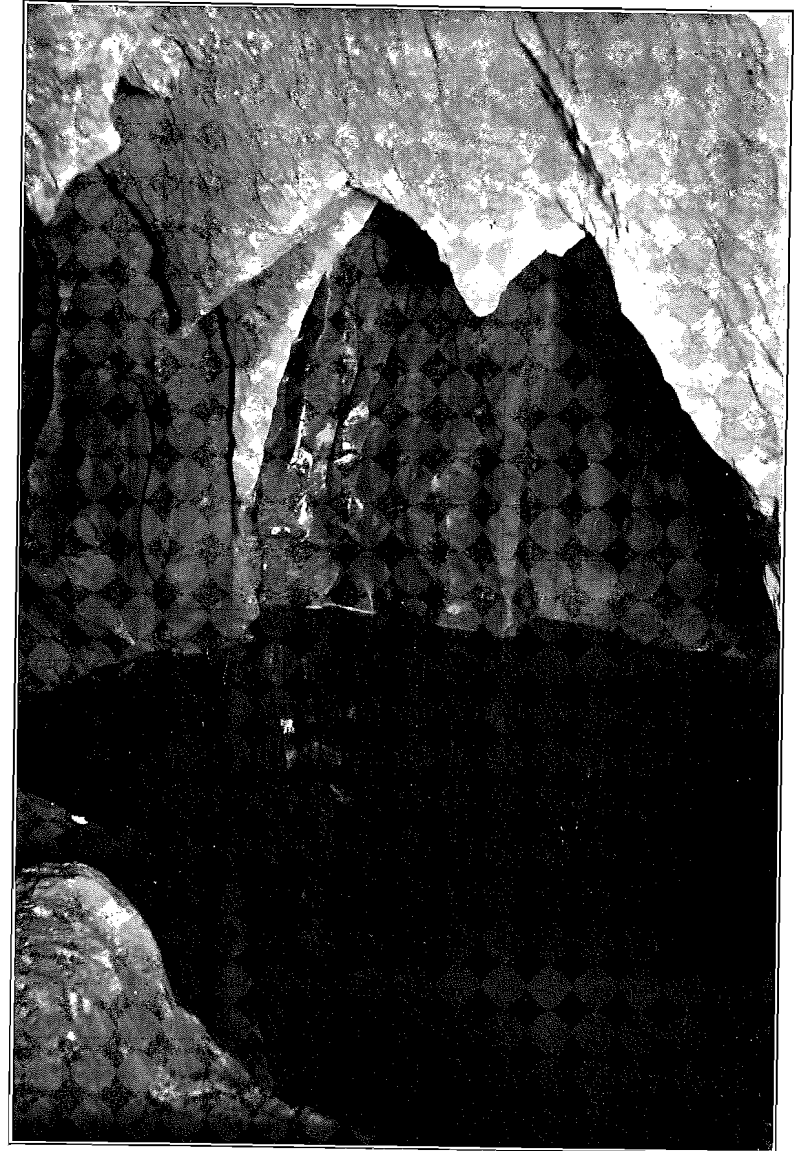
which was surveyed on the Monday, was found to be about 70 yards long by 7 wide and 30 feet high. It lies with its axis S.S.W. and N.N.E. parallel to, and some 40 feet from, the passage between Pool Chamber and Great Chamber. The passage to this New Chamber ends, as mentioned above, in a ledge which runs along its westerly side, some ten feet above the floor, a rope being necessary for the descent. At the northerly end of the cavern, the floor of which is chiefly composed of mud, is a slope which rises to a belfry; at the southern end the chamber turns approximately S.E. and is entirely occupied by a stream which disappears into a low bedding plane, in a north-westerly direction. This wet part was not investigated further, owing to lack of time. It is interesting to note that while on the Saturday the greater part of the New Chamber was under water, by the Monday the floor was reasonably dry. The edge of the northern flood had been covered with earthy scum and bore a most dangerous resemblance to dry land.

While the first party was in Marble Arch, the second descended the open Cradle Hole and entered the Lower Cave. Owing to the flood, penetration to any distance was impossible and when our attention was turned to the Upper Cave this was found to be even worse, no entry of any sort being achieved. The party therefore proceeded to investigate Pollnagapple, which was found to be a large open pot, some 60 feet deep, the descent of which, among moss covered boulders, presented no difficulty. The chamber at the base was examined and at the entrance, in the S.E. corner of the open pot, a small hole was found, surrounded by loose rocks. After several of these had been rolled away, a descent was made to a bedding plane, some 10 feet below, along which a 20 yard crawl in the south-westerly direction led to a rift where one could look down into a chamber below, in which a considerable stream was to be heard. The pitch looked awkward, so the steel ladder came into service and a descent was made. This landed us into a most impressive cavern on a bridge over a stream of such size that it could be none other than the Monastir on its way to Upper Cradle Hole Cave. We remembered that Brodrick, in his account of this latter, stated that he had been forced to turn back from lack

of time, while the going was still good in an upstream direction. We felt sure we had landed somewhere near the point reached by him, so turned our attention to exploration downstream. (On Sunday the river was also reached by a shorter and more difficult route through boulders from the same entrance).

After crossing the stream the end of the chamber was reached where the water passed under a low arch. This temporary obstacle was turned by a traverse upwards from the right bank, through a short high level passage and so into the next chamber. Leading from this was another passage that branched, the left-hand route leading back to the stream, where further progress was impossible, while the right-hand passage led to a window high up in the rift along which the stream flowed. This right-hand route can best be described as a drain-pipe crawl along a tunnel, the floor, sides, and roof of which consisted of extremely sharply fretted limestone, suggesting that at some time past it had been completely filled with a stream of such slow current that the limestone suffered corrosion with but little erosion. From the window at the end a very faint glimmer of daylight could be discerned far down the rift, showing that what was undoubtedly the entrance to the Upper Cave in Cradle Hole had very nearly been reached. Subsequent examination on the following day, when lower water permitted wading from Upper Cradle Hole, showed that this supposition was correct and thus the course of the main stream from Pollnagapple to Cradle Hole had been proved conclusively.

We next turned our attention to the passage upstream of the ladder route from Pollnagapple. The ladder ended on the left bank at the south end of the chamber, where the river emerged from under an arch and recourse had to be made to a traverse upwards through a small high-level hole leading into the next chamber upstream. Continuing on the right bank through this chamber and by a similar hole into a third, the river was then crossed by a remarkable cantilever bridge of stalagmitic material (or perhaps eroded rock), the two arms of which had not quite joined in the middle. Skirting the river on the left bank for some fifteen yards a boulder beach was reached, after which there was nothing for it but to wade in the stream. The water becoming



THE POOL IN POOL CHAMBER
(MARBLE ARCH CAVE).

Photo by B. Nelstrop

deep, a crossing had to be made and on account of the depth and rapidity of the current, we roped up for this manoeuvre, advantage being taken of a diagonal ridge of rock that formed a kind of weir across the stream. We landed on a rocky shelf and in a few yards most of us recrossed the stream by wading once more, although two of the party managed to reach a bridge by a tricky little climb near the roof. The route then led for some fifty yards along a narrowing shelf past some very fine *gours* of gleaming white calcite, until once more we were forced to take to the water. This rapidly deepened after a few yards and the tremendous watercourse, far bigger than anything in Yorkshire, seemed to close down round a curve to the right. Exploration of the end, which was renewed the following day showed that the stream entered from the west, either through a syphon, or possibly under a low arch, the water being too deep and too swift for us to get near it. It seems likely that the next reach of the river is similar to that which joins Marble Arch to Lower Cradle Hole Cave (*vide infra*), *i.e.*, the river flows along a subsidiary joint between two master joints, with curtains of rock in its course. Whether this next reach is navigable or not at low water, remains for a future expedition to discover.

On returning to the surface it was decided immediately to have a second look at the Lower Cave, since the river was steadily falling. On this occasion we managed to get some way further, but were still stopped by the water filling the entire width of the passage. We did discover, however, by means of a candle on a raft, that the water made an exit under a low arch on the right with only an inch or two of head room above the surface.

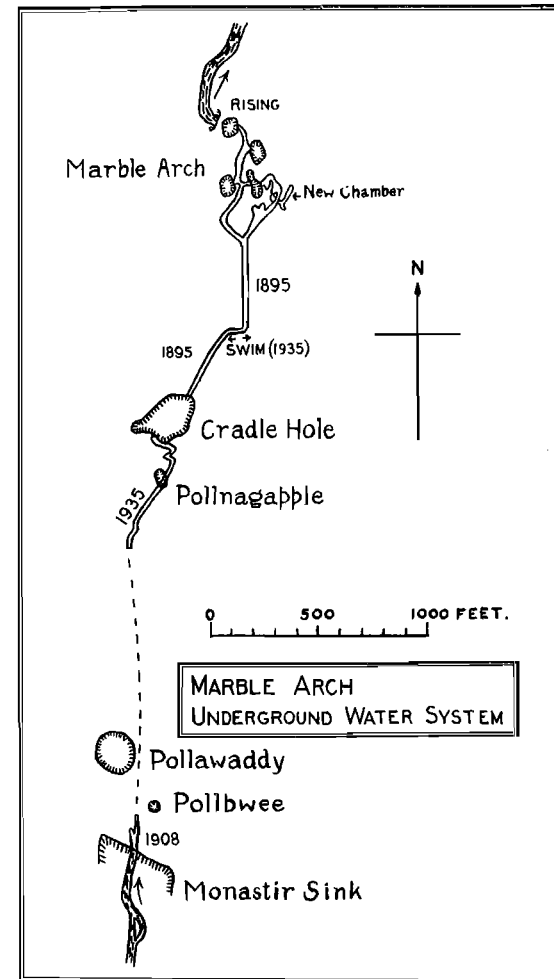
On the Sunday morning, heartened by the less swollen condition of the Cladagh, we made an attempt to enter Monastir Sink, but found it completely unapproachable. After a brief glance at Temple Bawn—a dry cave just above the Sink with two entrances, one a walk—we returned to Cradle Hole and managed to force a passage along the water course to the farthest upstream point reached on the previous day. A survey of the cave was made, shown on six-inch scale, and the total length from the Upper Cradle Hole entrance found to be 280 yards measured along the stream and 205 yards

direct. This represents about half the surface distance between Cradle Hole and Pollbwee, the next pot on the way to Monastir Sink.

In the afternoon we re-entered the Lower Cradle Hole Cave and found that the water had fallen to such an extent that we could reach the end of the main fissure; where the water had, on the previous day, passed beneath an arch with only a few inches head room, was now an arch under which it was easy to wade. This led into a chamber, flooded to a depth of some 4 ft. 6 ins., beyond which was another low arch. By wading breast-high, we were able to reach the arch, but nothing beyond could be discerned. We therefore anchored the candle raft at this point with a view to seeing whether it would be in view from the south end of Marble Arch. With all haste we returned to the surface and made our way into Marble Arch, passing rapidly to the Junction and up the Grand Gallery beyond. Great was our joy when, on wading into the deep pool at the south end, we could clearly see the candle in Cradle Hole, shining through a series of low arches. The character of the junction between the two caves was now apparent. Both lie in master joints and the river has cut a course along a secondary joint between them. In this secondary joint, a series of short master joints have opened out into small fusiform chambers, with rock curtains between. At high water some, if not all, of these rock curtains dip under the surface, forming syphons, but as the water recedes, a through passage is left.

Having thus established optical continuity between the two caves, it seemed a pity that no one should actually carry out the through route in person, so two volunteers were found to swim the intervening distance. The current was strong and the water incredibly cold, but the journey was successfully accomplished without incident, except for the loss of his boots by one of the swimmers. It is naturally difficult to hazard a guess at the distance separating the two caves, but something like 30 to 40 yards seems to have been swum and waded. That evening in the hotel the party duly celebrated what was felt to be a good day's work—the first achievement of the through passage from Marble Arch to Cradle Hole.

On the Monday, the day of our departure from Enniskillen,



SURVEYS OF BRODRICK AND GOWING.
(SCALE SIX INS. TO ONE MILE).

only the morning was available. The party again split up, some going to survey the New Chamber in Marble Arch, while others attempted to reach the underground course of the Monastir at an open pothole known as Pollbwee. Sixty feet of ladders were let down and a landing made on a steep mud slope leading to a deep pool. The sides of the pot were none too safe, and precautions had to be taken to avoid falling rocks. The bottom was thoroughly explored, but there is no way through to the stream.

But little remains to be told. The majority of the party left Enniskillen about tea-time, by car or train, to catch the night boat from Belfast. Those of us who went by car will long remember one incident on the route—an Orange gathering in a little town, where everybody seemed to be beating big drums with incredible fervour and producing the most amazing din imaginable. On the boat, we found the crowd worse even than on the outward journey, and some of the party found themselves in the hold among sheep and cattle. But it was a lovely night and a calm sea and so we landed at Heysham just before dawn, agreeing that the meet, both from the point of view of enjoyment and accomplishment, had been a great success.

Those left, who had a fine afternoon once we had gone and a glorious day on the Tuesday, report that the rising passed in the Cladagh glen discharges not a tenth of the beck they saw raging into Pollasumera, and that in the region north of Boho a fair road now climbs up to within 200 yards of Noon's Hole.

BIBLIOGRAPHY.

- MARTEL (E. A.). *Irlande et Cavernes Anglaises*, 1897.
- BAKER (E. A.). *Caving: Episodes in Underground Exploration*, 1932.
- BAKER (E. A.), H. Brodrick, C. A. Hill and R. Ll. Praeger. *Cave Explorers in County Fermanagh*, 1907 (Pamphlet).
- BRODRICK (Harold). *Some Pot Holes and Caves in County Fermanagh*, Y.R.C.J. Vol. II., No. 8. p. 291.
- BRODRICK (Harold). *The Florence Court Caves, Co. Fermanagh*, Y.R.C.J., Vol. III., No. 9, p. 49.
- BRODRICK (Harold), C. A. Hill, R. Ll. Praeger and A. Rule. *Cave Explorers in County Fermanagh and County Cavan*, 1908 (Pamphlet).

COUNTY CLARE—A BRIEF DIARY.

By P. N. BARTLETT.

These are just a few notes of a short week's visit, Easter, 1935, to Lisdoonvarna in Clare. The Upper Carboniferous Limestone stretches away for miles to the north and north-east of the place. A glance at a geological map will shew its extent and I should imagine that there are numerous discoveries to be made. We only explored a small portion of this interesting country. A car is very useful, the roads are good and frequent, these limestone hills being more thickly populated than would be the case in a similar stretch of country in England. Lisdoonvarna is a convenient centre with comfortable hotels. All references are to the one-inch Ordnance Survey maps and the book referred to is E. A. Baker's *Caving*.

By "swallet" is meant a hollow in the ground into which a stream is flowing or has flowed, indicating a cave or the probability of one. Besides ladders and the usual tackle, an entrenching tool and a crowbar would be most useful, but these can be borrowed, apparently, from any Irishman.

Map references—Ordnance Survey of Ireland, 1 inch to 1 mile, sheets 114 and 123.

Sunday afternoon.—(1) Sheet 122-23, square B3, point 214, south side of road a cave which is blocked in a few yards, but 400 yards further W. beyond the cottage in field there is a promising sink with a stream going in; it wants a crowbar to shift about two boulders.

(2) 300 yards W. of point 214, there is a valley running north to *St. Catherine's Well*; halfway up this valley there is a cave, running up about 200 yards, containing good stalactite formations. It runs near the surface and eventually blocks.

(3) At the head of the valley just below the ruined house, a considerable stream disappears; it has a narrow and rather wet entrance but it can be explored further.

Monday.—Sheet 123, square A5, 880 yards N. of point 660 and 100 yards E. of the road there is a large pothole, probably *Poulmaelva*, one pitch of 75 feet from a grass slope on the

south side. At the bottom the stream flows and the general tendency is towards the east. We found it blocked downstream and could not get through, though I still think it would be possible either by crawling underneath or by moving a few boulders. A small pick and crowbar would be very useful. It would be worth while trying to get through as we heard a big stream beyond. It probably connects up with the Poulmagollum system (according to E. A. Baker). It is possible, however, to get into the stream passage here above the pothole and waterfall, that is in the north-west corner. This leads into a stream passage and cave, which comes out in a swallet about 600 yards to the north of Poulmaelva and on the west of the road. It is a fine passage, rather wet with good stalactite formations. The stream, which flows through this cave, comes in off the Yoredale beds of Slieve Elva.

Tuesday.—Sheet 122-23, square A4, 800 yards W. of point 722 and N. of the road is the *Coolagh River Cave*. A considerable stream runs in here. The locals said that some Austrians had been there about five years ago and they remembered pre-war visitors as well. The cave was followed about 800 yards; about 400 yards down it leads into a larger passage bearing a considerable volume of water. We got as far as a large round pool in the stream-bed, about 6-12 yards across to shallow water. This pot-hole could be crossed by swimming. This is a fine but very wet cave; care is necessary as the stream seems to rise very quickly. In the passage followed there were several side passages unexplored.

Wednesday.—We examined various swallets in the valley below the Coolagh River Cave. The most promising was in Sheet 123, square A4, 800 yards W. of point 598 and 100 yards N. of the road, in a small valley below a school. The Coolagh River level had risen 4-6 inches after about 12 hours of moderate rain. In the afternoon we went E. towards Kilcorney and in sheet 123, square B6 (one and a half miles W. of Kilcorney), 500 yards W. of point 565 and just S. of the road are several interesting swallets which would repay a little spade work. There is one cave here, *Poulliam* or *Poullwillin*, mentioned by Baker, which we followed some way. It is worth while persevering in spite of the red mud. It is a stream cave ending in a low passage with a thin stalagmite

floor over red mud. Just before this low passage the stream disappears left, rather narrow, into a 10 ft. pot, followed by a 30 ft. pot and then into a passage, still rather narrow, which was followed for some distance. This passage showed recent signs of flooding.

Thursday.—Went down Poulmagollum and followed the stream down. Sheet 114, square F4, 150 yards north of road-junction, east of A in Slieve Elva. A rope and a 20 ft. ladder are needed to get down the pot, though there is an alternative entrance in the north-east corner. This is a long, high cavern with magnificent rock formations. We followed it to a point where are the initials E.A.B. on the left wall. After that there is a possible crawl in water. This must be one of the finest caves in the British Isles, certainly the finest stream-passage.

Friday.—We found an interesting pot-hole. Sheet 123, square C2, cross-roads, 500 yards S.W. of point 66 and S. of the road Roadford-Fisherstreet. We heard the sound of a powerful stream flowing towards the sea, about 30-40 ft. down, but unfortunately we did not have time to explore it. North of the estuary of the Lisdoonvarna River there were several streams flowing into the sea and welling up through cracks in the limestone.

SAM, THE INGLETON PLUMBER.

By F. W. STEMBRIDGE.

Old Sam was an Ingleton plumber,
 In fact 'e'd been there from the first,
 You couldn't tell Sam from a blood'ound
 When 'e got on to t' trail of a burst.
 'E were well known as far off as Settle
 As best man at job in the Dale;
 The sight of one drop of waste water
 Was enough to set Sam on the trail.
 Toffed up in 'is 'ard 'eaded bowler
 'E worked at 'is plumbing all day,
 Except when 'e went to 'is uncle's
 At Clapham, some four miles away.

Uncle Ned was 'is nearest relation,
 'E was a sea-captain by trade,
 'E was building a boat down at Clapham
 'In the 'opes a canal would be made.
 There *was* a small stream in the village,
 But 'ardly enough for 'is boat,
 Which needed some ten foot of water,
 Before 'e could trust it to float.
 'E told Sam of this shortage of water,
 Not thinking 'e'd do any good,
 But Sam sucked the end of 'is pencil
 And promised 'e'd do what 'e could.
 The summer that year 'ad been awful,
 But the stream never rose very 'igh,
 It didn't seem right to a plumber,
 So Sam started to reason out why.
 If water was not reaching Clapham,
 It must 'ave gone somewhere else first,
 So 'e jambed on 'is 'ard 'eaded bowler,
 And set off to look for the burst.
 The first thing 'e was taught as a plumber,
 When attending the college in town,
 Was that water, if given its freedom,
 Would always run, not up, but down.
 Remembering this wisdom of childhood,
 Sam walked a few yards up the 'ill,
 But seeing no signs of a river,
 'E determined to go further still.
 Well, 'e walked on for 'ours and 'ours
 Till, just when 'e felt fit to drop,
 'E saw a gurt 'oil in the mountain,
 With a crowd of young chaps sat on top,
 While on the far side of the chasm,
 Sam saw that a river was dashing,
 Which, just as they'd taught 'im in childhood,
 Fell into the 'ole without splashing.
 Sam says—"With all that force of water
 It's a wonder yon 'oil doesn't fill."
 A young chap says, "Don't talk so foolish,
 Don't you know that yon 'oil's Gaping Gill."

Sam knew that 'is journey was ended,
 And now the real work could begin,
 So 'e walked round the edge of the chasm,
 To find the best way to get in.
 Somebody 'ad left a rope ladder,
 Which proved very 'andy for Sam.
 'E soon reached the floor of the cavern,
 And started to think out a dam.
 The place was as big as a palace,
 With room for a thousand or more,
 But Sam knew 'e'd jolly soon fill it,
 When 'e'd stopped up the 'ole in the floor
 Well, as 'e was such a good plumber,
 The job was quite easy to 'im.
 'E soon stopped the leakage of water,
 And filled up the cave to the brim.
 'E got out with 'is 'ard 'eaded bowler,
 Which made it so easy to float,
 And sent word to 'is uncle in Clapham,
 To get up the steam on 'is boat.
 The stream rose as deep as the ocean,
 And in places was seven miles wide,
 So that motorists coming from Settle,
 'Ad to find out the state of the tide.
 Next morning Sam sailed with 'is uncle,
 But they'd very soon cause to be sorry,
 For the dam in Sam's cavern burst open,
 And they brought the boat 'ome on a lorry.

THESE LATTER DAYS.

(WASHFOLD CAVE, MERE GILL, GAPING GILL).

By THE EDITOR.

Forty years ago Martel's daring descent of 340 ft. of rope ladder into Gaping Gill Main Chamber, and his exploration of the Marble Arch Cave in Ireland, marked the opening of cave exploration in the British Isles. To-day the supply of places waiting exploration has been long exhausted, and it is only by careful search, by desperate squirming into narrow fissures, by sheer novices' luck, or by more drastic methods that new ground can be entered. Of sheer luck Foley's great discovery in Lost Johns', and the Pudsey club's re-discovery of Gaskell's Passage in Goyden Pot, are examples.

The Northern Cavern and Fell Club has a fair sprinkling of "tigers" and in 1934 and 1935 hope long deferred was rewarded by remarkable success in squirming through the worst of fissures. First they put another 200 ft. depth on to the Gritstones Club's Washfold Pot, then they got past the gravel bank at the end of Mere Gill and put on another 200 yds. of passage, then a way was forced into an extension of Lost Johns', and later a particularly risky descending slit on the Lost Johns' stream let them reach the foot of Pinnacle Pot.

Of the drastic methods, Balcombe, one of their men, is the leading exponent. Attempts at blasting in Swildon's Hole (Somerset) led on to diving in the terminal pool with home-made apparatus such as garden hose—we believe drowning finally became preferable to the poisonous air supplied—then to real diving-dress work with unexpected difficulties in Wookey Hole in the depths of the Axe. As a result to be in the swim in Somerset you must be an expert with "jelly," and spend your week-ends at the bottom of a sink-hole hopefully endeavouring to blow a way in somewhere.

The most serious development is that no longer is the exploration of caverns quietly carried on by two or three groups of men. Motor-cars and motor-cycles have made the limestone districts easily accessible and any number of parties can now try their hands. Alum Pot, for instance, is swamped with visitors. One result is that there are far too many bits of

clothing discarded by comparative novices, lying about inside. The most inconvenient result is that the sport is in danger of becoming a nuisance to proprietors and shooters.

The greatest care should be exercised to put ourselves in the right, and even the oldest hands will have to remember that they have no privileges, and must be far more particular than in the past in wilds where no one seems interested.

Selside Washfold Cave.—The story of the Washfold is told in a spirit entirely novel, each hero is violently abused, what should be good news is received with execration! Like Swinsto, but more, it is beyond the something limit! The Washfold Cave, 1,000 yds. North of Alum Pot, is a well known and troublesome narrow passage, 70 yds. long. Some over-zealous Gritstone Club man climbed up at the end like many others, but must needs force his way into and through a bedding-plane on the left, soaking up the contents of a natural wash-bowl on the way, to a definite shaft about 20 ft. deep, and climbable to a chamber a yard wide and four yards long. The stream now takes to an extremely narrow passage and arrives at the head of a serious waterfall pitch in a fearfully narrow fissure.

After many attempts the drenched Gritstoners got down this 110 ft. vertical, "imitating a tram-ticket sideways." From another larger chamber a roomy, level passage led 70 or 80 yds., then dwindled. "We struggled down several small pitches, about ten feet deep and fewer inches wide, to be confronted by an impossible slit where the stream bade us a mocking adieu (to my secret relief)."

Next year came a Northern C. & F. C. man. "I am afraid I was rather foolish and it would have saved us much time and anxiety if I hadn't got through." Favoured by the weather his party came again the next two Sundays, each time more unwillingly, faced the waterfall, found a deep rift and squirmed a hundred yards along the top of it, then back eighty yards to the widest part. Here they climbed down 40 ft. to chock-stones, and another 60 in and out among them to the stream. Scrambling along a dangerously loose and narrow passage, under and over huge blocks, they reached another pitch. The awful news that more ladders would have to be dragged in next Sunday almost led to murder.

Though frightfully wet this pitch of 40 ft. could almost be climbed, and after laddering another 20 ft. a thankful but triumphant party, Clarkson, Dawson, Downham, and Douglas reached the end 380 ft. down, a very high chamber, 25 yds. by 10 ft., with a sump running the length of the cave. The lower ladders were abandoned, and the party were "all in" when they had struggled up the bad 110 ft. pitch. The whole system bears dead north.

Mere Gill.—Twenty-five years after, recollections of Payne's determination to get to the end of the fearsome Mere Gill Hole call up pictures of a wild and joyous adventure. Joyous enough in the end, but wet, very,—often a jumpy affair, and full of grievous disappointments. The victors of 1912 found a long stream passage, 450 ft. down, and Stobart, Hazard and E. E. Roberts followed it to where it ended in gravel filling a bedding-plane. In 1914 Payne's second party of eight worked the cave in two shifts, the only really safe course, for no one should be below more than eight hours. Did not the severe storm of Coronation Week, 1911, swamp the trench and fill the Mere in twelve hours to above the cave entrance? Stobart and Barstow, if not Payne and others, reached the end, the gravel: Roy Sanderson and Roberts took the dry passage, which proved to reach the Torrent (a tributary) at its highest possible point, and followed it down to the main passage.

It was not till 1928 that a third descent was made, by the Gritstone Club, a strenuous night attack. Mere Gill Hole kept up its end. "Never wish to see the place again. I may think I enjoyed it, when I have recovered from present fatigue," wrote one stout fellow.

In 1934, the Northern Cavern and Fell Club came along in a period of drought, lucky fellows, and apparently only struck running water inside beyond the pitches and the Bridge Pool. Dawson followed the dry passage to the difficult bit; Proctor, Buckley and Butterworth followed the main stream past the fall of the Torrent, and through much water another 600 yds. to the gravel bank. Here to the left they found they could just scrape through into a passage 4 to 5 ft. high, carrying a mere trickle of water for 150–200 yds. to a hopeless small pool, 6 ft. wide, and practically touching the roof. On

the way back Butterworth was pushed up the waterfall into the easy Torrent passage, along which he went and came back again. Dawson, Thornber and Gregson meanwhile went to the new finish. Mr. Simpson surveyed down to the Torrent, and the ladders were left in, but were recovered in time before the Mere rose again.

It would be a very remarkable cave memory indeed which could place all the singularities of Mere Gill in the right order at the first attempt. Hence when the account of these doings placed the gravel bank 100 yds. beyond the Torrent, it was very doubtful what had happened.

Davis Burrow, who as a boy was in at one of the descents of the first pitch by Messrs. Howarth, Stringer, Simpson, C. E. Burrow and Cook in 1905 and 1906, thought it was about time the Y.R.C. did the hole again, and that the Jubilee holiday of 1936 was a grand opportunity. A reconnaissance before Easter gave very little hope that an attack would be possible, but the dry weather which set in after Easter wrought a wonderful change, and Gowing with ten volunteers from the Billingham Works dug a trench round the sink-holes to avoid the troublesome bridging with corrugated iron, which the Northern C & F.C. had undertaken, where the ridge between has been washed away.

Of that miraculous Jubilee time one can hardly speak in moderate language. Never before have we had a pot-hole expedition in brilliant weather without thought of rain, before, during and after—the conditions of a dream. The nights were warm, far warmer than ever later in May, the sunshine glorious. Everything went right. Camping on the spot, we rigged the first pitch on Saturday night. On Sunday F. S. Booth, H. L. Stembridge, Byrne, E. E. Roberts and Eddison were in from 10 till after 5. They rigged the second and third pitches, and cut the dams in the Canyon between, almost drying up the first pool but leaving the third still quite deep. The first three had a run down the third pitch. At the head of the Canyon on the way back they met Davis Burrow, Hilton, and Nelstrop whose orders were, having a clear road, to reach the far end at all costs.

Outside it was perfect, and after dinner quite exciting, volunteers going down to listen for news. Before ten the party

were out; the gravel bank was far beyond the Torrent and was the 1912 finish; the scrape through was obvious now and the new bit 150-220 yds.!

On Monday Booth, Stembridge and I seemed to be through to the pools beyond the pitches in no time. Byrne was off on business and Eddison had damaged his foot, hard luck! The stream was nothing to worry about on the ladders, but it was there, and the Bridge Pool where you get quite wet struck us as cold. I wanted to take the dry passage, descend the Torrent and so do everything, but it was decided to go for the new stuff. My memories of twenty-three years before were quite clear, but the great number and closeness of the corners before the Torrent came still as a surprise. Beyond that I seemed to remember a longer stretch of easy wide passage than there really was, but the long and horrible canal in which you wade ever so far, bent double, was there all right, and the crawl beyond. By this time my feet were most unpleasantly cold; evidently the water is much colder in early May than in June and later.

At the gravel bank the stream disappears, but it does not appear in the new passage beyond, which seemed to me at a higher level. Perhaps in time a second will open out at this point.

From the far end we beat a very rapid retreat to the Bridge Pool and lunched, 4 hours from coming in. Never before have I suffered from cold water as then; I was compelled to take off socks and putties and wring them, for the first time in a long experience. We were very cold on starting off, but were gloriously warm by the time the ladders were up in the Canyon, quite proud of ourselves when we got to the foot of the second pitch, and highly virtuous when we had all the ladders up as the other party arrived, 6 p.m. It was grand to leave them to it and depart into the sunshine.

On Sunday the Mere had been reduced to a tiny little pool, but deeper than we thought, for when lower still on Monday, Slingsby found it had covered an opening through the ridge across the Rift and waded through into the far portion. The excitement about going up Ingleborough to the bonfire caused this news to be forgotten and no one else had a look at it.

Later in the year something unusual must have happened,

as Eddison sat on the Pinnacle with his feet in the water, *i.e.* there was a head of at least 20 ft. over the cave entrance, which must therefore have been blocked.

Gaping Gill.—There has been no article on "G.G." since 1927, though the Y.R.C. has been there each year—on one unfortunate occasion in August—but information will be found under *Club Meets*. For several years past the Craven Pot-Hole Club has had a fortnight's camp there in August, and the Northern Cavern and Fell Club has made several descents, on the Sunday after Jubilee Day sending down a most extraordinary number of the Fell and Rock Club. Hundreds of people must now have made the excursion, and we regret to say that the accumulation of rubbish at Telephone Corner became very serious, till Ruston in 1932 commenced the cleaning up by sending several bucketsful to the surface.

In 1928 a raft was built in Canal Chamber with materials painfully dragged in, and a voyage undertaken to the Lost Passage. Here Seaman and J. Buckley in turn were assisted up, but it was impossible for men to get down on to the raft. Davis Burrow tells me the Y.S.A. tried a raft in 1912, but it sank or came to bits.

The Flood Entrance has been done repeatedly of late years. It was by the Flood Entrance that the Stockton men in 1931 secretly introduced Sale and Crowe to wait in a tent till the first man came down into the Main Chamber. He thought the lighted tent must be a phosphorescent corpse. The descent from the Flood Entrance Passage to the landing place is 122 ft. and the further descent to the water in the pot below it, now called—however absurdly—Flood Pot, is 132 ft. A passage was recently reported down there which turned out to be a trick of vision, but at the head of the final crack in Flood Pot is a curious upward climb, involving a sensational roof traverse.

Discovery has ceased with the two small passages penetrated in 1931, one from each of the avens beyond Flood Pot. The stiffness of the clay in the one reached by a sensational climb defeated attempts at digging it out. The intricate area between the Sand Cavern and Mud Pot has been thoroughly explored in vain. Last year, entrance to the chamber under the East Slope was cleared, all but one large stone, and a

determined attack was made on the swallet at the end of the East Passage, but the tunnels are far too small to follow.

A very interesting event is the descent by ladder into the Main Chamber from the end of the Rat-hole by Messrs. Smith and Waterfall (Craven Pot-Hole Club). They found a good ledge, 170 ft. down, to which they pulled up ladders from below. Getting the upper ladders in must have been a laborious job.

No light has yet been thrown on the way in which the water gets away. Some consider that in flood times most of the water disappears on the south side. A big hole was dug in 1933 mostly by Davidson, in the hope that floods would open it out, or that other clubs would enlarge it, with no effect.

Three of the last four Whitsuntides have suffered poor weather, but 1933 was the finest I remember. The heat was tremendous and costumes were of the lightest. Ladders were put down, but in a fashion which abolished struggling and turning over. The famous Ledge, though mainly a pool, is quite roomy. The first ladders came down at the back, and the second lot were supported by ropes from above.

Martel's great feat of August, 1895, was duly commemorated on the last night of the 1935 camp by a great bonfire, complete even with an appropriate guy.

Gaping Gill Plan.—For the British Association visit of 1927, the existing plan was put together from the books of the accurate survey of the East Passage and Stream Chamber Branch made before the War, and from other material. The first test of the parts criticised showed that Main Chamber to Canal Chamber had been a sketch, and the 1934 work, that the piece to T Junction had been paced. A painful survey proved the Flood Entrance Branch fairly correct. A critical study has been made of this and other well known surveys, and certain lessons learnt.

So great is the possibility of error under the conditions that certainty only results from agreement of two separate surveys. Magnetic variation is a deadly trap. Finding the exact figures for each year has been an amusing research.

The great temptation for the underground surveyor on closing a circuit is to make it fit, when unsatisfactory.

A revised plan is being plotted and prepared for issue.

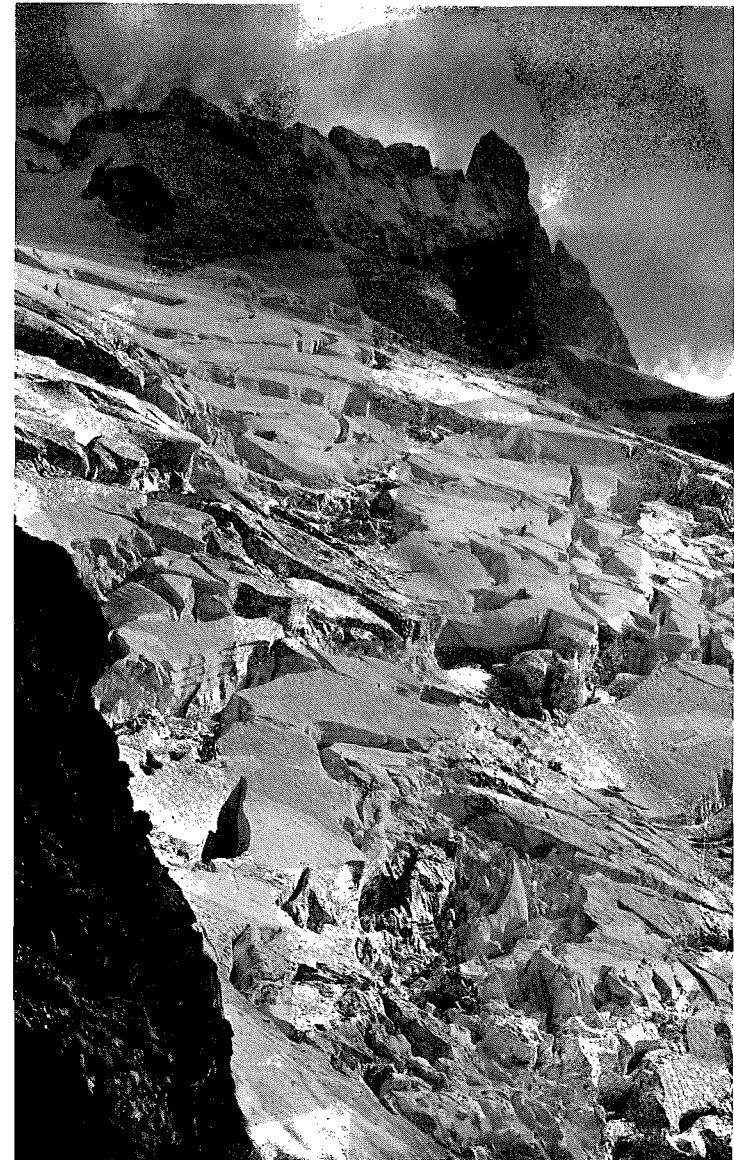


Photo by H. E. E. Howson

LA MEIJE (FROM BEC DE L'HOMME)

CHIPPIINGS.

RESCUE ORGANIZATION.—The accident in Gingling Hole might have had grave results, but for the happy chance that an experienced and determined party of some size was found at the first shot. Sixteen or seventeen men in all had to be called on to assist before the rescue was completed. Such an accident, though it could not have occurred in a more desperate place—Sunset Hole in 1910 was a simple problem in comparison—might have happened on Sunday afternoon, and every appeal have met with no response till a late hour.

The Yorkshire Ramblers' Club could not avoid some responsibility for the present day popularity of cave exploring, and felt bound to support the view of the Northern Cavern & Fell Club, that something would have to be done, a view to which police officials gave hearty assent.

In February, 1935, these clubs with the Gritstone Club, Craven Pot-hole Club, Moor and Fell Club, Leeds Cave Club, Giggleswick School, and the Settle Division St. John's Ambulance, formed the Central Rescue Organization.

Chairman and Treasurer: E. E. Roberts, 12, Southway, Harrogate.

Secretary: C. Downham, Kern Knotts, Stanhill, Accrington, for 1935.

Rescue Wardens:

N. Thornber, Rock House, Settle (*Secretary* 1936).

Tot. Lord, Settle.

R. Hainsworth, Moorgarth Hall, Ingleton.

G. Wilson, Kern Knotts, Stainforth, Settle.

Settle S.J.A.B. Secretary: A. Beresford, Victoria Street, Settle.

With the expert assistance of Mr. Foster, Settle S.J.A.B., and Mr. Windle, Northern C. & F.C., a Neil Robertson Hammock Stretcher, surgical haversack, and other articles, were bought and placed in care of the Settle Division at the Drill Hall. The S.J.A.B. will provide blankets.

Procedure.—The police have the addresses of the four Rescue Wardens, and several telephone numbers for each club, the School and the S.J.A.B.

The first action, in case of necessity, is to inform the police

at Settle, who will hunt out a Rescue Warden to get an estimate of what numbers to call for from each club. The police will then telephone accordingly (and can call on the local police to send out a man). They will approach a doctor.

Should necessity arise in outlying districts, the best course is to call on the local police to telephone the Settle police, who will consult the Rescue Wardens as above.

It will be obvious that even if the Wardens know where to find a party at work in the district, men may find themselves on returning from a day's outing called on for a night drive to take up the work in the early hours under the man they will find in charge. The sport has had a long spell of immunity, only five accidents in all are known to me, and the more men take up the study of First Aid, the better.

DO OR DIE.—Accidents are inevitable and have to be faced, but both on the hills and on the roads they are appalling in number and character. Mountaineering is being pursued abroad in a "do or die" spirit, frankly as a training for war, and formidable will be the leadership of the officers so trained.

The use of pitons seems to pot-holers unfair to the sport, unless no single route can be forced up a peak. Any fool can steeplejack up anywhere in a week or so, and it would seem that to-day people enjoy miserable bivouacs. The suggestion of the President of the Alpine Club that no piton route counts will, no doubt, be taken up by the British.

Many of the occurrences at home are most painful. It is one of the sad things in our sport that rash people are led to underestimate the British hills by the nonchalant way in which men, often alone, but fully equipped and with experience, wander about them in the worst of weather. The death in 1934 within 40 minutes of Wasdale Head and the deaths in the Cairngorms, probably due to insufficient clothing, were very sad, but the recent case of exposure for four nights within three or four miles of thronged roads and valleys is almost incredible.

We think that those who establish Youth Hostels in places like Black Sail and Glen Brittle have a great moral responsibility for attracting the reckless into places which can require hard struggling.

THE TECHNIQUE OF ALPINE MOUNTAINEERING.—Under this title the Association of British Members of the Swiss Alpine Club has adapted and published a translation of a little book issued by the Uto Section. Now that Claude Wilson's *Mountaineering* is out of print and almost unknown, young climbers will find here in a handy form, information which is at present to be found only by perusing large volumes. Copies may be obtained from Mr. George Anderson, 32, Victoria Street, London, S.W.1, price 2/6, post free.

PLACE NAMES OF THE NORTH RIDING.—Under this title the English Place-Name Society published in 1928, their fifth volume, an authoritative and laborious survey, mainly the work of a single scholar, Mr. A. H. Smith. Since then the volumes have expanded enormously in scope, workers supplying much more thorough lists for each district. The twelfth volume, Essex, is twice the size of the North Riding book, and two counties, Devon and Sussex, have required two volumes each.

When the West Riding is reached it will be necessary to tackle the place-names of the Pennines much more thoroughly, and it would seem that an addition to the North Riding work will become necessary. In the Keld region, for example, we cannot find Kisdon, Nine Standards, Tailbrigg, Tan Hill, Uldale, Stockdale, Whitsundale, Swinnergill, Punched Gill, Aygill, Catrake, Hollow Mill Cross, Lamps Moss, Blue John. We could add to this from Goathland, etc. The Scarth of Scaith can be solved by means of the vocabulary of main elements.

The North Riding was the first area where a Danish army settled, to be followed by waves of Norwegians from the N.W. The evidence of study emphasizes the admixture of Irish with the latter, one of the facts so conveniently forgotten by those who talk glibly of the "Celtic fringe."

Any number of interesting points could be selected,—Aysgarth once contained *k*, so that the first syllable is "oak," Hambledon has not a satisfactory solution yet, and it is hard to see how "bruff" and "borough" can both come down from *burh*, a fort.

AFFORESTATION.—The Friends of the Lake District have vigorously attacked the proposals of the Forestry Commission to plant firs in Upper Eskdale. It is a sad thing that the only woodland it pays to plant is a pinetum, though one is always hearing that the world is threatened with a famine in hardwoods. Nevertheless there are many tracts of the country where woods of fir, spruce, or larch are to be preferred to no trees at all, where even the bushes seem to be exterminated. Upper Teesdale is one case, contrasting with the Alston side, and in Lakeland there can be no denying that the plantations are going to turn Whinlatter Pass into a glorious sight, instead of a bare, unnatural one.

Many people are quite angry about the young woods in Ennerdale which they seem to think is a dale of abnormal height above sea which ought to be kept bare and bleak. Much of it is quite low and even at Black Sail foot it does not reach the height of Braemar or Alston. We should all prefer, if it could have been, to have seen Ennerdale covered with scrub and scattered groups of trees, but many of us have seen too striking a resemblance to a valley from which the blight of industrialism has been recently withdrawn and welcome the planter who brings the trees again.

Exactly what is objected to in Upper Eskdale I do not know, but there is a great deal of it that planting of any kind must improve. What worries me is whether sufficient rides will be left to enable one to get at the fells, and to prevent ridiculous charges of damage, caused by stupidity of lay-out. Glen Nevis looks delightful in the spring nowadays with drifts of green on the larch woods, but it is very difficult to get down into.

WARNED OFF.—In consequence of some strong remarks about the Yorkshire Ramblers' Club made by the proprietor of the Blue John Cavern to Platten in September, 1934, the Editor and Platten at once interviewed him. Very definite and specific charges were made that after failing to find Trey Cliff Cave in the dark in April, 1933, the Y.R.C. men went along to Blue John Mine and broke in doing damage to the extent of ten pounds. Vague charges were also made against other clubs, including the Alpine Club! Enquiry

was at once made of the men involved, and a stiff letter was sent to the proprietor by the Secretary. Probably acting under legal advice, he denied having ever made any charge against the Yorkshire Ramblers. Chadwick had a scorching letter in hand, but owing to his unfortunate illness, it was so delayed that the matter was dropped.

The afternoon after our painful interview, Platten and I went to see Poole's Cavern, Buxton. On being asked if there was a plan for sale, and then if a party would be allowed to explore the cavern, this proprietor became, first indignant, and then truculent. From a curious previous experience, I am inclined to think there is a second entrance to Poole's Cavern on other property.

People should be very careful in dealing with both these men, or they may find themselves in difficulties.

A fortnight later I called on one Guy, at a house named The Caves, Banwell (Somerset) and left him a nice note asking permission to view the well known cave in his garden. He did not reply.

At Easter, 1935, the Club found that the eight bedrooms engaged early at the Victoria Hotel, Buttermere, had been let, and would have had a good case for legal proceedings.

Before going to Somerset last autumn I wrote for leave to explore the worth-while part of Gough's Cave, Cheddar, and was refused. The Manager added, "We are doing a good deal of work and for obvious reasons it is not desired that information should leak out." The artificial character of Gough's Cave, contrasted with Cox's, has been a joke for nearly thirty years, and we can now imagine people casting stalactites in some patent material, for what else can there be to hide!

To crown this dismal catalogue, to the undisguised delight of my companions I was refused entrance to White Scar this January.

COMPASS DEVIATION.—It is not so easy as is generally assumed to discover the exact difference between magnetic bearing and true bearing for any particular place. The officers of the Royal Magnetic Observatory, Abinger, Surrey

(not at Greenwich) have courteously given much information, and supplied the correction to be added for Ingleborough to the Greenwich figures for each year to be found in *Whitaker's Almanack*.

Survey of 1891, + 1° 50' further W. than Greenwich.

„ „ 1915, + 1° 49' „ „ „

„ „ 1925, + 1° 48' „ „ „

A list for Abinger is 14' up on Greenwich.

Gowing has calculated the following deviations for Ingleborough, correct to the nearest five minutes :—

1895 .. 18° 45' W.	1920 .. 16° 0'
1900 .. 18° 20'	1925 .. 15° 0'
1905 .. 18° 0'	1930 .. 14° 0'
1910 .. 17° 30'	1935 .. 13° 0'
1915 .. 16° 50'	1940 .. 12° 10'

Admiralty Chart 3,755 gives the lines of equal deviation in 1932 for the Atlantic Ocean and Europe. There appears to be no similar map on a larger scale for this country, in which the variation remains constant along lines running roughly S.W. and N.E.

Assuming the decrease, which is fortunately much the same for the places chosen, remains at 10' or 11', deviations at the following places in 1940 will be (values for 1932 in brackets) roughly :—

Coolins .. 15° (16½°)	Edinburgh,
Ben Nevis 14½° (16°)	Lochnagar .. 13½° (15°)
Kendal .. 12½° (14°)	Snowdon, Lakes.. 13° (14½°)
London .. 10¼° (11¾°)	Leeds, Whitby .. 11½° (13°)
Corsica .. 5¼° (6¾°)	Berne 6° (7½°)
Bergen .. 9½° (11°)	Pyrenees, 8° to 9½° (9½° to 11°)
	Horungtinder .. 7½° (9°)

PERSONAL.—Allsup, who should be home in May on leave from Assam, has published *Notes on Walking round Shillong* (87 pp., 1 rupee).

Pilkington-Rogers has presented his book, *Days on Dartmoor*, 1930, to the Library, but, though the title under which it was catalogued might suggest it, he has been neither warden nor schoolmaster at the prison.

The tail-pieces of pot-holing we owe to Yates.

ON THE HILLS.

Everest.—Smythe has sailed once more for India to share in the 1936 attack on Everest. Ruttledge has got together a strong party of young and tried mountaineers, and if the expedition strikes any good weather, they will test the difficulties of the final peak. We hope most heartily that they will get up.

The Club has presented a second set of ladders, with rungs strangely shaped in the hope that they will give a better foothold against the ice wall. A superb picture of a caravan starting up our first ladder was on the jacket and among the illustrations of *Everest*, 1933.

The Alps.—The weather of the season of 1934 was of the most atrocious. Beetham avoided it all by taking a large party to the Atlas and had a successful time.

F. S. Smythe, besides the spring journey from the Silvrettas across Switzerland so delightfully related in his book, had 10 days at Zermatt in the summer with Parry and Macphee (S.M.C.). They did 4 peaks of Monte Rosa, Strahlhorn and Adlerhorn, Rimpfischhorn, and from Col Tournanche over the Tete du Lion traversed the Matterhorn to the Solvay Hut, where they were snowed up for a time. Later he was obliged to fly out to Chamonix, and to undertake the very dangerous and unpleasant task of searching for and finding with Emil Rey below the Col Fresnay the bodies of two young Englishmen.

W. E. Evans and J. Crowe were at Binn in June, and did the Ofenhorn, Helsenhorn and smaller peaks.

Albert Humphreys did Hohtäligrat, Furggrat, Klein Matterhorn and Breithorn.

W. M. Roberts had twelve bad days at Obergurgl in succession, but did the Königs Kogl, and in the Stubaital, Schaufelspitze and Lisenser Ferner Kogl. E. E. Roberts did Stockkogel at Obergurgl, and in the Stubaital the Schaufelspitze, Zuckerhütl-Wilder Freiger, and Ruderhofspitze, after which he was heartily glad to see the last of Austria.

Austria may be a very charming country in ordinary seasons, but its bad weather touches depths unsounded in Switzerland, and even Norway.

F. & H. Booth and F. B. Cooper were snowed in at the

Lötschenlücke hut for two days. From Saas they did Weissmiess and Portiengrat, from Kandersteg Blümlisalphorn and Wilde Frau.

In 1935 Smythe, starting on 27th June, had wonderful weather in Austria, working through from Bludenz to Zell am See, and with a candidate for Everest doing 40 odd peaks and as many passes. Later on at Zermatt, to try whether he could stand up to several more Everest possibilities, he went up the Rimpfischhorn from the village in 4½ hours leaving 7.30 a.m., and back for tea.

T. R. Burnett and F. H. Slingsby in Austria climbed the Fuscherkarkopf, Gross Glockner, Hochshober, Dreiherrnspitze, and Burnett also the Gross Venediger.

B. Nelstrop in his first season climbed the Untergabelhorn, Zinal Rothorn, and Matterhorn.

P. N. Bartlett in the Zillertal climbed the Zgismondy Spitze, Gross Mösele, Berliner Spitze, Roszruck Spitze, and Turner Kamm, and traversed the Mörchnerschneide.

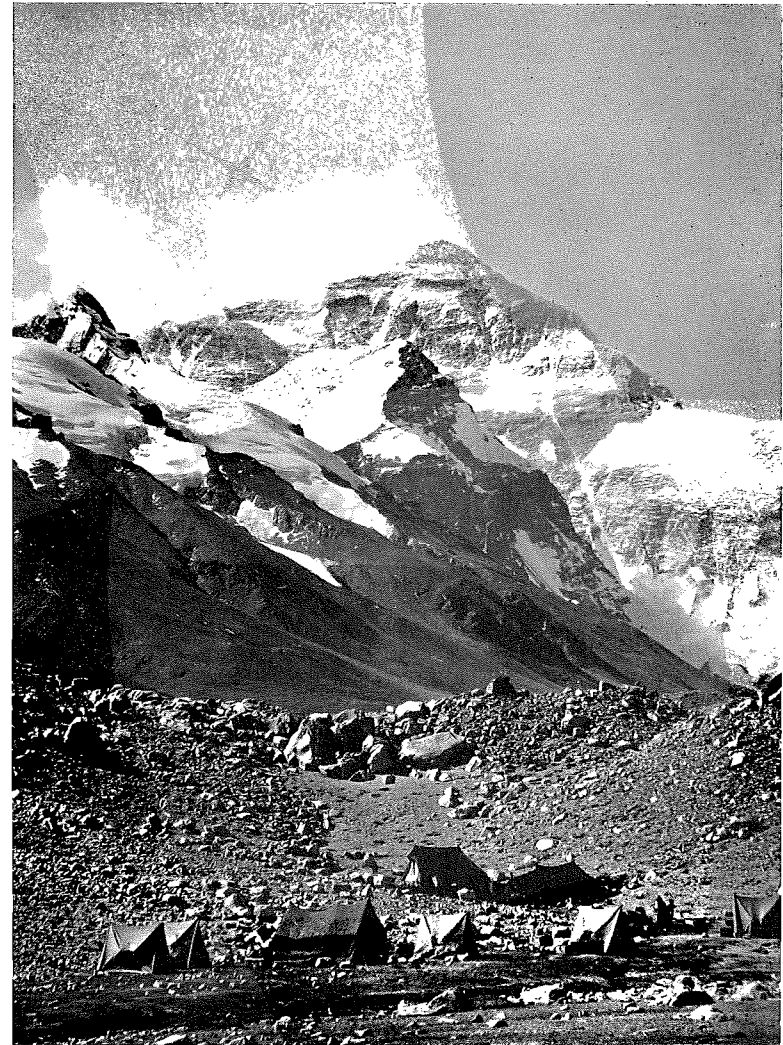
Other Holidays.—In 1934 Nelstrop was camping in the Cairngorms for the first fortnight of September (for three nights at the Shelter Stone), and bagged the bigger peaks.

J. K. Crawford later still was at Glen Brittle, and was on the Skye Ridge nearly every day, Alasdair, Banachdich, Bruach na Frithe, etc. Carn Mor Dearg was ascended on the way home.

In 1935 several parties were in Skye, one of the most glorious expeditions being made above the clouds in brilliant sunshine, from Greadaidh at 4 p.m., over Mhadaidh and Bidean nam Bian to the pass beyond at nine.

G. Platten, Sept. 16-28, 1935, conducted a High Peak caving camp as leader of six members of the Wessex Cave Club. Besides descending Nettle Pot with the D.P.C., they explored some twenty other caves, including Oxlow Cavern and Jug Holes.

Mourne Mountains.—After the Marble Arch expedition W. V. Brown and E. E. Roberts spent the rest of Easter week in Down under an increasingly brilliant and hot sun. They climbed Slieve Muck, Slieve Meelmore and Slieve Bearnagh, Slieve Bignian and Slieve Lamagan, and on the Saturday Slieve Donard. Bearnagh and Bignian have caps



EVEREST

Photo by Eentley Beetham

of fine granite tors, on which there is a lot of good climbing, though short. The dales are astonishingly bare, having no bracken, bushes, nor trees. We did see two oddly isolated little firs on the way back from Lamagan.

Hotel accommodation at Newcastle is practically limited to the enormously expensive L.M.S.R. hotel. I have since had cause to suspect that if we had rung up and offered the management 15s. a day for a few days, the offer would have been accepted. However on the second day, we went through Newcastle to the south of the group, and found the excellent and reasonable Kilmory Arms at Kilkeel.

There is one incredible thing in the Mourne Mountains, the solid wall of granite blocks, three feet wide, built round the waterworks property by the Belfast Corporation. But for the height, 5-6 ft., it would give by far the best going along the ridges. There is no ashlar work about it; the cost must have been terrific, as 15 miles is probably an under-estimate of the length. I am afraid Irish administration is provocative. On each summit is a corner tower with a large iron plate "Trespassers Will Be Prosecuted."

CAVE EXPLORATION.

I.—NEW DISCOVERIES.

Northern Ireland, Fermanagh, Marble Arch Cave (alt. 430 ft., rising of the Cladagh, West of Florence Court, South side of Lower Lough Macnean, 12 miles from Enniskillen).—20th April, 1935. Visited by a Y.R.C. party of nine. Evans and Roberts found a new chamber, 70 yards long, through a passage opening high up in the left wall of the steep slope in Pool Chamber. The next day Gowing and Nelstrop waded and swam under an excessively low roof at least 40 yards up the Cladagh from the end of the Grand Gallery into Lower Cradle Hole.

Fermanagh, Upper Cradle Hole (surface of Cradle Hole, alt. 600 ft.) 20th April, 1935. The Monastir, running in flood through a wide and lofty cavern, was gained by a solid rock passage from the wide open pot-hole, *Poinagapple*, and followed upstream to a siphon and downstream to a gleam of daylight. On the 21st all the party, W. V. Brown, Nelstrop, Crowe, Norris, Bone, and those named, waded and climbed

the whole length to or from Cradle Hole. A second route from Polnagapple was found through the boulders and the cavern surveyed, length 280 yards. These caves are in Carboniferous Limestone, the Great Scar or Mountain Limestone.

Irish Free State, Clare, Lisdoonvarna Caves.—At Easter, P. N. Bartlett with Messrs. S. and D. Pick, Balcombe, and others did the following which are believed to be new.

St. Catherine's Well Cave, 200 yds. close under the surface.

Poulnaelva, upper watercourse, 600 yds. to a swallet.

Poulwillin, the internal pot-hole seen by Kentish.

They also visited *Coolagh River Cave*, 800 yards to an immense round pool, and the tremendously long *Poulnagollum* of Baker.

Ingleborough, Gaping Gill Hole.—Excavation at the end of the East Passage and in the Main Chamber has had no result worth mentioning.

August 4th, 1935.—The end of the *Rathole*, into which normally the dam diverts the beck, was laddered by the Craven Pot-Hole Club, a laborious task, and the descent into the Main Chamber was made by Messrs. E. Smith and A. C. Waterfall. They found a spacious ledge 170 ft. down, on which they hauled up 120 ft. of ladder to complete the descent.

Ingleborough, Simon Fell, Nick Pot II. (adjacent to the swallet of Shooting Box Beck).—In November, 1934, the floor of the sink next Nick Pot was noticed to have fallen in. In December, during a terrible storm an internal pot receiving a big waterfall was found. In January, 1936, frost and deep snow, F. Booth was able to climb to the floor of the now dry pot-hole, but found no passage. The farmer has now choked it up.

Ingleborough, Chapel-le-Dale, Mere Gill Hole (alt. 1,250 ft.).—14th July, 1934, very dry conditions outside. Fourth descent. Messrs. Proctor, Buckley, and Butterworth (Northern Cavern and Fell Club) reached the gravel where the stream disappears in the long final passage, hitherto the end. They were gratified to be able to scrape through on the left hand side into a 200 yard passage, 4 to 5 feet high, carrying a mere trickle of water to a finish in a water-filled bedding plane, 6 ft. wide. Messrs.

Dawson, Thornber and Gregson also reached the new finish. Dawson tried the dry cross-over of 1914, but did not get through. Butterworth went all the way up the Torrent.

5th and 6th May, 1935.—Conditions outside miraculous. Two Y.R.C. parties of three went through to the end. On the 6th the Mere was almost *entirely* dried up for the first time in history, and Slingsby went through an opening which was not visible on the 5th, right under the ridge dividing the Mere.

4th August, 1935.—Eddison sat on the top of the Pinnacle with his feet in the water. Hence the level was a score or more feet above any record and the entrance of the cave must have been blocked.

Chapel-le-Dale, Douk Cave.—September, 1934. Beetham and E. E. Roberts forced the bedding plane at the end of the left hand fork into a tunnel. After a place where they could stand, a tunnel at a higher level led into a bedding plane where progress could only be made by shifting stones.

August, 1935.—Messrs. Douglas and Thornber (Northern C. & F. Club) went into the middle Washfold Cave, and succeeded in pushing through some point hitherto regarded as hopeless, and arrived in the right hand fork of Douk Cave.

Ingleton, Skirwith Cave (at the base of the Carboniferous Limestone, on the Hawes road opposite Skirwith Farm).—This seems to have been discovered and entered in 1934 by local people through a small sink-hole opening out, but Douglas has also crawled into it upstream.

Ribblesdale, Selside, Washfold Cave (alt. 1,200 ft., 1,000 yards North of Alum Pot.)—On the 17th June, 1934, Mr. C. Downham (Northern C. & F. Club) got through the "impossible looking slit" which stopped the Gritstone Club, 210 ft. down. At the fourth attempt in the night of 7th July, Messrs. Downham, Dawson, Douglas and Clarkson reached the bottom, 380 ft. down. There are at least three terribly narrow places, the top one at the head of 110 ft. ladder climb, and nothing can be done with the water. "The worst pot ever. If you weren't in at Washfold, thank your lucky stars."

Ribblesdale, East Side, Penygent Long Churn (alt. 1,260 ft., 2 miles from Horton on the Langstrothdale lane).—The

Northern Cavern and Fell Club have twice descended the excessively narrow rift which two Y.R.C. men in 1912 left unfinished, but found it difficult to follow the stream. However, in April, 1935, they made all the progress humanly possible, not very far.

Fountains Fell Pots (above Roughclose, alt. about 1,700 ft.).—*New Year Pot*, 150 ft. in all, has been rediscovered and descended by the Northern Cavern and Fell Club. The opening is now obvious. *Rocky Pot*, a few yards south is an open pot-hole, easily climbed into, with a short climb in darkness down a narrow rift.

Shatter Pot, further south, was dug out by the N.C. and F.C. The first vertical is perhaps 40 feet with a narrow portion, then there is a short passage to a 25 ft. shaft with a traverse over the top into two very dirty branches where the rock is curiously decayed. The whole of this level is dangerous, and nothing can be trusted, not even the edge of the pot. *Strangle Pot* is the next south, with a 15 ft. pitch, a very difficult 8 ft. squeeze and a 30 ft. descent in a narrow shaft, total about 60 feet.

Leck Fell, Lost John's Cave (alt. 1,190 ft., $3\frac{1}{2}$ miles from Cowan Bridge).—6th January, 1935. Twenty feet above the floor level at the south end of the Cathedral is a short and very tight passage. From it Messrs. Douglas and Downham (Northern C. and F.C.) squirmed down 35 ft. and chimneyed another 25 ft. to a passage which runs close under the Crypt, with a hole up into it, to a window into the Dome. At Easter another route down was found by a roof traverse from the Crypt.

22nd April, 1935.—Late in the afternoon the Northern C. and F. Club blew out the bottom of a sink near the beck, with a pound of gelignite, so that the whole of the water could be drained off. An attack was then made on the ninety foot pitch at the end of the Old Passage. The shaft is now called the Monastery. Here Downham proved the truth of Yates's opinion by a daring descent of the very narrow fissure ahead. A hundred yards of passage, called the Cloisters, led to an 80 ft. pitch in three sections down into the chamber called Shale Pot or Pinnacle Pot, at the point marked X on Foley's map. (*Y.R.C.J.*, Vol. VI., p. 53).

Nidderdale, Goyden Pot (alt. 710 ft.).—24th June, 1934. Mr. H. S. Martin of Hull and others entered the passage starting near the Pool and Boulder, passed the deep pool, went over the "well" mentioned by Yates, one of them falling in, and reached the "unexplored chamber" opposite the Bridge.

Time lag is very conspicuous in this cavern. In 1935 after a May of drought, the Labyrinth was most unpleasantly wet, April rain probably, and the deep pool impossibly high. After a September of heavy rain, the Labyrinth was free from drip. Nelstrop, Jesse Wood, and Roberts walked straight through the deep pool with headroom to spare, and laddered down from the chamber to the river below the Bridge. There is a second "window" opening into the Great Chamber, and three other branches can only be cut off from the upper passages by plugs of clay and rubbish.

Littondale, Scoska (or Gildersbank) Cave (1 mile from Arncliffe).—February, 1934. Exceptionally dry, Paul Armstrong and E. E. Roberts passed the fork of the long Middle Crawl at 210 yards, and took the north passage. At 282 yds. is a cross over to the Middle Crawl. Brodrick's survey stops at 346 yds. but flat crawls over dry clay went on to 445 yds., where they reached a low canal with mud banks. Up to the first dive there were traces of a predecessor, not after. Beyond a second dive were the same miserable conditions. Total about 500 yds., the last 150 probably impossible normally. Measurements made with J. Williamson in April.

Bishopdale Gavel Pots (on the uppermost terrace, east side of Bishopdale).—In the Main Limestone (Yoredales). Nr. I is at 1,800, not far north of the county boundary, one mile west of Kidstones Pass, depth 90 ft. Nr. II is at 1,750, $\frac{3}{4}$ mile north, is fenced and goes down 75 ft. Nrs. III and IV are close at hand, in the same sink, Nr. III being a fine hundred foot pot. The actual swallet, Nr. IV, once extremely narrow, was hammered open in June, 1934, and a shaft of 70 ft. descended by Hilton, H. and F. Stembridge, Paul Armstrong, and Roberts. Total depth 90 ft.

There is as yet no instance of any of these pot-holes in the Main Limestone opening into a passage, or even connecting with one another.

Nr. V, half-a-mile north, alt. 1,650, just beyond a watercourse in a break in the escarpment, was found in July to have only a fifteen-foot pitch beyond the first of eighteen. A fault appeared to have been entered with a firm wall on the right. Neither of the men cared to enter the chaos of blocks.

Nr. VI, last of the line, is a big rocky sink containing a fine belfry, still further to the north, alt. 1,650 ft.

Swaledale, Keld.—The caves are in the Main Limestone. *Aygyll Cave*, close to the inn near a little quarry, is an amusing trifle with a second exit. *East Gill Cave* (alt. 1,250 ft.) is well marked in the first limestone cliff, half-a-mile above the thickly wooded part of the gill. Its discoverers were wrongly given in the last number, and were actually H. G. Watts and J. D. Brown. Though only 60 yds. long, it is a perfect example of three parallel joints connected by two cross joints at right angles, in fact a museum piece. *Rosebush Pot*, high up on the opposite left bank, 50 yds. downstream, is the most northerly of a long line of sinks, and can be climbed and squeezed down 40 ft.

Derbyshire, Castleton, Nettle Pot (alt. 1,450 ft., 400 yds. south of Oxlow House).—The Derbyshire Pennine Club have been labouring from 1930, under the shelter of a locked-up hut, to work their way down a narrow crack. They broke through at the end of 1934 into a series of extensive fissures, quite different to the waterworn caverns of Yorkshire.

The first 90 ft. is vertical and very narrow. A stance is reached in a rotten area (stempled) which took two years to master, then comes 90 ft. of ladder hanging free. A bedding plane leads into a broken up area. Straight ahead a passage leads along a false floor in a N.W.-S.E. fault to a thirty foot ladder into "Firbeck Hall." On the other route there is a short ladder into a big belfry. Across it is a dead-end passage, but through a hole there is a descent of 170 ft. by wire rope and winch to a point which it is hoped will be connected up with other unexplored descents in the great rift. The amount of necessary timbering makes progress a slow job.

Alston, Gilderdale, Tutman's Hole (3 miles from Gilderdale Bridge, on the main beck, right bank, 500 yards above the

fork).—7th July, 1935. G. S. Gowing and E. E. Roberts. A watercourse of 280 yds. Main fissures, 165° magnetic bearing. Walking ceases at 84 yards. A constriction can be passed in two ways, wet and dry. The rest is a series of small tunnels, with the water often running under one wall, without any step or waterfall, finishing in a very flat wet bedding plane. It is suggested that some part may be artificial.

Very few local people have heard of this cave, much less visited it, and it appears to be the only cave in the district, which once returned huge revenues from lead-mining, and through its ancient connection with Carlisle is in Cumberland, though East of the Pennine watershed.

Helmsley (Yorkshire), Duncombe Park, Windypits (in the deer park, 430 yards from the footbridge, bearing 195° or 15° west of south, marked by a great sawn-off tree trunk).—May, 1935. W. V. Brown and E. E. Roberts. The opening is well known to local people, and several descents have been made to about 90 ft. A straight and narrow fissure, evidently unexplored, was found above two big boulders, and descended from chockstone to chockstone for 80 ft., aided once by the wire ladder. Total depth, about 150 ft. Other minor fissures were explored. Leave should not be difficult to obtain but the shooting months should be ascertained.

Helmsley, Ashberry Windypits (on the ridge, 50 yds. from end of wood on the track from the surprise view, top of Ashberry Bank, 500 ft. above sea).—Nov., 1935. W. V. Brown, Gowing, P. O. Armstrong and Roberts. A slit and a scramble leads down 60 ft., followed by 30 ft. of ladder into a rift, 30 ft. by 4 ft., choked at both ends.

These Windypits are all in the Lower Corallian overlying Oxford Clay. The rocks have fissured and slipped towards the valleys. Remarkable "trenches" along the slopes are to be seen in the area.

Somerset, Nordrach on Mendip, Golgotha Cave (alt. 820 ft., 3 furlongs along the lane to Ubley Hill Farm from the Burrington road, and 3 furlongs south-east into the meadows).—Platten heard that the farmer when burying a dead cow in a wide and deep sink-hole had dropped a spade underground.

He recommended the place to the newly formed Wessex Cave Club for a real good dig. After 3 days' digging and blasting at the end of Easter week, 1935, Platten, Murrell and others reached solid rock.

Another week-end took them into a fissure and through a ruckle of boulders. On 25th May, the Wessex men broke into the top of a chamber like a pot-hole, 43 ft. ladder descent. A huge boulder-filled rift sloped steeply from it, and has been penetrated for a long distance, stated as 300 ft., to a waterworn channel which finally became too narrow.

This is the first "dig" to prove successful in the Mendips since Balch's famous work at Eastwater, and it has revealed a cave of a novel type. Whether the reward of sagacity or good luck, equally pleasing!

On 12th July, Platten and E. E. Roberts descended, and found the rift goes easily for over 50 ft. down to a choke. The route then is for a bit by ascending holes, and on descending again a very tight place is reached, the region below which is very loose. The whole place at present gives the impression of being none too safe, so they retreated.

Somerset, Wookey Hole (near Wells, 175 ft. above sea).—F. G. Balcombe (Northern Cavern and Fell Club) was the leader of parties which in 1934 tried to force the final pool of Swildon's Hole with gelignite and home-made diving apparatus. One one occasion 30 lbs. of "jelly" lifted the evening congregation in Priddy Church, six inches into the air.

Messrs. Siebe, Gorman and Co. having taken an interest in the matter and provided full diving equipment, the proprietors of Wookey Hole were prevailed on to allow exploration underwater. It is no simple task and any amount of difficulties turned up. Finally after seven week-end efforts from mid July on, Balscombe had penetrated 170 ft., through a Sixth Chamber into a Seventh of great extent, and several of his supporters had made journeys under water.

A log of the exploration is being published, price 7s. 6d. Apply to F. G. Balcombe, High Street, Sunninghill, Ascot, Berkshire.

Geological Note.—All the above caves, except where noted, are in Carboniferous Limestone, the Great Scar Limestone.



ALUM POT.

Photo by A. Humphreys.

II.—OTHER EXPEDITIONS.

Ribblesdale, Selside, Diccan Pot.—In September, 1934, six members of the Northern C. and F.C., Hilton and Roberts made the descent into Alum Pot. Water running strongly, only the dam made it possible. On 5th August, 1935, a party led by Eddison made the round trip, going out by Alum Pot. Conditions good. The chief glory of this cleverly managed expedition seems to go to E. Dennis, R.A.F., who dragged ladders unaided from the last pitch up the three little ones to the foot of the big fall.

Fountains Fell, Coates's Cavern (alt. 1,650 ft.).—Two or three hundred yards up the tributary beck flowing into Gingling Hole, ten yards from the right bank, is a very deep sink with a great arched cave on one side. Very few people have noticed it, and in recognition of the assistance given by Mr. Coates of Rainscar Farm at the time of the 1934 accident it has been decided to call it after him.

Wharfedale, Yockenthwaite Pot (alt. 1,200 ft.).—Difficult to find. Go to the far top corner of the second field beyond Yockenthwaite, continue north 45 yds. up the wall, and then go 100 yds. west to a little thicket which contains the pot-hole. In 1934 Armstrong and Roberts found it to be 38 ft. deep and probably there have been several descents.

Swaledale, Fairy Hole (or Crackpot Cave), altitude 1,350 ft., $\frac{1}{4}$ mile south of Summer Lodge, head of a short tributary on left bank of beck.—The cave is under a cliff above a strong rising. Except for the large chamber within it is disappointing. In Miss Pontefract's *Swaledale* some details are confused with Swinnergill Kirk Cave.

Sutherland, Inchnadamph.—A band of Cambrian Limestone runs from Durness to Inchnadamph. At Durness there appears to be only the Cave of Smoo', by the road side, but at Inchnadamph there are four caves in the glen above the hotel, and another in the glen to the south, which deserve investigation.

REVIEWS.

AN ALPINE JOURNEY: by F. S. Smythe. (*Victor Gollancz Ltd.*, 1934, 350 pp., 53 illustrations, 16s.). To have the freedom of the British hills is a great thing, but to have the freedom of the Alps is a greater. Smythe's book makes clear that it can only come to the mountaineer in its fullness if, firstly, he can ski, and secondly, if he can talk freely to the people of the land. One Good Friday, 30th March, he set forth alone from just over the Austrian border, and five weeks later reached Montreux.

The Easter crowd was soon lost, and for half the time he wandered on alone across Eastern Switzerland over the snows with only two days halt, to Klosters first, from Arosa to Chur, from Wallenstadt to Amsteg and over to Andermatt, sleeping in huts and gasthofs, and later on in barely opened hotels. A spell of bad weather, broken only by the expedition via the Rotondo hut to Oberwald on the Rhone, and he runs down to Bern 10 days later as a tourist, longing for a real armchair in a drawing-room, and even fancying the food in hotels for the Swiss not so good as in tourist hotels, a bad sign. In the last five days he went without ski over the foot-hills from Kandersteg to Gstaad.

Only great experience of winter climbing could have carried this through, and only free command of the language could have done it happily.

The main part of the book reads like full and vivid letters to a friend; we live the days on the snow, the hours of rest on the high places and among the flowers, we curse the wireless, we jest at the Downhill Only, we abominate the sandwich zone, we learn how to tackle a *duvet*, we grumble at extras, and with heart in mouth we tackle the critical stretches of snow-slopes to the Hüfi hut and below.

THE SPIRIT OF THE HILLS: by F. S. Smythe. (*Hodder and Stoughton*, pp. xiv and 308, 20s. net). Too seldom do we find in Alpine books any unveiling of those deep feelings which are engendered by intimacy and close contact with mountains. More generally, readers of modern books are accorded particulars of the latest mountaineering venture or success, interspersed with thrilling accounts of accidents and escapes, on crag or glacier, and with few comments on what it may all mean. Indeed, excepting in some of the Alpine Classics and occasional passages in Club Journals, comparatively few writers on the subject have taken us below the surface of things.

How hills and mountains influence man spiritually is what many would like to know more about. Wordsworth, Shelley and some of our later poets have given us of their thoughts and feelings regarding mountains, and the Brontes interpreted to us the spirit of the Yorkshire moors. There is, however, much lack of it in our Alpine literature. Yearly the hills call greater numbers of young people to them. The

urge is felt and acted on in degree according to the receptive power of the mind and physical fitness of the body, but the spiritual feeling that has acted between the mountain and the man needs more consideration and fuller interpretation than it has received.

Largely because of this Mr. Smythe's book is to be welcomed. It might well be entitled the "Life and Philosophy of a Mountaineer," although the author disclaims any right to be called a philosopher.

It tells of the growth of a boy's love for hills and mountains, and of their influence on him through life. For analysis of the subject the book is divided into such chapter headings as Low Hills, High Hills, The Highest Hills, Dawn, Dusk, Night, Storm, Calm, Rest, Friendship, The Physical, The Mental, Death, and others. There are 23 of them, but these will convey the line of thought and treatment of the author.

The book is more than pleasantly readable and, where reasoning, is logical without being deep. Its descriptions of mountain scenery are charming and the tales of adventure included in some of the chapters, though not all new, give point to the author's argument at the moment.

We are here accorded the mature meditation of the experienced mountaineer and keen observer of nature. We learn how the "Spirit of the Hills"—or that mysterious power that hills exercise over many men—has entered into his being, and how it has influenced his understanding and appreciation of nature.

Mr. Smythe is no mere materialist. He regards the world as God-made, and for the good of man. Mountains whether in storm or sunshine, are for his admiration and good, and seeing this he accepts other conditions, such as discomforts and dangers, as circumstances to be met and borne with in a proper spirit.

The book can be highly commended. Young mountaineers can learn much from it, and the older ones will enjoy the renewal of many thoughts that must have passed through their minds at times and under circumstances similar to those recorded by the author.

The book is well printed, and with few exceptions the photographic illustrations are of that high quality we look for from Mr. Smythe. It is to be hoped the publishers will soon see their way to bring out another edition at a much lower price than the first.—T.G.

ALPINISME ANECDOTIQUE: by Charles Gos. (*Editions Victor Attinger, Neuchâtel*, pp. 312, 4 fr.).—A collection of short articles—a score on the annals of mountaineering, five on great guides with very full memoirs of Franz Lochmatter, a score on the first Matterhorn accident. They are delightful reading. M. Gos recalls that an early rock climb, led by a Ligurian is described in Sallust's *Jugurtha*, then we pass to Mont Aiguille, to a climb with a political aim, to Everest, to the Pic Wilson, etc.

The evidence of the witnesses at the enquiry into the 1865 tragedy is reprinted, with other contemporary matter of great interest, some of which gives an indication of the dreadful task of this and other search parties. The hat Croz wore, now in the Zermatt museum, has been looked at, and proves to be a London hat given him by Whymper or Hudson. Some very necessary attention is directed to the great abilities of Peter Taugwalder. It is curious that in all the discussions about the ropes it was never replied to Whymper that Taugwalder could not use the second stout rope, because Whymper stopped behind with it. Reading through the enquiry, one realises why trade unions are so keen that men under suspicion should have an expert "friend."

LA NUIT DES DRUS : by Charles Gos. (*Attinger, pp. 186, 4 fr.*).—The story of a bivouac of 15 hours between the Grand and Petit Drus. It appears to be a study of *l'alpinisme homicide*. Emotions, thoughts, dreams are worked out in great detail. From 5 p.m. to 9 p.m. the adventurers freeze and are only saved by burning their ice axes, chip by chip. With this bountiful fire they not only boil up two gourds of tea from snow but are fairly warm, and keep going by recalling all sorts of incidents.

The story plays on the modern idea of pushing at a stiff peak, regardless of time, bad weather, and condition, in fact bad mountaineering, *l'alpinisme homicide*. A Swiss and an Englishman, fairly competent, reach the Grand Dru at 2 p.m., rather late. The Englishman is seedy, the clouds gather. Nevertheless instead of retreating in time to get off the rocks in daylight, in any case to bivouac low down, they push on, get down the Grand Dru summit rocks after four, and the clouds settle round. The Englishman knocks the stove over the precipice and thereafter weeps continuously instead of swearing (evidently the book is fiction). At 8 a.m. the clouds clear, and in the closing lines they are saved as the first person necessitates. In reality they would have been killed or bunkered descending the Petit Dru, which has been the scene of some dreadful consequences of this sort of thing.

ALPINE JOURNAL (Nos. 248-251, 1934 and 1935, 10s. 6d. each).—The first article, on Paccard's diary, provides facsimiles of the writing and of a long letter from Paccard at the age of 22, which was discovered in Italy in 1932. The author considers the resemblance sufficient to show that the diary is in the Doctor's writing and therefore not a copy of his memoranda by another hand. Unfortunately the letter is in print-script (thus not entirely a modern fad!) and not in the running hand of the diary.

Odell describes climbs in Labrador and N.E. Greenland. It is amazing how experience enables the expert ice navigators to reach the dreaded east coast and to get their parties away the same summer. Climbs in West Greenland and Baffinland fill a later paper.



MATTERHORN AND DENT D'HERENS.

Photo by E. Neistrop

Other distant regions dealt with are Formosa, and the Coast Range of British Columbia. A Swiss party has made the fifth ascent of Ushba, 2½ days up, 3 nights out. Rickmers writes in his usual gay and illuminating fashion of Caucasus and Bulgaria. Moral, you must be ready for many forms of uncleanliness.

Graham Brown besides being concerned in five traverses in Dauphiné, one of them of all the peaks of the Ailefroide, has a long and thrilling account of the ascent of Mount Foraker, Alaska (17,300 ft.) which meant an incredible amount of relay work with the loads, and an absence of seventeen days from the support party.

The lessons of Everest, 1933, are discussed, and Crawford's diary printed. Oliver has made a second ascent of Trisul. The Pallis expedition had three months in the Gangotri Glacier region in 1933, but Shipton and Tilman spent no less than four in the intricate and difficult Nanda Devi group. The gorges are terrible, the last effort requiring nine days to make seven miles of airline. Total cost of the Nanda Devi expedition, £287.

The terrible story of Nanga Parbat and the utter recklessness of the Germans, as compared with the behaviour of the Bavarians on Kangchenjunga, is told almost without comment. Such would be useless, so utterly different to-day is the German outlook on mountaineering to ours. Of sixteen men at the uppermost camp, only seven got back.

What guides can do has been shown by Steuri's lead of the Matterhorn N. Face in 13 hours from the Hörnli hut, and by Rubi and Schlunegger traversing from the Mitteleggi hut over Eiger, Mönch, and Jungfrau down to the valley in under 16 hours.

The amazing development of climbing by means of driving in spikes has caused the President to suggest that ascents by these means should be ignored. Worse still is the accompanying phenomenon of *l'alpinisme homicide*. A great tribute is paid to Smythe and Rey for risking their lives on the Col du Fresnay in such a search in 1934, when of course the actual recovery of the bodies involved yet more men in danger. The latest number contains three stories, once incredible. Four Italians having left a fifth behind, pushed on in bad weather over the Matterhorn though the party in front had fallen over their heads from the top of the ladder, and being overtaken on the *third* day out by a most gallant pair of guides and met by another pair, two survivors were got down to the Hörnli. If guiding as a profession falls into disuse, one can foresee that the number of deaths from this sort of thing will force on police control of climbing on certain peaks.

A steeplejack couple on the Eiger N. Face after five days were overwhelmed by a sixth day of storm. The Editor's comments are severe, but it is perhaps not surprising that he fails to scarify the less

crazy proceedings detailed in a short article on the Hoher Gell. This party pushed on madly to a bivouac at 8.30 p.m. in bad weather and rain, the summit at 11 a.m. in a blizzard, and the hut at 5 p.m. on the second day. It is mentioned casually that a similar crowd on the next peak had to be rescued, and that owing to the efficient rescue organization it is quite safe in Bavaria to go out with inadequate clothing and to push on to a bivouac.

THE HIMALAYAN JOURNAL (Vols. IV, V, VI and VII, 1932-35).—In these volumes we find such a wealth of interesting matter that it seems invidious to attempt to mention only a few of the articles.

We find descriptions of the ascent of Kamet, by Capt. Birnie, of the attempt on Kangchenjunga by Paul Bauer in Vol. IV, of the opening attack on Nanga Parbat by Willi Merkl in Vol. V, Everest by Rutledge, together with articles on the same subject by Wager, and an account of the Everest Flight by Blacker in Vol. VI, while in Vol. VII Fritz Bechtold describes the 1934 Nanga Parbat expedition and Smythe discusses problems of Kangchenjunga. All these articles are worthy of note as affording authentic accounts of the expeditions in a form that is particularly handy to those who have not the time, or in some cases the knowledge of the language, necessary for reading the longer books on the subjects.

There is a further article in Vol. IV on the notorious Shyok ice-barrier. As forecast by Major Mason, the rift by which the waters escaped in 1929 had healed by 1930. A breach, but fortunately not a catastrophic one, again occurred in 1931, but at that time the lake had only reached a height of 200 ft. as compared with the 500 of 1929. Altogether it appears that the danger of floods is rapidly diminishing, due to the retreat and degeneration of the glacier.

Vol. V has an interesting account of the attempts to reach the inner sanctuary of Nanda Devi by Longstaff and Rutledge, and this is followed up in Vol. VI by a description of Tilman and Shipton's successful expedition. The expense of £287 covered fares both ways.

A. P. F. Hamilton contributes a paper on the erosion of the Siwaliks (a foot-hill range of the Himalayas) and shows what incalculable damage can be done by allowing the cutting-down of forests. This makes one realise how little one knows of the effects of erosion in our country.

Finally, a word of praise must be given to the magnificent photographs that accompany the articles and the excellent get-up of the journal as a whole, although such praise is really superfluous when it is mentioned that the publishers are the Clarendon Press.—G.S.G.

SPELUNCA (*Bulletin du Spéléo-Club de France*, 1933).—The fourth number of *Spelunca* is once more replete with accounts of numberless caves and pot-holes, all most scientifically described with altitudes above sea level, orientations, geological age and observations

upon temperatures and humidities. It is all too rarely that the writers speak of the more human side of the sport and one might also wish for descriptions of the equipment used. What exactly, for example, was M. Casteret's "perche metallique faite de 5 tubes de 2 metres se vissant bout à bout"; and what sort of a *bateau pneumatique* was used down the Aven de Banicous? Nevertheless the journal makes intensely interesting reading, for the pot-holer with any imagination can readily fill in the gaps.

Jean Maurin discusses reasons why the source of the river Foux is not the resurgence of the Vis, near Alzon, some 30 miles N.W. of Montpellier. He bases his arguments on three factors; the difference in flow at the two points; the difference in analysis of the two waters, maintaining that the extreme hardness of the Foux, compared with the Vis, cannot be gained by flow through fissures only, but must be due to filtration; and finally on geological grounds, from a consideration of the strata. It forms an interesting piece of theoretical caving but, as the author points out that it can only be proved by dyeing the water, one is rather left wondering why he did not try experiment with fluorescin.

L. Balzan describes his 1933 campaign in the neighbourhood of Millau (some 50 miles N.W. of Montpellier) among a couple of dozen caves and pot-holes. The Aven de Banicous, in the Causse Jean, was found to be 500 ft. deep, excavation being necessary at 320 ft. The last pitch of 120 ft. was laddered down an icy waterfall without life line and led to a small lake which was explored by boat. It is interesting to note that the air temperature at the bottom was only 43½°F., although the surface shade temperature was 72°. In another cavern, reached by a 100 ft. ladder, remains of a hearth and oven were found. The author speculates as to whether there was not formerly a level entrance to the place, as seems likely from his discovery. In the course of his article, M. Balzan gives a piece of very sound advice about the naming of caves. He gives examples of caves having been given different names by guides from different localities, or even from the same locality and stresses the importance of always giving an exact map reference.

Norbert Casteret, that indefatigable swimmer of syphons, also describes his 1933 *campagne souterraine*. He gives an interesting account of the recent complete engulfment of a stream by a pre-existing pot-hole in its bed, causing it to follow an underground course for some 1,300 yards. The stream in question, the Aguarrech, in the central Pyrenees, has an estimated flow of 75 million gallons a day, and higher up its course issues from a cave that has been explored for nearly three quarters of a mile. His most important discovery, however, was a new pot-hole, named by him Gouffre Martel, and its accompanying cave, the Grotte Cigalère. The cave was explored to the end, a distance of 1¼ miles, at which point it was proved by accurate survey to be nearly vertically below the pot-hole, which was itself explored to a

depth of 564 ft. The total depth of the pot, including the unexplored portion, down to the upper end of the cave, would reach the very remarkable figure of 1,200 ft., or, measuring to the lower end of the cave, 1,500 ft. Thus this may prove to be the fourth deepest known cave, pride of place going to the Bus della Preta, with its colossal depth of 2,080 ft.

Bernard Geze describes more expeditions in the Montpellier region. In exploring one of the Avens de Masclou he and his companions arrived, after several pitches totalling 214 ft. at a fair sized chamber with a fissure leading from it. The floor of this fissure was covered with what he describes as such an intimate mixture of clay and water that progress was impossible without serious risk of engulfment. A genuine quicksand cave at last, and a most tantalising one, since echo suggested further possibilities.

G. Lavour describes numerous small caves and pot-holes in the Lot district. He comments on some fine *gours*, no less than 16 ft. high in a nameless *igue* near the station of Rocamadour. His most interesting work was further exploration of an already well-known bone cave—the Grotte de Ste. Eulalie. This has been known for some time from finds of human bones and pottery, but recently some fine reindeer drawings were discovered and some artifacts of the Magdalenian culture. Later still, further discoveries were made, including a sarcophagus of the Merovingian age, paying tribute to the long usage the cave had endured.

R. de Joly, the president of the S.C.F., gives a detailed month by month account of the explorations carried out by groups of the club. The long list of descents bears witness, not only to the immense activity of the club, but also to the wealth of their hunting grounds. These explorations involved no less than 16,000 ft. of ladder work and nearly 6,000 miles of travel by train and car. It is impossible to try even to do justice to such a list. Picking at random, one notes that M. de Joly succeeded in leading a party down the Aven de Jean-Nouveau, to a point beyond that previously reached by Martel. The first pitch is a sheer ladder descent of 490 ft., beyond which is a second, making a total of 555 ft. In August, while exploring the Avens de Plos, he was lucky enough to be able to observe the "breathing" of a cave, noticing the ascent of air from the cave while the sun was shining above and its flow downwards into the cave while the sun was obscured by clouds.

The remainder of the journal is made up by a review, by M. de Joly, of recent caving work in various countries. Three pages are devoted to England, mostly culled from a letter of E. E. Roberts, describing the 1932 and 1933 activities of the Y.R.C. and other clubs. It is rather a pity that the accuracy is marred by a series of misprints in the place names, one or two of which were not written well enough to recognise. The President ends up with a plea that his English

colleagues should state precisely the geological stratum in which a cave is situated and the orientation of its principal galleries. Engineers and other scientists please note!—G.S.G.

A POT-HOLE IN THE CANARY ISLANDS (*Aux Iles Fortunées*, by R. de Joly, *La Géographie*, LXII, Nos. 3-4).—Having heard rumours of pot-holes in the Grand Canary, M. de Joly, the president of the Spéléo Club de France, found his caving instinct aroused and promptly set off to explore it. The article gives a general description of the Canary Islands and their barren volcanic summits, but the point of greatest interest in his description of the *Sima (Abyss) de Ginamar*. The mouth of this, situated some 900 ft. above sea level, presents the normal appearance of a limestone pot-hole, but it is, in fact, volcanic in origin, the surrounding rock being basalt. It was originally a small subsidiary orifice in the side of a large volcano.

The author and his companions succeeded in reaching the bottom of the abyss, at a depth of nearly 200 ft., but found no exit from the basal chamber. Unlike most pot holes, care had to be taken against possible asphyxiation from carbon dioxide, although none was actually detected, the only strange gases arising from numberless putrifying animal remains. They succeeded in finding some stalactites, not of calcium carbonate, but of a mixture of phosphates, aluminium sulphate and silica, presumably of organic origin. An attempt to use wireless to communicate with the surface proved a complete failure.

M. de Joly mentions that he was asked to explore some pot holes on the Island of Teneriffe, but could not do so owing to lack of time.

PROCEEDINGS OF THE SPELÆOLOGICAL SOCIETY (Bristol University), Vol. IV, No. 2, 98 pp., and Vol. IV, No. 3, 112 pp., each 7s. 6d.—An archaeological journal with abundant technical details for the excavator—almost entirely on the surface. Two-thirds of the first number describes the very careful work on the Tynings Farm Barrows on Mendip, but the article on Field Work is more interesting to the non-specialist with its two maps of Celtic downland settlement and field systems.

In the later number, a seventeen page article treats of teeth from a Maltese burial cave, but space is twice given to cave-exploring. There are eleven superb plates of Swildon's Hole, followed by a note giving a formula for the amount of flash powder, and another note reports that Mr. Tratman has obtained 800 ft. of 16 mm. motion pictures.

In an important article on the formation of Yorkshire caverns, Mr. E. Simpson lays down the pot-holer's view. His experience leads him to put faith in Hill's and Brodrick's theory of fracturing as a primary cause, put forward to the Yorkshire Geological Society in 1907. We believe that the theory was not well received then.

For the first time the modern view of the importance of shale beds is dealt with at length. It is interesting to look through Cuttriss's

and Derryhouse's articles in the *Y.R.C.J.*, Vols. I and II, and to note that the connection between bedding planes and shale beds is a new idea born of accumulated facts.

SCOTTISH MOUNTAINEERING CLUB JOURNAL (Nos. 113-120). The stringing of the Ben Nevis and Glencoe diagrams with dotted lines goes on now in real earnest. Bell and his friends have done much in Glencoe, and have climbed Ben Nevis N.E. Buttress, West Face, in stocking feet, while Macphee has been of late very active on the Ben with stiff climbs on the Trident and Buttress, but most desperate of all, an ascent under icy conditions of the Tower Gap Chimney. From Skye come two new climbs, one, the Engineer's Slant, described by D. L. Reed. We note also the ascent of the Mitre Ridge, Beinn a' Bhuid, of the Rannoch Wall, and the forcing by Slavs of a route on Ben Nevis by the use of pitons.

Among much of more general interest are a raid, other than Botterill's, on the forbidden peaks of Rum, Parker's article and diagram on visibility and refraction, a description of Frankland's Great Wall Gully, and tables of hills over 2,000 ft. in the Lowlands, 86 with 133 tops. Dow is the fourth to do all the Munros.

There are two particularly striking photographs—of Liathach and Loch Maree—by Parry, who is to be succeeded as Editor by J. H. B. Bell.

RUCKSACK CLUB JOURNAL (Nos. 26-29, 1932-5).—We must all take careful note that Mr. Doughty has looked into the spelling of *rucksack* and finds that the word is of recent appearance in German literature, coming from the hill country without any justification for two dots over the *u*. In the same way the dots are absent in Innsbruck, though they appear in the northern name Saarbrücke. So, thank Heaven, the word is *rucksack*.

Among the many articles on mountaineering abroad, Messrs. Eversden and Gourlay recount their very fine holiday effort and ascent of Lhonak Peak in the Kangchenjunga district, Mr. Thomas his great expedition on the Aiguilles of Mont Blanc du Tacul and fast times in the Sella Dolomites, and Mr. Eastwood two quite exciting journeys in Iceland. Mr. Goodfellow has a most valuable article on Mountain Photography, and a vivid account of his expeditions on the west side of the New Zealand Alps. Parnassos, Sierra Nevada, the Cameroon, the High Tatra are the subjects of other writers.

Details are given of the Pillar Girdle, Esk Pike No. 2, Scawfell East Buttress, Clogwyn du'r Arddu, and other notable climbs. The new Editor, Mr. Robin Gray has done a stiff climb alone on the very end of Sulven, and a new long walk has been invented by Mr. G. A. Deane from Chorley east to Ripponden. But oh, Club of Tigers, how is it that one of you uses a rope ladder for the "mousehole" in Eyam Cavern? Is it a good suggestion to label the place Childswalk instead of the misnomer Carlswark?

The Rucksack Club has many facile pens, there are many pleasant and discursive articles, two are fiction even, and the full inner meanings of one, "The Last of the Munros," will one day be explained to us, we hope. "A Plea for the Press" makes the perfectly reasonable suggestion that, when any climbing incident is likely to get into the newspapers, a succinct and straightforward statement should be made to the district representative of the Press Association.

JOURNAL OF THE FELL AND ROCK CLIMBING CLUB (No. 28, published 1935).—Somervell has a delightful article on a journey to see Nanga Parbat, and Mrs. Richards another on climbing in Canada. Some very useful advice is given on the Dolomites. The moral of Beetham on "Ski-ing" seems to be "it is very tiresome learning to do it skilfully but worth while going out for the purpose once."

There is an increasing tendency these days to fill up climbing journals with fiction, and it is a great pity people should be allowed to try to fix ghost stories on to particular peaks.

At home, Graham Brown describes many climbs on the newly found Boat Howe, Kirkfell. The long list of variations at last runs short; the Diver of Wookey Hole is responsible for six of the eight new climbs.

PILLAR ROCK AND NEIGHBOURHOOD: by H. M. Kelly. (*Fell and Rock Climbing Club Guide, revised 1935, 120 pp.*). In its new and much reduced form, 6 ins. by 4½ ins., we have now a convenient pocket guide. The print is smaller but clear; the photographs are entirely omitted and replaced by five delightful sketches by W. Heaton Cooper, provided with route lines.

CAIRNGORM CLUB JOURNAL. (Vol. XIII, Nos. 72-75).—A strong group of rock climbers has clearly grown up in Aberdeen, seven articles assisting to festoon the Lochnagar Crags diagram with white lines in the modern way. The club admits both men and women and is flourishing mightily.

Symmers and Ewen have made the second ascent of the Tough-Brown Ridge, Lochnagar, and express unbounded admiration for the prowess of those heroes of 35 years ago, adding that the ridge is not meant to be climbed. Raeburn's gully waited also for 30 years till 1928 for two ascents to be made, the next three parties arriving on the same day.

Time has proved only too often the truth of Haskett Smith's pronouncement of forty years ago, "on the high fells in time of snow an axe is a safeguard of vital importance." A fatal accident to an experienced young member and the narrow escape from fatal injury of four members descending from Cruach Ardran, two without axes on a place quite difficult enough to ascend for such a party, have emphasized a rule one is astonished to find neglected. It is well that

a warning page declares that "this climbing business must be taken more seriously."

An Alpine subject is almost an innovation in the *Cairngorm Club Journal*, J. H. B. Bell writing of his traverse with Parry from the Seilon to the Ruinette. With other narratives of excursions away from the Cairngorms are to be found wonderful photographs of Ben Eighe and Liathach and Mam Sodhail.

No. 76 is edited by Mr. William A. Ewen. Two articles refer to the Brocken spectres, that is shadows on cloud and halos or rainbows round them. "A West Coast Itinerary" gives most valuable information as to how the Youth Hostels, particularly at Glen Shiel and Torridon, have rendered it possible to-day to travel in the Western Highlands more freely.

JOURNAL OF THE MOUNTAIN CLUB OF SOUTH AFRICA.—(Nos. 36 and 37 for 1933 and 1934, price 2s. 6d.). No. 36 opens on the note of alarm at the drying up of South Africa which is now being sounded by thoughtful observers, through man's evil influence on its vegetation through burning and pasturage. South Africa belongs to that group of countries whose humidity is not sufficient to restore an ample vegetation once it is destroyed.

No. 37 deplors that in the past the State has granted away not only profitable, but useless land, and lost control of the finest scenery and the watersheds of the country. The private owner is the grave danger of the day, for the most unscrupulous campers cause less damage than the deliberate veldt burner. The Conservator of Forests has conducted experiments on starting fires. Broken glass will not cause fire, and mere negligence is not a serious factor.

There are the usual lively records of camping, swagging, and new climbs in the interior, and of more stiff routes near Capetown, with two philosophical articles to be in the fashion. Jan du Toit's Kloof has been descended. The Worcester section has opportunities of winter sports, and now finds the summer the season in which to leave the mountains alone.

BRITISH SKI YEAR BOOK, 1935 (No. 16, 232 pp., 10s. net). The Ski Club of Great Britain has now over 5,000 members. The Year Book is not quite so gigantic as recent issues. It opens with a number of short articles, then follows "A Downhill Runner in Norway," by Frank Ziegler, which openly puts down Finse as a poor place compared with the hills, and describes what excellent running they found in the unfrequented and "too steep" Jotunheim. Next the Editor, Arnold Lunn, gives Smythe and Irving fearful slatings over the philosophical parts of their books. I hope no one will take parts of his interesting 50 pages on the racing of the winter as seriously as he has taken portions of these two books. After all Downhill Only as the title of a Ski Club is provocative of jesting criticism and was no doubt intended to be.

GRITSTONE CLUB JOURNAL. Vol. IV, No. 2. Our friends at Bradford have advanced to printing a 35 page journal of pleasing format, without reaching up yet to blocks for the illustrations. It is made up of three articles from their G.H.M.'s successful season of 1932, of the "over-zealous" descent of the Washfold Pot (more needless zeal will be found elsewhere), and of Hainsworth's extraordinary winter descent of Diccan Pot.

It is surprising that Mr. Simpson has not included his survey of Diccan Pot in his plan of Alum Pot. The sketch presented of the upper passage makes the distance between the pools 15 ft., instead of the chain's seventy—still far too little, say men who have worked ladders along. A. A. Scott put down 125 ft. in his sketch of Diccan.

WAYFARERS' JOURNAL (1933 and 1935). The wealth of illustration is remarkable, 25 plates in each number. "Tofana di Roces" is delightful, and now I know what the Drei Zinnen look like at a distance.

"Iceland for the Mountaineer" is of outstanding value, and Mr. Hodge's labour in research deserves gratitude. Mr. Pallis in "Bivouacs" by describing his experiments in cutting down weight has rendered great service to those who wish to camp at high altitudes. The results are seen in the wonderful climb of the Central Santopant Peak (22,060), with four camps by Messrs. Kirkus and Warren without porters and carrying 25 lb. each.

There are useful articles on Norway and what to do in Sunnmøre, on the unfamiliar West Pyrenees, and on mountaineering rations.

By the way, when the reviewer of *Y.R.C.J.*, No. 20 managed to find two inverted commas apparently missing, he should have read up Mr. Doughty in the *R.J.* on the usage. As to R.L. Hut, we hope the heating furnace suspended to the clothes rack has not killed anyone.

PINNACLE CLUB JOURNAL (No. 4). This is the number so offensively attacked by the *British Mountaineering Journal*. Why, we cannot imagine! The latter would be fortunate if Mrs. Richards and Mrs. Winthrop Young served it as reviewers.

Two articles well worth reading are, one on the Pyrenees, the other on a ten days' tour from Turtagrö from hut to hut, besides Mr. Haskett Smith's very interesting memories of great women mountaineers. But, alas, we must pillory Mrs. Eden Smith as an accomplice in the crime blatantly pictured on p. 41, and Miss Wood as a confessed criminal—*pulling up ferns from the clints on Ingleborough!*

No. 5 we have not received.

OXFORD MOUNTAINEERING, 1935 (edited by Elliott Viney, 3s. 6d.). This is the first independent Oxford journal. Two articles, on Dartmoor and on the Lofoten Islands, contain very useful information. The eight papers on Alpine regions are most interesting reading and make one think hard about modern developments—which touch guides as well as amateurs.

Thirty years ago no guide would have taken out 3 clients, nor would he have persisted in leading a party, on foot since 8.30 a.m., for five hours after he should have turned, up iced rocks in a howling gale to reach the Italian Matterhorn hut at 10.40 p.m. The years between have worked out a training for the youth of to-day in hiking and camping which gives them early the freedom of the hills. But to those to whom brilliance on the rocks comes naturally, the extent of their success is a temptation to go too far, to bite off more than they can chew. There are two remarkable instances recorded, and a disturbing note is sounded when one finds a first-class party carrying pitons and a hammer.

THE MOUNTAINEERING JOURNAL (published quarterly).—This bold commercial venture by a young climber to crush out all Club Journals has now been running over three years. He has obtained many articles from foreigners, and it is interesting to read the German point of view, set out several times, and the detail of ice and rock piton work. Generally speaking, it might be described as a popular Alpine magazine.

Many articles are descriptive or guide-book, but there is occasionally a real story of an expedition, as the ascent of Mount Evans, N.Z., and of the Pallis venture. The rotten experience of an Englishman, who assisted the Bavarian Mountain Watch in a rescue, bears on a previous mention of their work, and is of some importance to us, note the one pole stretcher with canvas sheets.

The tone of the editorial work is amusingly patronizing towards people who know their job; the proof reading too often fails over foreign names. An inclination is manifest to bless developments which will wreck climbing everywhere, as we have known it.

But why worry till they arrive! We can go our own way happily for some years at least.

CLUB MEETS.

1934.—The Hill Inn Meet, Chapel-le-Dale, was as well attended as ever. The weather was brilliant and frosty. After dinner on Saturday night it was announced that Douk Cave was flood-lit for the occasion, so the diners straggled out to see the show. Comparing notes afterwards, everyone seemed to have been told by someone else near the Cave that the show was over, but had struggled on to see the flooded beck lit by a candle. The returning crowd then tuned in to some remarkable broadcasting, not to be found in the published programmes.

Sunday was a glorious day for the walkers, but the misguided party which visited Alum and Diccan Pots got extremely wet and cold.

The following months gave us many sunny and mild days but the Easter weekend (April 1st), though dry, was hazy and decidedly cold. Only six met at the Crown Hotel, Coniston, but they had some very pleasant climbing on Dow Craggs. Four men drove all the way to Kingshouse, on the Moor of Rannoch near Glencoe, had two climbs on Buchaille Etive, and did Bidean nam Bian in good weather with plenty of snow and ice.

Some work was done at Long Kin West on the 21st April in the hope of a descent next day. Sixteen mustered at the Bridge Hotel, Ingleton, but there was so much rain with mist and cold wind that the idea had to be given up. Pillar Pot and Boggart's Roaring Hole II were done instead. The experiment was twice made of sending two men roped together down the hundred foot ladder of Cross Pot!

Although there was an extraordinary burst of heat on the 12th May, the week-ends were very poor, and the week before Whitsun, 20th May, wet and cold. Friday was a dreadful day, followed by a bad morning. The afternoon was better, and Gowing and Watts went down to survey from T Junction to Main Chamber. It had been intended to do Juniper Gulf, but two men reported the first belfry and its troublesome descent streaming with water. Sunday was very misty. Hilton and Roberts surveyed to the T Junction and a party visited the East Passage. Heavy rain fell in the night and the camp was in thick mist till 2 p.m. on Monday. In the afternoon there was a crowd in the East Passage, and the survey was carried to the Flood Exit Pot by the twisting route and the next length measured, despite a painful and piercing draught. On Tuesday morning the tents just had to be taken down in the rain and packed wet. Fortunately the weather relented at two, for the carting arrangements went wrong. The number in camp was the smallest for many years, only eighteen.

Seven men spent an enjoyable week-end at the Robertson Lamb Hut of the Wayfarers' Club, in Great Langdale, 16-17th June, and had a good day on Bowfell Buttress.

The following week-end eight of the Derbyshire Pennine Club met us at Chapel-le-Dale, the total attendance being twenty-four. Alum

Pot via Long Churn was descended on Saturday, and Sunset Hole done on Sunday.

Since Whitsun the weather had settled down to be continuously dry, hot, and glorious, and it was in scorching sunlight that the Rosedale Meet of 15th July tramped through the heather from the lonely Hamer Hotel to Julian Park and Egton and back along the road to Rosedale.

Only three found their way for August Bank Holiday to the Rucksackers' hut at Tal-y-Braich, Capel Curig, and they were simply washed off Lliwedd.

The Meet at High Dungeon Gill Hotel, 22nd-23rd September, was also unlucky in having wild and wet weather, which did not stop climbing on Gimmer and Pavey Ark.

The autumn colouring in Swaledale was glorious when we met at Keld, 20th-21st October. East Gill, Rogan's Seat, and the Gunnerside Beck were visited. Hammering open the Rosebush Pot in East Gill had a disappointing result.

The rainfall of the year had been rapidly making itself up to the average when we visited the Crown Hotel, Middlesmoor, 8th-9th December. Chidley drove up all the way from Rugeley, and being sent by Yorke's Folly, took three hours in the dark from Leeds. Hard luck! The flooded becks were exceptionally high, and *Goyden Pot entrance was completely under water.*

Two parties went up Eglin's Hole and penetrated some way into the low bedding plane at the end. Another party went up Blayshaw Gill into the Meugher (Mewpha) region and came down Bakstone Gill. We were glad to meet our old friends, Mr. and Mrs. Carling, who so many times have entertained us at the Crown.

1935.—The Saturday of the Chapel-le-Dale Meet, 26th January, was noteworthy for an exceptionally bitter east wind. The motorists ran into snow covered uplands above Ingleton and found three inches of snow from Ilkley to Leeds returning on Sunday night. Forty-two sat down to dinner, and rescue work with the breeches buoy from "H.M.S. Cowbyre" in the snow occupied a lot of them afterwards.

Most people found themselves on Ingleborough on Sunday in brilliant weather, a more reasonable wind, and capricious depths of snow. The two who had been beaten off Nick Pot II in December by a record rainstorm, completed the short descent in spite of the snow.

From the Bull Hotel, Sedbergh, 24th February, there was a splendid walk over the Calf and down Cautley Beck to the old road home. From the Falcon Hotel, Arncliffe, 24th March, a brilliant day, the walk was over Fountains Fell and Penygent.

For Easter, 21st April, the enthusiasts who proposed to resume the work of Rule, Brodrick and Hill at the Marble Arch twenty-seven years ago received much support. Nine men went, the sea was like a mill pond both ways, it rained without stopping from Friday very



AT AYSGARTH

Photo by C. E. Burrow

early till 2 p.m. Monday when the world's workers left for Enniskillen and home. After that the weather was more and more gorgeous and quite dry. A tour to Noon's Hole and Boho was made on Tuesday, and the two left went on to the Mourne Mountains for the rest of the week.

A second Meet had been arranged at the Victoria Hotel, Buttermere, and eight beds engaged months before Easter. Mr. Nicholas Size coolly informed the Secretary he had let the rooms to others, and in spite of threats of legal action, and to the inconvenience of the men attending, the Meet had to be transferred to Coniston where the proprietor of the Crown Hotel was good enough to put himself out to find beds in the village.

One has hitherto regarded the constant complaints in the motor papers about English hotels as those of cranks, but there is evidently something in them.

The miracle of the Jubilee Meet, May 4th-6th, at the Hill Inn and in camp at Mere Gill with the descent of the great cavern are described elsewhere. All but two veterans had enough energy to climb Ingleborough to the bonfire, drive home in the early hours, and get to business.

May was an amazing month, dry, record-breaking sunshine, colder and colder, and an amazing snowfall on the 17th. June was an unsatisfactory month, cool and often wet, until on the 22nd a solid nine weeks of really warm weather set in, to be followed by the wettest late summer, autumn, and winter for many years.

Whitsunday was the only fine day at the Gaping Gill Camp, little being done on Saturday. Two parties went to the end of the East Passage; the swallet there was attacked and its appearance completely changed. One can now crawl 14 ft. into a rock passage which becomes far too small. The head of the Boulder Chamber Pot was also visited. The second part of the route does not agree well with the Editor's notes. No one seems to have repeated the 1927 descent.

At about 1.30 p.m. the chair carrying Mr. William Stembridge most unfortunately hung up on the guide-line near the bottom, the hauling cable over-ran it, and the chair brought up with a violent jerk at the bottom, so violent that the tongue of the belt tore along it and out, Mr. Stembridge's head striking the stones and receiving severe cuts. He was placed on an air bed with blankets and extemporised hot water bottles. Chubb and Leach went for Dr. Lovett and luckily found him in. Dr. Lovett reached the bottom at about 4.30 p.m., and at once called for the Neil-Robertson stretcher. All the men who knew well the details of the new organization were somewhere inside the cavern, but Chubb ran all the way to Clapham, collected a good fellow from Colne with a motor, and after finding the police strangely hazy about the stretcher, ran it down at the

Settle Drill Hall (one must remember S.J.A.B. men were out on the roads), and carried it up through Trow Gill where he was overtaken by two St. John's men from via Clapdale, reaching camp about 7.30 p.m., a great effort. All parties had come up. Brown, Davidson, Fred Booth, H. Stembridge, Lovett and one S.J.A.B. man were below and slung Mr. Stembridge under the chair. The surface work was in charge of Harold Armstrong. Wound up by hand, the chair appeared at 9 p.m. and was landed at 9.25 p.m. Immediately, Mr. Stembridge was borne up the bank under the leadership of a St. John's man, and carried on the other stretcher by a party of twelve by a circuitous but easy route to Leach's car at the bottom of Trow Gill.

It is good to know that he has made a complete and rapid recovery. The Committee has studied the lessons of the accident, and the routine of descents will be stiffened up to meet such mischances as can be foreseen.

In July the Wayfarers' Club again extended to us the hospitality of the Robertson Lamb Hut, and in August a few men enjoyed the same courtesy from the Rucksack Club at their Capel Curig hut, Craig yr Usfa Great Gully being climbed.

The attempt on Rowten Pot from Braida Garth, 8th September, had decidedly better luck than is traditional, even a fine day, but the water was far too high, the weather cool, and I very much doubt if the Rucksackers in the party enjoyed it. Only one man actually reached the bottom, and I am glad I stayed on top.

For 22nd September, the Derbyshire Pennine Club had prepared us a picnic in a perfectly dry cave, Nettle Pot, Castleton, where they had been digging in a narrow fissure and bringing up rubble a pocketful at a time for years and years, but had recently broken through into big caverns. It was a dreadful week-end, on top of a bad week of storm, the effects of drought were overcome, and the cavern was muddy and dripping wet. The 168 ft. descent by winch was out of the question. With the Wessex Cave Club there as well, the D.P.C. had about 25 people down, and withdrawal was difficult up the excessively narrow upper shaft. Consequently the first pair reached the Church Inn, Edale, at 2.30 p.m., the last car at 9.30 p.m.

A gale of exceptional force met the men who drove to Brough in Edendale on the Friday night, but had settled to a cold strong breeze on Sunday, 20th October, a most brilliant day. Twelve men drove to Grains o' Beck, and two cars on to High Force, nine climbing Mickle Fell by various routes.

Another wild but enjoyable week-end was the fate of the Buckden Meet, 1st December. Fierce rain and wind came from the south the first night and hail and wind from the west the second, but in between a delightful walk up Raydale from Semmerwater, and a "three peak walk" had been got in.

CLUB PROCEEDINGS.

1934.—The Week-end Meets held were:—28th January, Chapel-le-Dale; 25th February, Buckden; Easter, 1st April, Coniston and Kingshouse (Rannoch); 22nd April, Ingleton; Whitsun, 20th May, Gaping Gill; 17th June, Great Langdale; 24th June, Chapel-le-Dale (with the Derbyshire Pennine Club); 15th July, Rosedale; 5th August, Tal-y-Braich (with the Rucksack Club); 23rd September, Dungeon Gill; 21st October, Keld; 9th December, Middlesmoor.

We regret to record the death of Mr. C. F. Tetley, J.P., a very distinguished citizen of Leeds, an honorary member for forty-one years, being with Lord Conway the first elected.

At the Annual General Meeting held 17th November, 1934, the following were elected to hold office, 1934-35:—

President, ALEX. RULE; Vice-Presidents, J. M. DAVIDSON and G. A. POTTER-KIRBY; Hon. Treasurer, B. A. BATES; Hon. Secretaries, D. BURROW and F. S. BOOTH; Hon. Editor, E. E. ROBERTS; Hon. Librarian, J. BUCKLEY; Committee, H. ARMSTRONG, C. E. BURROW, C. CHUBB, G. S. GOWING, R. RIMMER, H. L. STEMBRIDGE.

The twenty-eighth Annual Dinner took place at the Hotel Metropole, Leeds, on 17th November, 1934. The President, Alex. Rule, was in the chair, and the principal guest was Dr. E. A. Baker. The kindred clubs were represented by Sir W. Ellis, Alpine Club; Mr. J. C. S. Ewen, Scottish Mountaineering Club; Mr. A. S. Pigott, Rucksack Club; Mr. A. R. Edge, Climbers' Club; Mr. F. E. Hicks, Wayfarers' Club; Mr. A. B. Hargreaves, Fell and Rock Climbing Club; Mr. A. M. Taylor, Gritstone Club; Mr. N. Thornber, Northern Cavern and Fell Club; Mr. J. C. Hill, Craven Pot-Hole Club.

1935.—The Week-end Meets held were:—27th January, Chapel-le-Dale; 24th February, Sedbergh; 24th March, Arncliffe; Easter, 21st April, Enniskillen and Coniston; Jubilee, 5th-6th May, Mere Gill; Whitsun, 9th June, Gaping Gill; 7th July, Great Langdale; 4th August, Tal-y-Braich; 8th September, Kingsdale (with the Rucksack Club); 22nd September, Edale (with the Derbyshire Pennine Club); 20th October, Brough (Edendale); 1st December, Buckden.

The Club has taken part in forming a Central Rescue Organization of pot-holing clubs in co-operation with the Settle Division, St. John's Ambulance. A Neil-Robertson stretcher, as used in the Royal Navy, is stationed with the S.J.A.B. at Settle.

At the Annual General Meeting held 16th November, 1935, the following were elected to hold office, 1935-36:—

President, ALEX. RULE; Vice-Presidents, HENRY HUMPHREYS and J. HILTON; Hon. Treasurer, B. A. BATES; Hon. Secretaries, D. BURROW and F. S. BOOTH; Hon. Editor, E. E. ROBERTS; Hon. Librarian, R. RIMMER; Committee, H. ARMSTRONG, M. BOTTERILL, C. E. BURROW, C. CHUBB, G. S. GOWING, H. L. STEMBRIDGE.

A resolution was passed approving a contribution of the equivalent cost of one stretcher and equipment, about £23, to the expenses incurred by kindred clubs in a wide provision of rescue appliances at mountain centres.

The twenty-ninth Annual Dinner took place at the Hotel Metropole, Leeds, on 16th November, 1935. In the absence of the President, Alex. Rule, J. M. Davidson was in the chair, and the principal guest was Dr. G. F. Morton. The kindred clubs were represented by Mr. F. G. Brettel, Alpine Club and Midland Association; Mr. J. H. Doughty, President, Rucksack Club; Mr. L. St. C. Bartholomew, Scottish Mountaineering Club; Mr. F. B. Dutton-Walker, Wayfarers' Club; Mr. E. B. Burstall, Fell and Rock Climbing Club; Mr. A. R. Edge, Climbers' Club; Mr. G. L. Travis, Derbyshire Pennine Club; Mr. F. T. Bancroft, Northern Cavern and Fell Club; Mr. C. E. Gallimore, Gritstone Club; Mr. A. C. Waterfall, Craven Pot-Hole Club; and Mr. S. J. Farrer of Ingleborough was also our guest.

NEW MEMBERS.

1934.

PILKINGTON-ROGERS, CHARLES WILLIAM, School House, Retford, Notts.
ARMSTRONG, WALTER, Burton Street, Dewsbury Road, Leeds, 11.
CHIDLEY, ARTHUR HOWELL, Avondale, Rugeley, Staffs.

1935.

LAWTON, DOUGLAS HAROLD, 1, Hollywell Avenue, Monkseaton.
CATLOW, JOHN WATSON, Linton-on-Wharfe, Collingham.
ROBERTSON, JAMES RALLI, 8, St. Margaret's Terrace, Ilkley.
BONE, MALCOLM DRUMMOND, Briermede, Durham Road, Stockton-on-Tees.
SARGENT, ROLAND ERNEST, 116, The Mount, York.
THORNTON, PHILIP WHITEHEAD, 7, Tewit Well Road, Harrogate.
WILSON, CHARLES HENRY, Haddington, Hesketh Road, Leeds, 5.
KERN, HANS EWALD, 20, Falcon Road, Bingley.
BARTLETT, PHILIP NOEL, Epsom College, Surrey.

BACK NUMBERS.—These can be obtained from the Hon. Librarian, R. Rimmer, Hotel Metropole, Leeds, 1. Prices.—Nos. 1, 3 and 4, 5s. each; Nos. 2 and 5, 10s. each; Nos. 6, 7, 10, 11, 12, 4s. each; Nos. 8 and 9, 2s. each; No. 13, 3s.; Nos. 14, 15, 16, 17, 18, 5s. each; Nos. 19, 20, 21, 4s. each. Specially designed green buckram cases for the six volumes, 2s. each. Postage extra.

INDEX

- ACCIDENTS, 70, 130, 151, 314, 341, 347, 361, 373.
Adamello, 89, 92.
Ailefroide, 192, 361.
Alival, 72, 153.
Ajaccio, 3.
Albrun Pass, 280.
Allalinhorn, 102.
Alpine Hare, 71.
Alps, 72, 74, 151, 254.
An Teallach, 113, 296.
Archaean Rock, 293.
Asco, 11.
Austria, 348.
Authors:—
Bartlett, P. N., 329.
Benson, C. E., 36, 43, 127.
Botterill, M., 13.
Brodrick, H., 235, 304.
Crawford, H. A., 135.
Crawford, J. K., 298.
Cuttriss, S. W., 136.
Devenish, H. P., 133.
Editor, 1, 63, 229, 284, 334.
Ellis, J. D., 19.
Evans, W. E., 213, 277.
Foley, Innes, 44.
Gowing, G. S., 176, 320.
Hastings, C., 60.
Lowe, G. H., 181.
Lowe, G. T., 169, 195.
Puttrell, J. W., 122, 308.
N.C.F.C., 314.
Reed, D. L., 112, 207.
Riley, C. E. E., 119.
Sale, E. H., 89.
Shaw, D., 98.
Smith, F. Oakes, 185.
Stembridge, F. W., 331.
Whitaker, S. H., 25.
Woodman, E. J., 104.
Yates, H., 216, 240.
- Beddgelert, 37.
Beeston Tor, 241.
Beinn Mhor, 15.
Ben Eay, 112.
Ben Hope, 288.
Ben Loyal, 286.
Ben Nevis, 63, 86, 121, 248, 273, 366.
Bertarelli, 148, 310.
Bettlihorn, 281.
Bhasteir, 31.
Bicycling, 136, 146.
Binn, 74, 277.
Birkness Combe, 213.
Black Force, 300.
Blasting, 334, 355.
Bonfire, 340, 373.
Boho, 321.
Borovicium, 202.
Bowland, 273.
Brèche Nord du Fifre, 185.
Burnt Njal, 286.
Buttermere, 213, 345, 373.
- CAIRNGORMS, 119, 348.
Calacuccia, 3.
Cambrian Limestone, 296.
Canal, 318, 339.
Capel Curig, 40, 163.
Cape Wrath, 284, 290.
Capo Larghia, 10, 12.
Capo Tafonato, 8, 12.
Caré Alto, 93.
Cautley, 300, 372.
Caves and Pot-holes:—
Adelsberg Cave, 308.
Bagshaw Cavern, 86.
Birks Fell Cave, 259.
Bishopdale Pots, 259, 353.
Blue John Mine, 86.
Blue John Hole, 77.
Bruntscar Cave, 258.
Bull Pot of the Witches, 258.
Buttertubs, 77, 137.
Cave of Arta, 304.
Cave of Smoo', 289, 296.
Clapham Cave, 78, 143.
Coates's Cavern, 357.
Common Hole, 272.
Coolagh River Cave, 330.
Cradle Hole, 323, 349.
- BAITONE, 91.
Barbette, 27.
Barns, 23, 133.
Bastia, 12.
Battleaxe, 51, 155.
Baugh Fell, 302.
Beacon Buttress, 177.

Cueva del Drach, 305.
 Cueva de Ham, 307.
 Death's Head Pot, 79.
 Deepest Gulfs, 148.
 Diccan Pot, 154, 261, 357.
 Douk Cave, 351.
 East Gill, 259, 354.
 Eastwater Cave, 156, 262.
 Eisriesenwelt, 122, 262.
 Fairy Hole, 357.
 Fountains Fell Pots, 352.
 Gaping Gill, 25, 75, 87, 143, 153, 164, 256, 271, 274, 339, 350, 371.
 Canal, 75, 339.
 East Passage, 340.
 Flood Entrance, 25, 87, 154.
 Flood Pot, 153, 339.
 Rat-Hole, 340, 350.
 Survey, 271, 340.
 Gavel Pot, 47, 60, 229.
 Giant's Hole, 155.
 Giant's Grave Caves, 258.
 Giggleswick Scar, 155.
 Ginging Hole, 154, 314.
 Golgotha Cave, 355.
 Goyden Pot, 77, 154, 216, 259, 334, 353, 372.
 Grand Canary, 365.
 Green Ore Mine, 260.
 Hillocks Cave, 262.
 Hollow Mill Pot, 76, 165.
 Inchnadamph Caves, 357.
 Jingle Pot, 261.
 Leck Fell New Pot, 76.
 Lengths, 149.
 Long Kin East, 163.
 Long Kin West, 34, 79.
 Lost Johns' Cave, 28, 44, 70, 79, 155, 164, 257, 334, 352.
 Low Douk, 60.
 Marble Arch Cave, 321, 334, 349.
 Marble Steps Pot, 62, 165, 257.
 Marble Pot, 256.
 Mere Gill Hole, 336, 350.
 Nick Pot II., 350.
 Nettle Pot, 354, 374.
 Oxlow Mine, 165, 348.
 Peak Cavern, 165.
 Penygent Long Churn, 351.
 Pollnagapple, 323, 349.
 Pollbwee, 328.
 Poulmaelva, 329, 350.
 Poulnagollum, 261, 265, 330, 350.
 Poulwillim, 330.
 Rift Pot, 261.
 Royal Grotto, Postumia, 308.
 Rowten Pot, 274, 374.

Caves and Pot-holes (*continued*).
 Rumbling Hole, 229, 357.
 St. Catherinc's Well, 329, 350.
 St. Michael's Cave, 235.
 Scoska Cave, 353.
 Scots Hole, 77.
 Short Drop, 29, 62.
 Skirwith Cave, 351.
 South Bank Hole, 155, 261.
 Stump Cross Cave, 149, 156, 261.
 Swildon's Hole, 79, 264.
 Swinsto Hole, 70, 75.
 Thor's Cave, 123, 241.
 Three Trees Pots, 76.
 Traligill, 295.
 Tutman's Hole, 354.
 Washfold Cave, 256, 335.
 Windypits, 355.
 Wookey Hole, 260, 356.
 Yockenthwaite Pot, 357.
 Cengalo, 96.
 Cézanne, 191.
 Chesters, 201, 203.
 Cima Brenta, 95.
 Cinque Fratelli, 5.
 Cioch, 31, 116.
 Cladagh, 322, 349.
 Clare, 329, 350.
 Clisham, 17.
 Clogwyn du'r Arddu, 39.
 Closing of Frontier, 152.
 Coates, 314, 357.
 Col de Foggiale, 8.
 Compass, 345.
 Corsica, 1.
 Corte, 3.
 Coruisk, 13.
 Cross Fell, 272, 298, 302.
 Crowberry Ridge, 117.
 Cyprus, 73.

DARFUR Crags, 241.
 Dauphiné, 185, 361.
 Deepest Gulfs, 148.
 Diamond Pillar, 310.
 Diving, 334.
 Doctors, 129.
 Dove, R., 240.
 Dow Crags, 145.
 Drakensberg, 176.
 Dru, 360.
 Dubhs, 115.
 Durness, 289.

EAGLE'S Nest, 208.
 Écrins, Les, 189.
 Eggerhorn, 279.
 Egginer, 299.
 Engineer's Slant, 253.
 Enniskillen, 321.
 Erosion, 3, 11.
 Eskdale, 344.
 Everest, 82, 252, 275, 347.

FARAIHD Head, 290.
 Ferries, 114, 289, 291.
 Fiction, 249, 367.
 Fishermen, 286.
 Flamborough, 271.
 Flora, 5, 22, 284, 287, 290.
 Footpaths, 24, 250.
 Forest, 160, 284, 296, 344.
 Foundation of Club, 174.

GASKELL'S Passage, 155
 216, 224, 226.
 Gibraltar, 235.
 Glaciers, 122.
 Glen Brittle, 114, 348.
 Glencoe, 117.
 Grotte des Anges, 4, 12.
 Guide-books, 243.
 Gunong Ledang, 183.

HADRIAN, 195, 198.
 Hansa League, 22.
 Hebrides, 13.
 Hecla, 14.
 Heights, 12, 159.
 Helsenhorn, 282.
 Highlands, 72, 112, 265, 268, 284, 294.
 Hiking, 146.
 Hill Inn, 85, 165, 272, 303, 371.
 Houston Flight, 252.
 Howgills, 298, 301.
 Hüllehorn, 74, 282.

INCHNADAMPH, 291, 296.
 Ingleborough, 71, 369.
 Ingleton, 331.
 Inglis Clark Hut, 63, 248.
 Ireland, 320.
 Iron Ladder, 60.
 Iron-working, 22.
 Italy, 70.

JOHAN BUNCLE, 251.
 Johore, 181.
 Jonsong Peak, 74, 157.
 Jubilee, 337, 373.

KAMET, 150, 263.
 Kangchenjunga, 73, 157, 166, 270.
 Keld, 137, 165, 343, 372.
 Kylesku, 290.

LARIG Ghru, 119.
 Lepontines, 277.
 Les Bans, 193.
 Liathach, 113.
 Lisdoonvarna, 265, 329, 350.
 Lizards, 310.
 Loch Assynt, 291, 296.
 Loch Erriboll, 288.
 Loch Eynort, 15.
 Lochinver, 288, 291.
 Loch Maree, 112.
 Lochnagar, 161, 367.
 Loch Skipport, 14.
 Lowlands, 284, 366.
 Loyalist Clans, 294.

MACKAYS, 294.
 Magnetic Variation, 340.
 Majorca, 304.
 Manifold, R., 240.
 Maquis, 5, 7.
 Martel, E. A., 148, 172, 305, 310, 334.
 Master Cave, 56, 234.
 Matterhorn, 347, 361.
 Mendip, 255, 260, 264, 334, 345.
 Mickle Fell, 298, 374.
 Molly, 13.
 Monastir, R., 320, 349.
 Monte Cinto, 7.
 Monte Falò, 7.
 Moore, Lewis, 175, 246.
 Morocco, 72, 347.
 Moufflon, 8.
 Mount Ophir, 181.
 Mourne Mountains, 349.
 Muleteer, 4, 10.
 Munros, 286, 366.
 Museum, 24, 360.

NADELHORN, 100.
 Narrow Roads, 285, 295.
 N. E. Buttress, 64, 273.
 Nine Nicks, 196, 201.
 North Riding, 287, 343.
 Norway, 31, 69, 255.
Notitia, 198.

OFENHORN, 74, 280.
 Overhead Cables, 21.

PADANG Batu, 183.
 Paglia Orba, 3, 9.
 Palestine, 73.
 Passing Places, 288, 295.
 Pennines, 298.
 Pinus Laricio, 5.
 Pinus Pinea, 11.
 Pitons, 266, 342, 361.
 Place-Names, 343.
 Plans, 251, 340.
 Poik, 308.
 Postunia, 308.
 Presanella, 94.
 Prince Charlie, 294.
 Punta Minuta, 9.
 Pyrenees, 27, 83.

QUARTZITE, 293.
 Quinag, 291, 293.

RESCUE Organization, 341.
 Rescues, 70, 163, 314, 370.
 Reservoirs, 20.
 Rhodesia, 104.
 Rhone, 278.
 Roman Wall, 195, 274.
 Roof Traverse, 45, 316.
 Roping Down, 82.

SAAS Fee, 98.
 Sauerland, 19.
 Scourie, 290.
 Second Class, 147.
 Sentinel, The, 178.
 Severus, 195.
 Shillong, 153, 370.
 Shyok, 159, 362.
 Ski-ing, 80, 162, 268, 272, 358,
 368.
 Skye, 30, 114, 253, 297, 348.
 Slieve Elva, 320.
 Slingsby, Morris, 150.
 Slingsby, W. Cecil, 66, 144, 171.
 Snakes, 106.
 Snow Deposits, 269.
 Snowstorm, The Great, 273.

Soleitind, 33.
 South Uist, 14.
 Spelling, 145, 286.
Spelunca, 161, 265, 362.
 Stac Polly, 296.
 Stone Pine, 11.
 Store Skagastólstind, 32, 69.
 Stretcher, 341, 373.
 Sudlenzspitze, 102.
 Suilven, 292.
 Surveys, 327, 337, 369.
 Sutherland, 284, 297.
 Swaledale, 76, 136.

TAILBRIGG, 76, 136.
 Technique, 293, 343.
 Temperature, 297, 363.
 Theft, 7.
 Three Peaks, 27, 170.
 Tongue, 286, 294.
 Torridonian, 293.
 Tower Ridge, 64, 273.
 Traligill, 296.
 Trekking, 107.
 Trout, 6, 131.
 Tugela Tunnel, 179.

ULLAPOOL, 297.
 Underground Lakes, 71.

VAL de Viro, 4.
 Victoria Falls, 105.
 Von Mörk, 124.

WANNENHORN, 279.
 Wasdale Head, 145.
 Westphalia, 19.
 Whisky, 37, 132.
 Windy Corner, 125.

YOUTH HOSTELS, 24, 342.

ZOOLOGY, 312.