

EXCURSIONS AND NOTES.

BEINN A' GHLO. This year for the first time our summer excursion lay wholly outside the region from which the Club takes its name. A party of twelve met at the Athole Arms Hotel, Blair Athole, on the evening of 10th July. The programme had been arranged for an early start on the morning of the 11th, and after a drive of over four miles, the day's tramp began at the foot of Carn Liath about 7.30. The ascent of this shapely cone was rather steep, but the ample time allowed for it enabled the company to enjoy judicious halts among the abundant crowberries. From the top of Carn Liath (3193) the range of view was limited to a distance not exceeding 25 miles. The air was very clear in the immediate neighbourhood, and the peculiar features of the Beinn a' Ghlo group presented themselves impressively. The southern height, on which we stood, is like a shapely conical buttress connected with the central summit by a sharp ridge. These sharp connecting ridges, flanked by long steep straight slopes, produce, when close at hand, an impression of boldness and grandeur similar to that which is received from many distant views of the Beinn a' Ghlo group. A descent of 600 feet by the ridge placed us at the foot of the central mountain. Cloudberries almost ripe were gathered here. The climb to Braigh Coire Chruinnbhalgain (3505) is comparatively easy. From the top the circle of vision was enlarged as compared with Carn Liath by the view of Ben Muich Dhuì and his neighbours which were scanned with special interest from this side. The mist was just touching their summits, but the various mountains from Sgoran Dubh to Beinn a' Bhuird were speedily recognised. On this, as on the southern height, quartzite is found as the prevailing rock. A descent of about 700 feet brought us to Bealach an Fhiodha where, good water being found, a halt was called for luncheon. The ascent of the last and chief summit, Carn nan Gabhar (3671), was rather more difficult than the preceding. The view from the cairn to south, west, and north, was a repetition of what had been before us at different stages of the walk, while eastward the mist and rain-clouds gave ominous warning. A meeting of the Club was held—Professor Cameron, D.D., presiding—and one member was admitted with due formality. Soon thereafter a very heavy shower of rain and hail, with threatening mist, compelled a hasty retreat from the exposed summit. The route taken was west to Glas Leathad. Owing to the rain and the stones and heather this steep descent was rather troublesome until Allt Fheannach was reached. Brighter weather and better walking gladdened the company as they proceeded by the right bank of that stream to Glen Tilt. Arriving at Forest

Lodge at 3:30 the party drove to Blair Athole. Aberdeen was reached before midnight, thus completing very comfortably one of the most enjoyable summer outings of the Club.

It is high praise to say of this characteristic group that close acquaintance deepens the impression made upon everyone who has admired from a distance the compact, abrupt, and withal massive peaks of Beinn a' Ghlo.—ROBERT SEMPLE.

that hill of many summits, was the goal set before us
BENNACHIE, for our autumn excursion on the 25th September.
The original intention was to leave the train at Monymusk Station, drive through the grounds of Monymusk House to Paradise, and ford the Don. However, on being joined by our Secretary at Dyce, we learned that we must stop short at Kemnay, the ford not being passable owing to recent rains. By this change of programme both Monymusk and Paradise were lost to us—a deprivation which afforded our more facetious members an opportunity for giving vent to time-honoured and well-worn Paradisaic allusions. After nearly a two hours' drive, Dorlethen, a farm a mile S. by E. of Pittodrie House, was reached, and luncheon served. The ascent was thereafter commenced on foot, Mither Tap (1698) being first made for. Although not the highest peak, this is the one most frequently visited, as it stands out far more prominently than any of the other crags, and from most points of view appears to warrant the pretension of its



name. The accompanying view shows Nether Maiden, a mass of rock like a shoulder just below the head of the "Tap", and illustrates the effects of denudation and disintegration in a very striking manner, the weather-worn rock presenting that layer-like appearance which shows

that the original deposits must have been of various degrees of hardness, and that the softer strata had fallen an easier prey than their neighbours to the tooth of time. Looking eastward from the summit, the sea horizon was observed at a distance of over 50 miles, while to the south we had the Deeside hills and to the north the Moray Firth. But we put off our more deliberate survey of the great Bens to the west till we should reach Oxen Craig, the highest point, whither we bent our steps after an hour spent on Mither Tap. The distance between the peaks is barely $1\frac{1}{4}$ miles, and our bolder spirits attempted to cut right across the moor, but landed themselves in a peat bog, and only after a struggle overtook the others, who, plodding by the orthodox paths, had reached the Craig. Here the view is most extensive; and, although the day was not very clear, yet we could easily distinguish many distant mountain peaks. Lochnagar, Ben Avon, Beinn a' Bhuid, and Ben Rinnes were all slightly adorned with snow; while Mount Keen, Morven, Clochnaben, Mount Battock, Hill of Fare, Buck of the Cabrach, Tap o' Noth, and many lesser hills were seen in the nearer distance. We had a smart shower of hail on the top of Oxen Craig; it soon passed over and left the atmosphere clearer.

Below Garbit

Tap—midway between the tops we visited, but a very little to the south—there is an old disused quarry, adjoining which is a ruined “smiddy”. This was for some years the abode of a notorious character, William Jamieson, “the Heddie Craw o’ Bennachie”, whose portrait, taken from a sketch by the late Mr. John Stirling, is given here. He was a social outcast, and, of more than local celebrity, acted the part of “bogie man” to all the youngsters round about.



Bidding farewell to Oxen Craig, we descended by the north slope to the scene of a "waterspout" which, about two years ago, tore up a ravine for itself right down the side of the hill. It affords a capital opportunity of observing the extraordinary effects produced by water. It has rendered the peat road quite useless and beyond repair, and so made the direct route from Oyne Station to the summit of the hill impassable in many places. The descent was made to the well-known "Beeches", whence we made our way to the Manse of Oyne, where, by the hospitality of Mrs Mearns, we were entertained to tea. It was a gay scene on the Manse lawn, although the members of the Club may have felt that their mud-stained mountaineering garb was barely in keeping with the appearance of the brilliant company that had met so kindly to make them welcome. Our train from Oyne started at 5'35, and we arrived at Aberdeen shortly before 7 o'clock, from an outing which, although one of the humblest and easiest that could be set down in the programme of a mountaineering club, proved nevertheless a very pleasant and successful excursion.

AN ascent of Ben Avon was made from Crathie, on 8th
 BEN AVON September. The season, which had so far been excep-
 IN tionally favourable for mountaineering, had begun to
 SEPTEMBER. change preparatory to the storm which was experienced
 in the following week. Leaving Crathie about 6'15

Loch Builg was made for, *via* Corndavon Lodge. The nearest route, however, from Crathie, would have been to follow the cart-road to Monaltrie Moss and strike the hill there, passing through the sneck between Little Culardoch and Tom a' Chuir, and thence make a straight line for the top across the Gairn. But, as one is never certain of the condition of the moss (at best very heavy walking), and as it was the middle of the shooting season, it was decided to keep to the road as far as possible. The Loch was reached about 8'35, and, so far, the weather looked most promising, although the wind, which, if any at all, had been at the start in the west, was now distinctly getting away to the north. Leaving Loch Builg Cottage at 9, the slope behind it was ascended by a small tortuous path, which was followed for about a quarter of a mile after reaching the sky-line, and finally deserted, where it meets with another path leading up from the Gairn. At this point the hill was taken and a more northerly direction pursued till Feith an Laoigh was crossed, when the ascent proper was begun, keeping Big Brae well to the right. The summit was reached at 10'35.

By this time a marvellous change had taken place. The eastward view, including Mount Keen, Mount Battock, Clochnaben, and Kerloch, which had been very good during the whole of the ascent, was becoming obliterated; and towards the north a huge bank of cloud was rapidly advancing, rendering even the hills around Tomintoul almost invisible. Only a few of the Perthshire hills could be seen. The only satisfactory view was that of Lochnagar which, in itself, was well

worth the journey. It is very marked from Ben Avon, and, perhaps, from all the points from which it can be viewed, this is one of the most pleasing. There one observes to advantage the sharp outline of its summit—its mark of distinction from all the rest of the Grampians—standing out against the sky with a prominence so peculiar to that majestic mountain. But by this time the bright frosty morning had given place to a strong north wind with heavy rain, so that a hasty retreat had to be made. Leaving the top at 10:45 Feith an Laoigh was again made for with all speed, but long before it was reached the storm had burst in full force, and now all around was a combination of wind, rain, sleet, and mist. About noon a rent in the clouds revealed the welcome sight of Loch Builg, which was reached at 12:30 after a battle with the elements, which in these parts must on no account be despised.

—W. GARDEN.

THE PERTSHIRE MOUNTAIN CLUB was founded in 1875, and is an *imperium in imperio* of the Perthshire Society of Natural Science. Only members of that Society who have ascended a Perthshire mountain of at least 3000 feet altitude are eligible. The Cairnmaster is the chief officer, "who, having taken his seat (we frequently read) on the cairn, a number of new members were presented for initiation with the accustomed ceremonies, the Quaighbearer being in attendance with the quaigh". The motto of the Club is "*Salix herbacea floreat*", *Salix herbacea* being the dwarf alpine willow, the smallest British shrub. Among the other office-bearers is the Bard, who has to write a poem "for the occasion". He (Dr Buchanan White) thus rises to the occasion in a poem of 17 stanzas at the Beinn Laoigh excursion :—

"Floreat! members of the mountain clan;
 Floreat! each as individual man;
 Floreat! he who dares do all he can—
 Salix herbacea floreat!
 Farewell! O monarch of surrounding heights—
 Keeper of many hope-inspiring sights;
 Farewell! we leave thee wrapt in evening lights—
 Salix herbacea floreat!"

It should be stated that an account of the Club's work will be found in the "Transactions and Proceedings of the Perthshire Society of Natural Science"—an excellent publication by the way.

SCHICHALLION was one of the mountains visited by a sub-division of the Club party, whose principal objective at the summer excursion was Beinn a' Ghlo. Leaving Aberdeen at 6:50 a.m., Aberfeldy was reached at 11:35, and the walk at once commenced. The distance is 11½ miles, the route being by Coshieville, Strath Appin being left about 7½ miles from Aberfeldy, just below Glengoulandie (a farm), where Allt Mor, a tributary of the Lyon, turns to the south (900 feet), and becomes known as

Keltney Burn. The weather was sultry and thundery, with occasional showers of rain and sleet.

Turning up Gleann Mor, to which Schichallion slopes on the south, we found it heather and bracken-clad, with sheep-paths that were of no little service—the left bank of the stream being kept. At a height of 1550 feet the Farragon Hills came into view behind us. From our direction, the east, the ascent is easy—perhaps rather tedious—being along Aonach Ban, which doubtless has received its name from the quartz that so plentifully bursts out here. Sheep resenting our intrusion stationed themselves on some of the higher rocks, and at a distance conjured up a picture of chamois on the Alps. Hares were not uncommon, and seemed particularly big and plump. At a height of 1850 feet Loch Tummel came within range. When an altitude of about 3000 feet had been reached, we found ourselves on a plateau, with the stony summit of Schichallion superimposed—a mountain literally laid upon a mountain. In another hundred feet, we had commenced to climb the cone, leaving behind a line of miniature stone-shelters, the empty cartridges within showing their purpose. The ascent for the last quarter of an hour required the careful picking of one's route among the rocks. *The* cairn is a very small one—some four feet high—but the rocky cone-shaped summit little requires a distinguishing mark.

The view from Schichallion (3547) is at no time so fine as one would naturally expect; in such weather as had just been experienced little was anticipated. It was now (6 o'clock) a glorious evening, and a pleasant time was spent on the summit. It was readily seen that both the north and south faces of the mountain were particularly steep—the former much scree-covered. The western slope towards Loch Rannoch—which lay spread below us—seemed a little steeper than the eastern. A family of snow buntings was seen at the cairn. Looking across Gleann Mor, a shepherd's hut could be observed perched on the northern slope of Carn Mairg. That glen was quite green at the top, with Allt Mor flowing peacefully along, quite different from its rocky channel lower down. The valley of the Tummel, also, seemed exceedingly green, the strath looking magnificent.

The descent was made by the north face, 1100 feet being negotiated at an angle of 35°. At that inclination the loose small scree is ready to come down with the mountaineer. The summit was scarcely left when the mist seemed to settle there, but Strath Tummel below was still in a smiling atmosphere. The road between Aberfeldy and Kinloch Rannoch (18 miles) was struck near the 13—5 milestone, at a height of about 1200 feet, a few yards to the west of a dyke up Schichallion that there divides the parishes of Fortingall and Dull. Looking up to the isolated mass of Schichallion, the cone was once more free of mist, but clouds swept gracefully westward about 500 feet below the summit. The walk along the solitary moorland road—for houses are

here a rarity—afforded a capital view of the peak we had just left, as well as of Beinn a' Ghlo and Ben Vrackie in the distance. At 8:30 we reached White Bridge Inn, midway between Aberfeldy and Kinloch Rannoch and $4\frac{1}{2}$ miles from Tummel Bridge. The "Inn", it should be mentioned, is one of the smallest, and contains only one "spare" bed.

A MAGNIFICENT July day found our party at Dufftown MEIKLE *en route* for the Cabrach. The drive up the lower part FIRBRIGGS. of Glen Fiddich, past the ruins of Auchindoun Castle (a seat of the Huntly Gordons), and along the excellent turnpike road among the bonnie Birks of Laggan, was fitted to charm anyone with the least spark of the love of nature in his being. Crossing the Fiddich at the point where it emerges from Glen Fiddich Forest the road leads upward by a rather steep ascent till we reach the Glacks of Balloch—a deep "slochd" in the ridge which separates the basin of the Deveron-Blackwater from that of the Fiddich, and also forms the boundary between the parishes of Mortlach and Cabrach.

Looking behind us a splendid panorama presents itself—ridge upon ridge of heath-clad hills retiring towards the west, with Ben Rinnes raising his bold storm-swept head above all. Resuming our journey the descent towards the Deveron began. "Roy's Wife of Aldivalloch" naturally became our companion "As we gaed ower the Braes o' Balloch". (*En passant* we may remark that when we visited Aldivalloch the only trace of this fickle dame was a massive block of a "heathen" that was used as Roy's hearth-stone.) The view as we descended towards the Deveron was not specially attractive, the country being almost devoid of trees. Old friends, the Tap o' Noth and the Buck, are near at hand, and hills of brown heath with patches of cultivated land are the prevailing feature of the landscape.

Arrived at Ardwell (almost on the 1000 feet line of altitude), and the inner man replenished, we wended our way up the hill path leading to the top of Meikle Firbriggs (1776), which, we were assured, and afterwards verified, commanded the finest and most extensive view of any hill in the vicinity. Meikle Firbriggs is part of the ridge that separates the basin of the Allt-Deveron from that of its main upper tributary, the Blackwater. This ridge is a spur of the larger Cook's Cairn ridge which forms the watershed between the Deveron and Spey basins. Branching off from the main range at Cairnbrallan, the Meikle Firbriggs ridge runs north-eastward in a wavy line for a distance of about ten miles, gradually decreasing in elevation till it sinks into the knolls at the junction of the Deveron and Blackwater. The summit was reached after a leisurely walk of barely an hour, having paused frequently on the way upward to admire the opening landscape. Looking westward from the summit, at our feet lay Blackwater Forest, treeless with the exception of a clump that encircles the Lodge; and not another human habitation is to be found in the long glen, though the time was when the haughs of the Blackwater were the home of

many a thrifty crofter. One green plat by the riverside marks the spot where the miller ground the corn ; another, the Priest's Haugh, where lived the priest who ministered to the spiritual wants of a by no means scant population, and yet did not consider it *infra dig.* to assist the miller in his work. Here, too, one of Scotland's kings found a night's lodging when his day's hunting in the Forest was over. The forest is now the home of red deer, hundreds of which we saw browsing on the slopes of the hills. Beyond the Blackwater is the Cook's Cairn range which rises very abruptly from the river to a height of over 2000 feet, and slopes even more abruptly down to the Fiddich on its western side ; and away to the north-westward Ben Rinnes is seen in bold rugged outline rising above his fellows. To the south-westward, looking over the left shoulder of Cook's Cairn and the right shoulder of Cairnbrallan down the Livet glen, away in the far distance, we had a clear view of the Cairngorm group with patches of snow relieving the grey.

Turning now to the south and south-east, at our feet lies the Upper Cabrach, a circular hollow almost completely shut in by ridges of hills, the Buck standing out boldly above the rest. A glance at this district with its combination of numerous streams running in deeply-cut channels, and its stretches of moss and moor, explains the Deveron floods, which not only come down at times in extraordinary volume, but also continue to run high for days after the rains have ceased. When the height of Upper Cabrach above sea level and its northerly aspect are taken into consideration it is surprising to find in this district so many nice steadings of seemingly well-to-do farmers. The lack of trees causes no wonder. At the foot of the hill, but hidden from view by a minor spur, lies Aldivalloch—a hamlet of some half dozen houses, and close by it is a mineral well whose waters are neither sweet to the taste nor pleasant to the olfactory sense. Due east, about eight miles distant as the crow flies, but apparently much nearer, is Tap o' Noth, which from this point is very much like Arthur Seat from Calton Hill—a lion couchant. To his right, in the far distance, is Bennachie, Mither Tap standing out boldly against the sky. Looking now to the north-east, down the Deveron valley, at our feet opens out the Lower Cabrach, the winding reaches of the river visible as far as the parish of Glass. Here the banks of the river at various points are beautified by belts of birch, hazel, arn, and mountain ash. Far in the distance lies the Knock Hill, and beyond, on its left, is Cullen Bin. To the north-west the Glacks of Balloch form a striking feature in the ridge that here shuts in the Lower Cabrach. The road here reaches an elevation of over 1100 feet. Close at hand lies Dufftown (seven miles off) the tops of the houses looking out among the trees, and backed by Ben Aigan, with the beautifully wooded Glen of Rothes on its left ; and away beyond, clearly visible, is the Pap of Caithness. Till recently the Cabrach was almost inaccessible ; roads bad, bridges non-existent.

Now excellent roads from three sides make the approach to it easy by carriage or cycle, and the district is a veritable paradise for the angler : no restriction as to fishing, and as for fish—well, I had better not begin!
—ALEXANDER FORBES.

in mist was made about the end of July, 1870, by B. and the writer, starting from Castleton. As far as
A Derry Lodge we were all right, but beyond that we
NIGHT ASCENT OF knew little of the route (there were then no O.S.
CAIRN TOUL maps), but we had a considerable amount of self-reliance and determination. We were, besides, in pretty good form, having been mountaineering for several days on Lochnagar, Ben Avon, Beinn a' Bhuid, &c. The evening was fine, but a somewhat uniform layer of clouds looked suspiciously low ; however, off we set about eight o'clock. All went well till having passed Old Mar Lodge the mist was entered. This was what we most feared, as it would obscure the outlines of the hills, so that on getting into Glen Dee there would be no guide. On reaching the Derry a mistake was made. We crossed the Lui Beg water. This led us into a wood, through which, for some distance westward, there was a fairly good path, but which by and by vanished. However, we pushed on, and at last got "out of the wood", and found the track leading to Glen Dee. The mist was now very close and dense, but it did not seem to reach very high, for through occasional openings the stars could be seen. This was hopeful. Entering Glen Dee, we kept on till we thought we must be opposite Cairn Toul. It was too dark to search for an easy place to cross the Dee, so we made direct for the river, and into it. A few galvanic batteries would have been commonplace to the sensation then experienced ! The intense cold water, fresh from the melting snows, and the sharp angular gravel at the bottom, made this crossing quite an experience for one's poor feet. We went straight up the slope at right angles to the river, a route which shortly led to smooth perpendicular rock. Moving northwards, and keeping close to the rock, the conviction deepened that we were tracing the south spur of our mountain. By and by the rock curved inwards, and still keeping close to it, we found ourselves in what was evidently a large corrie filled with very dense mist. Hugging the rock, now much broken, we reached the inner extremity of the corrie, where, to our delight, a zig-zag footpath was found—and followed. When about half the ascent was accomplished, we suddenly put our heads through the mist. The effect was magical. The sky was clear as crystal, with a few stars still visible in the early twilight. The mist lay stretched below like a silver sea, and extended as far as the eye could reach—the tops of the hills so many islands in it. Looking at it more closely, it was seen to be corrugated like the waves of the ocean. The illusion was perfect, for where it met a projecting part of a hill, there a little cloud of spray rose, and later, when the level rays of the rising sun struck the waves, their shadows could be faintly but

plainly seen projected upon each other. "A thing of beauty is a joy for ever", and this was a scene never to be forgotten by the two who witnessed it. Our difficulties were all resolved now, and we soon reached the cairn on the highest peak of Cairn Toul, where we stayed till sunrise. The cold was intense, and as it was evident that Braeriach was a little higher than our station, we set off at once for it while the atmosphere was still crisp and clear. The cairn was reached about six o'clock. By this time the mist had disappeared, and the view was superb. Never in all my wanderings have I enjoyed a finer. It was something to see every hill of any consequence from Caithness to Perthshire, and beyond it. Warm and pleasant now, it was delightful to recline on the summit of that noble mountain and look around. But by nine o'clock the heat haze had set in, and one could not see half a dozen miles away, and even that distance very indistinctly. Some time was spent examining the rise and progress of the infant Dee, from its "Wells" to where it disappears under an arch of snow, and takes a breakneck leap down the great precipice. After a while we picked our way down to the Pools of Dee, reaching Braemar about eight o'clock, after a most enjoyable excursion.

The main reason for writing this note was to call attention to the peculiar appearances presented by mist. These are often remarkable, and mountaineers have exceptionally good chances of observing them. If they would record what they see, interesting and valuable results might follow. Everything has not yet been found out about mist. I should be glad to see an explanation of the following extraordinary appearance which I observed about half a century ago, but is as clearly imprinted on my memory as if it had occurred last night. Late in the afternoon of a dull October day—cloudy, but without wind—I had occasion to go to the top of a ridge 1500-1800 feet high, which separated our place from the next glen to the north. From my point of view, this glen narrowed westwards for a mile or two, then widened again—eastwards it gradually widened out into a strath four or five miles off, where a low ridge partly crossed it. The ridge on the north side of the glen was rather higher, 1900 feet, or thereby. Now for what I saw on gaining the summit. Near what may be called the margin of the basin on the other side, a pretty large globular, or nearly globular, mass of mist was moving rapidly down the glen (eastward), while immediately in front of it were three or four considerably smaller pieces, elliptical in outline, arranged in line, end to end, with a short space between, while all maintained the same uniform rate, kept the same distance apart, and neither got higher nor lower. On reaching the low ridge spoken of, they turned aside to the south, then turned up the valley, and swept past where I was standing, and so on to the narrow part of the glen, where they crossed over to the north side, and went on as before. This was the behaviour of one group, but there were at least half a dozen groups all acting in precisely the same

way, and dividing the circumference of the basin pretty equally among them. On fully taking in the scene I was spellbound, and stood rooted to the spot. It was both awe-inspiring and eerie. Even my dog was affected by it, and kept close to heel all the time. Such a display of power in the rapid movement of the masses, and yet no sound, nor even a breath of wind! Well, well, let meteorologists explain. Gathering darkness reminded me I had other work to attend to, and reluctantly I dragged myself away.—JOHN ROY, LL.D.

To most Scottish climbers there can be little new in this account of a tramp from Speyside to the head of Dee, but there may be beginners, like ourselves, to whom the record may be of use. In order to have as much time on the hills as possible, we arranged to stay overnight at Coylum Bridge, which, lying as it does, at the threshold of the hill district, forms an ideal starting-point for climbers.

The previous day had been one of singular clearness, but the hopes raised thereby were doomed to disappointment, for the watery brilliance of the sunrise foreboded midday mists and possible rain. We got away at 6:30 and made a good start by crossing the first bridge over the burn, thus landing ourselves in an extensive peat bog and entailing a mile or so of very heavy heather tramping. We, however, regained the path at the point where it crosses at the third bridge, which should have been our crossing point. On emerging from the Rothiemurchus woods upon the higher ground a fine rain was falling, and the Larig was already filled with rolling mist-wreaths. The rain soon cleared off, however, and we enjoyed exquisite views of Strathspey before the mist closed down upon us.



We reached the summit of the Pass (2750) at 9.45, and after visiting the Pools of Dee, which we found rather disappointing, owing, no doubt, to the long drought, we made what we reckoned a bee-line for the top of Ben Muich Dhui from the lowest of the series. On gaining the first plateau, that to the north of the Ben, as we learned later, our troubles began. It was now impossible to see more than fifty feet ahead, and although the ground appeared to fall on all sides, it seemed unlikely that we could yet be at the top. Besides there was no cairn to be found, notwithstanding exhaustive efforts to discover one; we therefore decided to go on in what seemed the right direction, in the hope, at least, of finding some recognisable feature. This we did in the shape of Lochan Buidhe, but which we should certainly have mistaken for Lochan Uaine had we not had a guide book with us for reference. By good luck, a momentary rift in the mist revealed Cairngorm, and from this point, by the aid of the compass, the way was easy, and we quickly found the lower cairn and then the summit itself (4296) at 1.30. Here there was little to tempt us to linger in the soaking mist and keen east wind, there being no prospect of a view. We therefore left the cairn almost immediately, making for Loch Avon in as straight a course as we could steer, enjoying at times momentary glimpses of the Larig through seething mist, and at others catching sight of Loch Etchachan lying under the blackest of shadows. On emerging from the mist a thousand feet lower, we had the satisfaction to find that we were directly over the head of the loch. We scrambled down amongst the rocks and waterfalls of the Garbh Uisge, stopping halfway at the foot of a long slide to enjoy a refreshing "paiddle". The water was intensely cold, coming partly from a great mass of snow, which we had traversed on the way.

The next item in our programme was, of course, a visit to the famous Stone, and here we met two fellow-pilgrims, the first since leaving Rothiemurchus. They had walked during the previous night from the Don and purposed staying overnight at the loch to climb the Ben for sunrise. We made "interchange of gifts", and found nothing incongruous in the steaming cups of Van Houten which they offered. They were anxious for us to lend them company, but our plans for next day made this impossible, so, after an hour's rest, we set off (4.30) down the loch, which in its beauty and solitude surpassed our highest expectations. The tramp to the watershed of Glen Derry (6.30) was perhaps the roughest encountered, and until within three miles of Derry Lodge the ground was extremely heavy. After joining the Coire Etchachan track and getting on the level grass-land, we put on pace, overtaking two courageous lady-climbers, who in spite of mists had done the Ben. As we passed Derry Lodge (8.0) we were not sorry to learn that the Linn of Dee was only four miles off, and now on a good road we soon reached the dwellings of men and most comfortable quarters for the night.—T. J. CROMBIE, A. WEBSTER PEACOCK.

20th September, 1893. My dear Sir,—I send you and all fellow-Cairngormers compliments from this altitude. I have been living for a week in Denver, which is as high as Ben Muich Dhui. Have come up here on the cog railway. Beautiful day and extensive view ; great range of the Rocky Mountains on one side, and wide expanse of prairie (like a sea) on the other.—ROBERT ANDERSON.

REVIEWS.

by CLAUDE WILSON, M.D. (London : George Bell and Sons. Price, 2s.). The issue of Mr. C. T. Dent's work on "Mountaineering" in the Badminton Series, in the summer of 1892, marked a new departure in the literature of the sport. Up to that time he who would be a mountaineer had to cull his information for himself about peaks, passes, and glaciers from the pages of that most brilliant band of writers, who were at once the pioneers and the historians of the first ascents. The impulse of the writings of such men as Forbes, Ball, Leslie Stephen, Tyndall, Kennedy, Wills, and Whymper has sent many a man to the Alps to acquire his mountain craft by practical work on peak and pass, and at the hands of his guides. One can no more become a mountaineer without climbing than one can become a swimmer without entering the water, but the path to proficiency may be considerably smoothed and shortened by such books as the one we have already mentioned, and the excellent little work before us, the latest of "The All-England Series".

Dr. Wilson's book is a marvel of skilful condensation, a condensation arrived at, however, without any sacrifice of lucidity or of literary quality. Its most characteristic chapters are those on the "Dangers of Mountaineering", on "Guides", and on "Outfit". Special mention must also be made of the summaries throughout the volume and of the excellent code of rules. The writer professedly addresses his book to beginners, and logically, we think, places in the forefront of it his remarks on the "Dangers of Mountaineering" and "Guides".

It has become too much the fashion of recent years for men of no previous climbing experience to attack the higher and more difficult peaks, mainly for the purpose of saying that they had "done" such and such a mountain. The behaviour of such so-called climbers, during what they are pleased to call their ascent, is often at utter variance with their tall talk afterwards when they have reached the safety of their hotel. Such exploits as these are reprehensible enough when done in the company of competent guides, who may be expected to take all due precautions ; but the true history of almost every alpine accident tells of the criminal neglect of one or other of those safe-

guards, without the observance of which mountaineering becomes sheer foolhardiness. The general public learn only that an accident has taken place, and straightway condemn the whole pursuit. To quote from the book itself :—"Turn a man loose on a spirited hunter before he is able to ride, or push him into deep water before he is able to swim, or send him skating before the ice will bear, and we have examples of dangers by no means inherent in the sports with which they are connected, but which are quite on a par with risks very frequently run on the Alps".

Dr. Wilson deals exhaustively with mountaineering dangers under the three heads of :—Self-made dangers (which should never be incurred) ; dangers to which all climbers may be exposed, but which can be avoided or provided for ; and dangers which are sometimes unavoidable. These last are only of two kinds—sudden storms and falling stones. Practically all the others may be provided for by skill and experience, and for these essentials the beginner is mainly in the hands of his guides.

The average Swiss guide is in many respects a very fine fellow, but some little acquaintance with him is needful to be able to assign to his qualities their true proportion. Almost every tyro comes back from his first ascent with a very much inflated idea of the difficulties he has overcome, and a correspondingly exalted estimation of the skill and resources of his guides. The result is usually a very highly-coloured and flattering testimonial, and the guide who may be only quite an ordinary man is passed on to the next beginner as a paragon of mountaineering ability.

When so much depends on the proper selection of guides, Dr. Wilson's remarks on this head must be regarded as among the most valuable in the volume, whose other outstanding features are its list of Alpine Books, and its excellent and practical information on Outfit, much of which will be found very applicable to the conditions of Scottish mountaineering.

We have purposely left to the last a reference to the chapter on "Mountaineering in Great Britain" to remark that, while the amount of space devoted to it is no doubt in correct proportion in a book on general mountaineering, the great interest now taken in the pursuit in this country, and the considerable body of literature that is rapidly springing up around the subject, may soon lead to the production of a book entirely devoted to mountain climbing in Great Britain.

(Glasgow : Morison Brothers. Price, 1s., 1s. 6d.) has for full title, "Our Western Hills : How to reach them ; And the Views from their Summits". The promise in the title is well redeemed, for the author (who conceals his identity under the pseudonym of "A Glasgow Pedestrian") has an observant eye, and as he walks or climbs, or rests on the summit, discourses most pleasantly. The author writes *con amore* ; he is full of his subject, and nothing escapes

OUR
WESTERN
HILLS

him from a spider to a stag. The hills visited are Loudon, Tinto, Cairntable, Ballagioch, Kaim, Goatfell, Earl's Seat, Dunmyat, Ben Donich, Ben Venue, the Cobbler, Ben Lomond, Mount Misery, Ben Ledi, and the Meikle Ben. The proofs might have been read a little more carefully, and thus such blunders as two different heights for the same mountain (as in the cases of Ben Cruachan and Ben Ledi) would not have occurred. Ben Lawers, the Ochils, West Lomond, the Pentlands, and the Isle of Man should be added to the view from Goatfell.

of the United Kingdom, by Lieut.-Col. WHITE, R.E.
(Edinburgh: Wm. Blackwood & Sons. Price, 5s.).

THE
ORDNANCE This is a peculiarly interesting volume to mountaineers.

SURVEY It is full of interesting and useful information regarding map making, and gives a charming sketch of what our French neighbours call "the model survey for all the civilised nations of the earth". It is difficult to fancy a hillman of to-day without his O.S. map—on serious or particular work he scorns all "reductions"—but, nevertheless, one cannot help remarking that, to many of us, there would have been a charm in exploring the mountainous regions of our country with the deficient and wonderfully inaccurate maps of former times. In "The Ordnance Survey of the United Kingdom", Colonel White's aim, as he modestly puts it, "has been to convey to general readers an intelligible idea of our National Survey, without over-burdening them with technical details. In this sense the book is intended to be a short popular account of what might seem at first sight a dry, scientific subject, suited only for experts".

The idea of the Survey originated at the time of the Jacobite Rebellion of '45, and began to take practical shape in 1747, and has been carried on, in spite of frequent interruptions, to its complete realisation to-day. It was a military undertaking, and was consequently interrupted again and again by our foreign wars, by consequent lack of money, by want of interest on the part of our rulers, and by the active opposition of civil engineers, who believed that their occupation was gone when the military had undertaken the gigantic task of mapping our islands. Up to 1855 the State Department under which the National Survey was conducted was the Honourable Board of Ordnance, and the directors of the Survey were immediately responsible to that Board. Hence the name "Ordnance Survey". On the abolition of that Board, the control of the Survey passed to the War Office, with which it remained until 1870, when it was transferred to H.M.'s Office of Works.

The general principles of Geodetic Survey are simple enough in theory, but in practice they are surrounded by many difficulties. A measured base line of some length is the first necessity, and upon its accurate measurement depends the value of the entire work. The base

line is measured either by Gunter's chain, by 6 feet rods of glass, wood, or steel, or by General Colby's compensating bars. This is a most laborious task. The rods are first placed in a straight line, almost, but not altogether, touching each other, and levelled with the utmost exactitude. The distances between the rods are then carefully measured by means of microscopes with micrometer attachments, and the sum of these distances added to the lengths of the rods used, allowance having been made for expansion by heat. The rods are 6 feet only when the temperature is 65° Fah., and corrections must be made when the temperature either rises above, or falls below, that point.

The base lines from which all the trigonometrical distances have been computed are those which were measured on Salisbury Plain and on the shores of Loch Foyle in Ireland. They are respectively 6.93 and 7.89 miles in length, and the difference between the measured lengths and their lengths as computed by triangulation is only about five inches. Several other base lines were measured to check results, one being at Belhelvie in Aberdeenshire.

The base line having been successfully measured, it might seem a very simple matter to determine, by means of instruments, the angles made by this line with lines drawn from each of its ends to some distant point, and to calculate by trigonometrical methods the lengths of the two sides of the triangle thus formed. And then, by using each of these sides as bases, to go on forming a series of triangles which shall include every important point in our island, and stretch like a network from shore to shore. If the earth were a plane this would certainly be comparatively easy; nay, if it were a perfect sphere the measurement would still be one which care and a knowledge of spherical trigonometry could well accomplish; but the earth being an oblate spheroid of very irregular surface, the difficulty of the problem presented is greatly enhanced. The sides of the triangles are not straight lines, but spheroidal curves, and though the sum of the angles of all plane triangles amounts to two right angles, the angles of these triangles amount to more, and the calculation of the lengths of these sides and the enclosed areas becomes a matter of some difficulty. Various modes of solution have been used, but of late Legendre's Method has met with general acceptance on account of its marvellous simplicity.

The points selected for the angles of these mighty triangles are at different elevations, and this necessitates the reduction of all to some general fixed level. The level adopted is mean sea level, or the level of the sea at half-tide. But, as half-tide differs in height at different places around our shores, the height at Liverpool has been taken as the starting-point for all measurements of elevation, and all the trigonometrical triangles have been reduced to that level. In calculating the heights of distant objects the curvature of the earth has to be taken into account, else the measured heights would be less than the real, and

we must not forget the effect of refraction of the rays of light which makes objects near the horizon appear higher than they should. This refraction is not a constant quantity, but varies with the changes of the density of the air due to temperature and the presence of water vapour.

The placing of the trigonometrical instruments in a true vertical position is another difficulty, as the attraction of the mountain masses on the plumb line renders it unreliable unless its indications have been corrected by astronomical observations. Again, the instruments themselves, though very fine, are not perfect, and errors creep in through imperfect graduation and eccentricity. Even the observers' temperaments are taken into account in all observations made by them. It will thus be seen that a geodetical survey is no light matter, and requires vast care, unlimited patience, and the highest practical skill.

"One is rather inclined to envy the workers in the old days of the Great Trig., perched the most part of their time on the summits of remote mountain ranges. These men were in a sense the giants of the survey. They had their privations to encounter, but they had also their compensations. The marvellous, multiform aspects of nature so often presented to them must have been a study indeed. The lonely day and night watches—intent eyes ever on the outlook for a break in the clouds and the distant signal—the utter isolation for months from the lower world—snows and severe hailstorms at times assailing, even in early summer, the solitary camp—or furious gales, such as that which one dark night in a wild district of Derry blew down the men's tents and forced Colby to dismount the great theodolite—these episodes and experiences, notwithstanding their occasional discomforts, must, it has always seemed to me, if aught could do so, have touched the mechanical tasks of the operators with something of the gilding of the picturesque, if not the romantic, and have raised their souls for the time being above the monotony which is apt to wait upon a cut-and-dried repetition of any mere scientific detail".

The primary triangulation was finished in 1852, and occupied between 60 and 70 years. The sum of all the distances or sides in the principal triangulation is about 206,710,000 feet, or, in round numbers, five times the diameter of the earth. The average length of side is 35·4 miles, and the greatest side measured was from Slieve Donard to Sca Fell, a distance of 111 miles. Secondary triangles were then interpolated within the great triangles, having bases of lengths down to 5 miles. And, finally, tertiary triangles were plotted within those secondary triangles, and the work of the ordinary land measurer then began. Maps were then made from these plans, and, by the employment of photo-zincography, maps on various scales were produced, of wonderful accuracy, marvellous cheapness, and with great rapidity.

It may be interesting to know the various scales upon which Ordnance Survey maps are made. These are :—

1. Town maps—scale 127 in. to 1 mile.
2. The true cadastral or property map—scale 25 in. to 1 mile.
3. The county map—scale 6 in. to 1 mile.
4. The military or geographical map—scale 1 in. to 1 mile.

The observations necessary to determine the contour lines on these maps were very numerous, and called for the greatest care, patience, and exactitude. These contour lines tell us many facts about our country. They point out the gentle and the steep slopes. They show us the coast lines that would result if the ocean were to rise or the land to sink any definite number of feet. Our sea-shore is a clearly-defined natural contour line. These contour lines have been determined by the spirit level and the theodolite, and the great accuracy with which the work has been accomplished may be gathered from the fact that the height of Ben Muich Dhui derived by levelling up the western side was 4295·70 feet, by levelling down the eastern side 4295·76 feet, while the computed height was 4295·6 feet.

by MALCOLM FERGUSON (Glasgow : T. Murray & Son. Price, 3s. 6d.), appeals to all lovers of nature generally and to Breadalbane men in particular. The sketches and reminiscences form pleasant reading ; they are distinctly Highland. The author is not a "mountaineer" as the Clubs regard that term, but he is evidently a lover of mountains, as frequent references shew. We are indebted to him, moreover, for the present cairn on Ben Lawers. The one built by the Royal Engineers (about 1845) had fallen into decay, so in the summer of 1878 he, with the assistance of a few friends, erected a new cairn. It measures from 45 to 50 feet round the base and is about 20 feet in height. Its construction was superintended by Mr. Ferguson himself, who had summoned to the top about thirty Highlanders from Glen Lyon and Loch Tay-side. As becomes a native of Breadalbane, he has a "guid conceit" of its mountain. "Ben Lawers, or, in Gaelic, *Beinn Latha-Ur* (the mountain of the new day), is situated as near as may be in the centre of Scotland—about equi-distant from John o' Groat's and the Mull of Galloway, the Atlantic and the German Ocean. It is generally admitted by many competent authorities that there is no mountain in Scotland that can compete with Ben Lawers for the extent, variety, and grandeur of the view to be obtained in a clear day from its lofty summit". So the Cairngorm Club must get there. The book has half a dozen illustrations, of which the best is a portrait of the author.

for September completes Vol. II. No. 1, of Vol. I., was issued in January, 1890, the Scottish Mountaineering Club, of which it is the organ, having been formally instituted on 12th December, 1889, the journal since appearing regularly three times a year. The two bound volumes lie beside us as we write, and we confess, as a mountaineer and a member of the S.M.C., to not a little

pride, as well as pleasure, in handling them. They reflect great credit to all concerned in their get-up; suffice it to express the hope that the Cairngorm Club will be able to follow—it may be at some distance—such a lead. Vol. I. is edited by Mr. Joseph Gibson Stott, now removed to New Zealand, Vol. II. by Mr. David Douglas, a keenly enthusiastic mountaineer, and otherwise quite in the proper place in the editor's chair. The local agents are D. Wyllie & Son, and the price 1s. per number.

(Inverness: *Northern Chronicle* Office. Price 1s.), having reached the twelfth edition, has almost placed itself beyond criticism. It deals with a big district—giving an account also of the Caledonian Canal, Skye, the Long Island, the West Coast, and the Orkneys—taking one into the most retired haunts of the mountaineer. From personal experience (and discomfort) we must, however, object to the observation that the Shelter Stone “can now contain only about a dozen”. The Cairngorms receive due attention, but we expect better things from the Gaelic capital than such monstrosities as “Ben-na-main”, &c. We hope to see the thirteenth edition reduce the length of Loch Erich, here given as 17 miles. The “Handbook” has a map and a good few illustrations, as well as a useful index.

by ALEX. INKSON M'CONNOCHE (Aberdeen: D. Wyllie and DEESIDE, Son. Price, 1s., 2s.). “In this little volume Mr. M'Connachie displays those facile powers of description and the painstaking detail which have rendered popular former works from his pen. After devoting some space to a general description of the Dee, he begins with Aberdeen, at its mouth, and afterwards conducts the reader up Deeside to the source of the stream. The volume is of handy pocket size, and has a good map and full index.”—*The Scottish Geographical Magazine*.

by J. A. HARVIE-BROWN, F.R.S.E., F.Z.S., and J. NATURALIST'S G. BARTHOLOMEW, F.R.G.S., F.R.S.E. (Edinburgh: MAP OF John Bartholomew & Co. Price, 2s. 6d., 3s. 6d.) SCOTLAND, This is the fourth map published by the same firm, all on the same scale—10 miles to an inch—indispensable for reference by the Scottish tourist, whether mountain, lowland, or coasting, in acquiring a general knowledge of the physical aspects of the land and the surrounding sea, and their relation to plants, animals, and man. This map presents in one view, by various colours and shadings, many particulars of great interest to the naturalist proper, as well as to the agriculturist, shepherd, fisherman, seaman, and sportsman—all of whom, to follow their occupations with intelligence and profit, must be more or less naturalists. Among the many interesting facts shown, we have only room to refer to the following:—Of the area of Scotland only a fourth of the surface is occupied by cultivated land, and only a twenty-third by woodland, the

rest of the surface consisting of moorland, hill pasture, and other uncultivated tracts. The cultivated land is nearly confined to the middle and south of Scotland, Eastern Aberdeenshire, and the borders of the Moray Firth. The woodland occurs in comparatively small patches, mostly along rivers, and near the Cromarty and Dornoch Firths. There is much more woodland in the Eastern half of the country than in the Western. By different colours and shading the map exhibits the area of land surface in Scotland over 1000 and 2000 feet above the sea; the depth of the surrounding sea; the breadth of sea-shore between high and low water; the coast limit within which beam trawling is prohibited; the chief salmon rivers; areas of deer forests; the faunal divisions based on watersheds or river basins; and salmon rivers and lochs.

MAP OF
INVERNESS
AND SPEY
DISTRICT,

2 miles to an inch, by JOHN BARTHOLOMEW (Edinburgh: John Bartholomew & Co. Price, 1s., 2s.), is marked by the usual care which that map-expert gives to all his productions. It, however, does not particularly appeal to the mountaineer, no "Munro's" being included in this district, Ben Rinnes towering over all.

Parishes are named in this edition. We observe, however, that the railway from Rothes to Orton direct still finds a place "as a going concern", though fast returning to nature, while the Hopeman branch is not indicated.

MAPS
OF THE
LAKE DISTRICTS.

Messrs. W. & A. K. Johnston, Edinburgh, have issued a set of three maps of the Lake Districts of the three Kingdoms. The maps are as neatly turned out as one could wish, and give a comprehensive idea of the districts delineated. They are mounted on cloth, coloured, and folded up in a very neat manner, and the price (1s. each) is exceedingly moderate. Loch Lomond, of course, is given as the centre of the Scottish lake district, which naturally is not so easily defined as those of the sister Kingdoms.

SCOTTISH
HIGHLANDS
AND
ISLANDS

is the title of one of Ward, Lock, & Bowden, Limited's, illustrated 1s. Guide Books. These guides are most wonderful value for the money, and to one who merely wishes a comprehensive view of the country are unsurpassed. Indeed, our only fault with the present volume is that it attempts too much, and thus blunders occasionally creep in. We demur to the statements that "Loch Alvie is nine miles in circumference"; that "three counties meet at the foot of Glas Maol"; that the Dee is crossed at Abergeldie by "a handsome stone bridge"; and that Abergeldie Castle is "the seat of the Prince of Wales". Then we are told that the Don "rises on the slopes of Ben Avon", neither an original nor a felicitous expression; and that "Alford is a pleasant little village in the heart of the Cairngorm mountains".

In Memoriam.

As we go to press the death is intimated of Mr. JOHN ROY, LL.D. Dr. Roy was an original member of the Club, as well as of the committee, in the prosperity of which he was much interested. During his last illness he wrote for the JOURNAL "A Night Ascent of Cairn Toul", which appears at page 104, and had also in preparation an exhaustive article on the botany of the Cairngorms. A native of Perthshire, Dr. Roy had filled the post of Cairnmaster of the Perthshire Mountain Club (see page 100). He was of a scientific turn of mind, being a most accomplished devotee of Natural Science, but withal of such a shrinking modesty that his great attainments were known to comparatively few. He had an extensive astronomical knowledge, but it is by his researches in botany—particularly in connection with Desmidiæ, on which he is the recognised authority—that his name will be best remembered.

The following articles have been crowded out, but will appear in the July number :—THE EASTERN CAIRNGORMS, by the Editor ; and A HILL WALK IN NORWAY, by John Geddie, F.R.G.S. ; also, Review of a "Guide to Ben Nevis" issued by the Observatory Authorities and sold by J. Menzies & Co., Edinburgh (price, 1s.)