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THE .

Cairngorm Club Journal.

EDITED BY

ALEX. INKSON M'CONNOCHIE.

CONTENTS.

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A Glimpse of the Dolomites	John Gordon, M.D.
Over The Buck	Rev. G. C. Watt, B.D.
The Club at Mount Blair	Thomas Kyd.
Foudland and Dunnideer	Robert Anderson.
Traces of Old Glaciers in the Highlands	T. F. Jamieson, LL.D., F.G.S.
Across Creag Meaghaidh	A. I. M'Connochie.
Cairn Toul and its Corries	Alexander Copland.

EXCURSIONS AND NOTES :

Ben Nevis-Foudland and Dunnideer-The O.S. Maps and the Cairngorms-The Ordnance Survey-A Raid on an Eyrie-An Aged Mountaineer-New Members-Reviews.

ILLUSTRATIONS;

Waterfall near Loch Eunach Bothy-Forter Castle-Dunnideer Castle.

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WATERFALL NEAR LOCH EUNACH BOTHY.

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A GLIMPSE OF THE DOLOMITES.

BY JOHN GORDON, M.D.

BOTZEN, the capital of South Tyrol, offers an easy and delightful access to the Dolomites. Its charming situation between the mountain torrents Eisak and Talfer, its background of sunlit Dolomites, so fantastic in shape, and the long ramparts of the graceful Mendel mountains in the west, conspire to make it claim more than a passing visit from any wanderer.

The city looked beautiful as we, on the top of a diligence, clattered into its busy streets at the end of an August day. The workers, having finished their labours, were making homewards in the early twilight. Noisy were these groups with talk, and merry with laughter, labour-stained, and odorous of tobacco. The green growth of the vineyards pushed itself in rich foliage over the street walls, and hung out its heavy clusters of grapes, which gave promise of a full vintage.

Like many Continental cities, Botzen has awakened from the sleep of the Past, and has begun a life of modern vigour. New streets, boulevards, squares, and pleasure gardens have sprung into existence, while in the evenings the city is lit by electric light, and the squares are alive with moving throngs of citizens, who come to dine in the open air and listen to the music which the city band supplies. The Past is still quaintly represented by the narrow arcaded streets in the older parts of Botzen, and

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there, indeed, most of the business is still transacted. The whole city has a Southern look. Its clear atmosphere, its wealth of vegetation, its flat red-roofed white or yellowwalled houses, and its swarthy inhabitants—one-twelfth of the population being Italian in descent—tell of warmer suns. Botzen has been for centuries the chief market in the line of commerce between Venice and the south of Germany. It has a population of some 12,000.

But we have come to see the neighbouring mountain masses, to which Botzen is the nearest gateway. We leave it, taking a course due east, and ascend along the Tiers valley, which leads into the Dolomites.

The driving-road zig-zags beside the roaring, muchvexed Tiers stream, which has raced in extreme hurry from the mountains higher up the valley. At this lowest part of the valley the river has cut a deep narrow gorge in the reddish porphyry, from which, when swollen by heavy rains or melting snows, it makes wild efforts to escape, but The road is a wonder of finds them almost futile. engineering skill. A successful fight has been waged in controlling, guiding, and overcoming the destructive agencies of the river, and the dangers threatened by overhanging porphyry. When one watches how cunningly the road has been carried past this dangerous ledge, over that out-jutting impossible-looking angle, round that huge mass of rock, and how ever and always skilful advantage has been taken of the slightest possibility of a path, one gives unstinted admiration to those workers who spent brain and muscle in the service of man.

Our Austrian driver, who in his bearing still retains marked evidence of his military training, urges along his four willing steeds, and they plainly know the way. His long whip cracks in kindly noise far off from the horses' heads, and its message reverberates amongst the gorges. At present the porphyry rocks are being tunnelled, on both sides of the valley, by large gangs of workmen. Botzen has resolved to have pure water supplied in abundance to its inhabitants, and it has also determined to secure greater water power to give itself still more electric light.

Ere long we begin to pass beyond this interesting gorge, and to reach a higher level, where the soil is composed of sandstone and shale. Here the land is clad with vegetation. Stately chestnut and walnut trees, tall pines, and vines are seen. The valley is dotted with clean, thriving villages, in which are quaint houses with frescoed walls and balconies overhung by trailing plants, while the church spires betray by their rounded forms the influence of the East and of the South. The healthy-looking inhabitants are busy wood-sawing or hay-making, and the noise of the cow-bells mingles with the rush of the river. We tarry at many an inn, for our carriage conveys the Governmental mails. It is the prevailing custom in Tyrol, except in large towns, to have the Post located in the chief inns. The natives are seen enjoying the thin red wine of the district. They look a happy, contented, sober people, but hard work has left its furrows on many a face. The road still winds higher, and the outlook widens. Looking backward across the Eisak Valley and the basin of Botzen, we see the glaciers of the Ortler Alps extending from the Engadine to the Brenner. We are now beyond Welschnofen, and amongst the Dolomites. To the south towers in wild beauty the Latemar group, in the late afternoon bedecked in sunset robes-and to the north the Rosengarten group rears its walls more than 5000 feet above the valley.

The first glance at a Dolomite mountain in this region impresses a feeling of transparency and colour different from anything we know in the rocks at home. And even if a chemist will tell us that there are Dolomites in the North of England whose composition is like that of the dolomite rocks elsewhere—a combination of carbonate of magnesia and carbonate of lime—one's conviction is that there is something more than a special chemical combination required to explain the peculiar enchantment of the rocks themselves in South Tyrol.

To be sure, the sky above them has, in usual summers, a deeper, more glorious blue than we see in our island, and the growth of lichens and algæ which cling to these

precipices, like long streaks of some mere colour in the rock, is something we are unfamiliar with to this extent. The deep cañons which are run through a mountain mass, from luxuriant pasturages at the base to a gleaming glacier at the summit, present vistas of mountain-climbing which at once whet the desire. Then the huge plateau on the summit, which, viewed from below, has the appearance of one continuous tableland, is in reality rent by innumerable minor cañons-the so-called "chimneys"-which are the special danger and delight of Dolomite mountain-climbing. The Rosengarten group shows particularly well one of the striking features of the Dolomites. in the presence of brilliant red and green bands of soft deposits between successive terraces of the lustrous Sometimes the softer rocks weather with a Dolomites. more gentle slope, and patches of Alpine flowers and shrubs find roothold. Yet the finest flowers are actually found in the crevices of the Dolomite rock.

The road now leads in lovely windings amongst tall pine trees. Suddenly we catch a sight of the Karer See. Embosomed it lies in still beauty, unvexed by cloud or wind, mirroring the graceful trees. The colour in its depths is of the most exquisite blue—like that which gleams in a peacock's feathers. Its shallows are flecked by patches of soft yellows and olive greens. This delight of colour was a feast to the eyes then, and its memory is now a haunting joy. Still a few turns of the road, and the huge Karar-See Hotel comes into view. This is a haunt of fashionable Austrians, who come in pursuit of health in the mountain walks.

Upwards still the journey leads till the highest part of the Karer Pass (5300 feet above sea-level) is gained. Then the famous Fassa valley, which is to be our holiday home, is seen, hemmed in by its Dolomites. We descend as the evening deepens, and it is late ere we reach the tiny village of Campitello, which is at the far-off end of the valley. Its old-fashioned inn was an oasis of comfort, where all was clean, where the food was varied, wholesome, and well cooked, and where the kindly Italian "Cameriere" (waiter) was constant in the care of the guests.

The bad weather which we had experienced in Scotland was again to be endured in a modified form in South Tyrol. Very lovely were the mornings; from 4 o'clock they were full of serene sunshine. The sky was clear, and continued so till about 12 o'clock. Then clouds sailed slowly up from the south. A gloom fell on the mountain peaks, and draperies of mist appeared. Light passing showers fell—precursors of the later torrents of rain.

Such a day we spent on the Rodella mountains, making our way to Canazei. And so it happened that long ere we reached Canazei we were caught in the wet folds of the rain-cloud and thoroughly drenched. Such a condition is a mere triffe when there follow a clean albergo, dry clothes, wholesome food, a long, deep mountain-air sleep, and fresh, untired limbs for a morning climb. But unfortunately the early morning which greeted us was full of cloud and mist. After breakfast it began to clear, and soon outleapt the sun in all the glory of the South. Too late for a hard climb, we gave ourselves the pleasure of a walk to the newly-opened Contrin Haus. This is one of the latest of the German and Austrian Alpine Club Huts. For a few days, from the slopes and top of Rodella, we had looked into the Contrinthal, and had frequently said-"Surely it is a valley of constant rain and mist"; for over and over again the storm-wrack mustered around the summit of Marmolata, and rolled in wild energy along the valley, to melt before it crossed the Avisio stream.

To-day it was clear in the deep Contrinthal, and we resolved to explore its wild beauty. The first part of the walk from Canazei is along a well-made mountain road, through green cattle-grazed meadows, fringed by dark pine woods. The Avisio torrent roars downward beside the road, chafing its light green water on boulder and stone. Its moist music fills all the valley, which is thickly dotted with well-built and comfortable-looking châlets. At every four hundred yards or so there floats the white and red pennon of some simple albergo. Truly a land of liberal refreshment is this! For the first half-hour's walk the road is almost level. It then begins to ascend gently.

We cross many lusty torrents racing from the mountain sides to join the main stream, which greedily takes every contribution as it goes. The frequently-seen red paint of the Alpine Club guides us on and up. Across the Avisio lies a tiny hamlet on the slope of the green Penia Alpe; it is a summer home for the herdsmen.

A notice with the words "Zur Wasserfälls" guides up a side-path—and at the same moment there greets the ears the roar of falling water. We find it as the full glory of the mid-day sunshine is poured on the snow-white tortured waters. The water in large volume hisses, seethes, and hastens downwards, and, gathering itself into a strong stream, forces its way through a huge mass of fallen limestone, whence it issues to break roaring into another waterfall—and again prepare for a still farther plunge as a third waterfall.

The main path steadily zig-zags upwards, and we go on. We catch in our walk amongst the stately pines exquisite glimpses of the blue sky overhead—pools of blue across which wandering white clouds sail slowly. The sound of bird voices is missed. Wild animal life is conspicuous by its absence in this country. But the constant hum and chirp of insect life fills the air.

At last the forest region ends, and the road leads on through a green plateau about half-a-mile broad. Distances, however, are not easily judged by one accustomed to the dull grey North. On a lower level the river flows, and shows signs of wild floods in the wide stone wastes and torn meadow banks. On either side of this flat meadow rises a sheer straight Dolomite wall, almost perpendicularly. These guardian masses rear their peaks and sides of yellow and grey two thousand feet above the stream, till their pine-feathered upmost ridge seems to greet the sky. All around in this part of the walk mighty boulders are strewn. Many of them are half hidden by the green tassels of the larch, or softened by tiny carpets of delicately-green moss, and decked by many-coloured lichens.

202

A Glimpse of the Dolomites.

It was interesting to observe the flowers at this height of about 5200 feet. We see on the flat plain, surmounted by these Dolomite rocks, the Grass of Parnassus, Vetches, Hawkweed, Bluebells, Clovers, Eyebright, Mountain Daisies, Marguerites, Bladder Campion, Purple and White Thistles, Blue Aconite, Thyme, and Forget-menots. We leave the track and strike at random through the meadow, pleased to hear the flicking of the long nodding grass against our hill boots.

Onward the road leads beyond the grim quietness of the sheer mountain walls. Now the valley widens and rolls its green carpet, gemmed with flowers, to the very edge of the barren rocks. The spurs of the mountains are here lower, and are the homes of pine, larch, and dwarf firs, while the peaceful spears of the grass wave far up their cruel-looking sides. One cannot fail to observe the apparent fertility of the limestone soil, and how every inch of it carries its offering of vegetation.

Ere long the road crosses by a bridge to the left of the main stream—and almost immediately we are clasped in the mighty semi-circle of the mountains. Streams glitter in silver sheen, and leap in numbers adown the rock ledges, hurrying across our path. We fancy as we walk that the streams now move with more energy to escape from this arid region through the mountain doorway into the smiling plain below. Far off, for the first time, the yellow-looking Hut belonging to the Alpine Club becomes plainly visible.

The Hut is built of stone on a small green plateau, which, on every side except the north-west, is closely sheltered by the rocks of the neighbouring Marmolata. From the Hut there are various walks across the Jochs, and from it climbing of the surrounding peaks can be arranged, or the snow and glacier-clad Marmolata can be conquered as often as you wish. It is a plain, substantial structure. The managers of the Club have placed in charge of it an active and tidy married couple. On the ground floor is a fairly large dining-room, which is connected with the kitchen. If one prefers, one may dine on

the veranda, which offers a delightful view to the south. The bedrooms are six in number, and they are on the first floor. They are fairly large, and each contains one or two most comfortable beds, and the furnishings are simple but sufficient. The guides' chamber is capable of giving sleeping accommodation to six, or in crowded seasons more. It occupies the upper part of the Hut.

The charge for a bedroom to a member of the Club is a gulden (about 1s. 8d.) per night; to non-members half-a-gulden extra. Food, wine, or coffee is supplied at the same reasonable prices. A fairly good mountaineering library is present, and letters can be delivered daily to the dwellers. A supply of all that is necessary in case of accident is kept in the building, and also a fair assortment of useful medicines, so that in illness help is at hand. To judge by the number of names in the visitors' book, a very considerable stream of tourists flows to this remote dwelling-place.

The signs of mighty changes are all around. One sees where the glacier has recently been, and can observe the nature of its work, and the result of its retreat torn rocks, masses of boulders, screes of stones, and the polished surfaces of the rocks. One can also recognise the cutting edge of the streams on the rock, the deepening of the gullies, and the hammering of stone into pebbles and sandy débris.

Here, too, the signs of the upheaval of the mountains are almost self-evident. Red shales and marls, the same that one observes below the limestone and Dolomite masses at the Rosengarten and elsewhere, have been here broken and pushed far above their normal bedding-planes, and the displaced and fractured limestone and Dolomite rock has been carried with them, and left in gigantic wedges across the valley.

We are now beyond the Hut at the snow-line. A thick snow-field lies on the north-west side of the great Marmolata, and will continue there till its winter companions arrive.

The green grass struggles in thin lines almost to the very edge of the glacier, and so do a few scattered firs.

A Glimpse of the Dolomites:

A tiny clump of huts and châlets can be seen on the west, at about the same level as the Hut. There, even at that high altitude, we see signs of industry.

The glacier hangs wrinkled over the edge of Marmolata, and glitters blue-green in the sunshine.

Gazing southward from the Hut, nothing but the magnificent mountain billows of the Primiero Dolomites are to be seen at the far sky-line, tossing themselves into higher and higher crests. All are torn into masses, fissured perpendicularly and laterally, jagged, gnarled, and twisted. The highest peaks tower 4000 or 5000 feet above where we rest on the grass. When the sunshine fills every nook and cranny, they glow in vivid burning glories, all their colours aflame in the light, a wall of quivering beauty. Peak, boss, finger, citadel, pinnacle, and figure-every possible variety of shape-are there: grandly fantastic, gloriously beautiful. The chisels of the ever-working elemental sculptors of Nature-Air, Ice, and Water-have worked on these mountain masses of grey limestone and Dolomite, and have shaped in their atelier a combination of glorious forms which nowhere else can be found or matched.

While we still linger, the highest peak has caught the light of the western sun, and glows like a jewel. How it contrasts in its radiant beauty with the others that are in cloud or in the shadow!

Such a sight impresses warm memories of mountain light and glory that must ever hang clear and joy-giving in the picture-gallery of the mind as we pace our own northern land of mist and grey sky.

Grudgingly we turn from the evening sunshine and the sunlit mountain, and pass downward to the plain. But again we feast on mountain glories, for the jagged peaks of the Lang Kofel are in front, and we watch the evening light giving them their Alpine glow. A land of beauty this, turn where we may: a land of delicious memories and present joys: a land which to discover once is to seek it again and yet again: a land to conjure with when life is grey, or when joy seems to have left the world.

205

OVER THE BUCK.

BY REV. GEORGE C. WATT, B.D.

ALTHOUGH a Scotsman by birth and upbringing, I had it as my lot to spend a good many years of my life in That was long ago, but I have still a vivid England. recollection of the pleasure with which from time to time I revisited my native land, and particularly of the rare delight which a few days' ramble among the hills afforded me. Once in the seventies I had a week to spare, and spent the greater part of it in walking. I started at Dunkeld, and tramped by the Pass of Killiecrankie to Blair Athole, where I spent the night; then next day walked, amid a deluge of rain, from Blair to Braemar, through wild and interesting Glen Tilt; and the following day found my way, partly on foot, partly by coach, and partly by rail, to my native Aberdeen. From Aberdeen I went by rail to Huntly, purposing to make a circular tour from and to that pleasantly situated town.

I left Huntly on the Monday afternoon, and took my way on foot for The Buck, some sixteen or seventeen miles distant. I walked in a southerly direction at first, following for a few miles the dusty turnpike, and then turned off more to the westward, making my way up the lone but picturesque Glen of Kirkney, with its dark streamlet and its bare but romantic hills. "Turn to yer richt, past that plumpie o' trees ", said a ploughman to me when I asked him the shortest way to The Buck. I suppose he should have said "clump" and not "plumpie", but being "native and to the manner born", I found no difficulty in understanding what he meant, and, passing the "plumpie", I pursued my way, the burn making music and the birds singing their sweet melodies to me as I went along. On my way I passed Tap o' Noth, a mountain once believed, by some at least, to be an extinct volcano. Ι once ascended it, and to my eyes-only I was very young then, and did not know much-the top of the mountain seemed a true crater. Doubtless, however, what seems so like a crater is only the rather perfect remains of a vitrified fort, the strong place of some forgotten tribe. It may be that the mountain was the scene of sharp tribal contests in past ages, but as I passed it its green cone looked calm and peaceful in the sunshine, and the sheep were pasturing safely on its heathery slopes.

At length I came in sight of The Buck in all his majestic grandeur, and, although his height is by no means great, he has great grandeur where he stands. As I went round the corner of a hill, and the shapely and stately cone, with its steep heathery sides, bathed in sunshine from summit to base, rose before me, it seemed a perfect vision of glory. But the afternoon was advancing, and I could not tarry long to wonder and admire. I had to cross a long stretch of moorland, cut by many trickling rills, and yielding to the people dwelling near an abundant supply of peat. There was no special path to follow, so I simply went straight on, leaping the burns and occasionally sinking a bit into the mossy ground. Near the base of the cone which forms the mountain proper, and whose ascent, owing to the steepness, occupied me nearly an hour, I found a few houses, and, refreshed by a draught of excellent water which I got at one of them, I addressed myself to the final climb. As I ascended, new beauties were unfolded to my eyes at every step; hill after hill broke upon my view; lapwings soared about me, uttering their shrill cries; partridges rose at my feet, and flew away with noisy "whirr"; and startled rabbits and hares hurried out of the way of the intrusive stranger. Here and there among the heather or grass I found the cloudberry in flower. At length I stood upon the top, and all the glory of the surrounding landscape was before me. The Buck is not a rocky hill; its sides are clothed with grass and heather, and there are no wild precipices or giant crags to break its continuity; but at the very top there are some rough masses of granite, which at a distance have the appearance of a cairn. Standing on the highest pinnacle, and planting my feet as firmly as possible-for

the wind was very wild where I stood—I looked abroad on the wondrous spectacle which presented itself to my view. Wherever I gazed there were mountains, some of them among the loftiest in Britain—all of them glorious with the radiant sunshine that flooded them. Southward, bounding the horizon in that direction, lay the wild and striking Lochnagar; westward from Lochnagar towered the huge masses of the Cairngorms; eastward from it stretched the long line of the Grampians, decreasing in height as they neared the sea; while northward of these, again, there rose an endless array of mountain summits, like vast waves turned to stone at the moment of their upheaval.

Among these Aberdeenshire hills, lying scattered, as one might say, everywhere between the Dee and the Moray Firth, I recognised many old acquaintances. There was the Hill of Fare, which, on the testimony of some old woman, I used to believe to be almost as rich in gold as Australia itself. There was picturesque and rocky Bennachie, which I had climbed when hardly in my teens, and where I had first learned how the rain can come down on mountains. And there was Dunnideer, only a hill and not even a very lofty one, but with the ruins on its summit faintly suggesting the castle-crowned crags of Rhineland.

Looking north from my lofty perch, I saw, nearly thirty miles away, the blue waters of the Moray Firth gleaming in the sunlight, and could even descry the white sails of the ships which were leaving or approaching its ports. Beyond the Moray Firth, so clear was the atmosphere, I could distinctly see the mountains of Caithness, specially the bold and conspicuous Morven, their rugged outlines softened by a transparent haze.

I could have lingered long enough on the mountain-top, but the evening was approaching; a mist was gathering in one of the neighbouring valleys, and I deemed it prudent to think of descending. Taking a kindly glance at Ben Rinnes, with which I have had a bowing acquaintance since my boyhood, I sought a sheltered nook among the rough rocks, where I might partake of the homely

refreshment which I had brought with me, and smoke my pipe in calmness and in peace. Then I once more mounted to my perch, and took a last lingering look at the fair and attractive scene. I have a fairly familiar acquaintance with mountains from Ben Nevis downward, but my ideal ascent was that climb of The Buck, everything contributing to make it delightful. Indeed I have never in my fairly numerous wanderings by land and sea beheld a scene on which I have gazed with a thrill of deeper delight than that on which I looked forth, from the rough rocks crowning the secluded hill, on that day in early July long ago. Thank God for this fair world, and for the sensibility to beauty which He has given to man ! How much poorer life would have been had this world been less fair, or had man with an eye to behold its beauties been incapable of experiencing delight as he gazed upon them !

I did not take a long time to descend, and a walk of two or three miles brought me to the Manse, where I found a most pleasant host in the kind-hearted and talented minister at that date, the late Rev. Gordon Smart. Refreshed by a good night's rest, I set out for Dufftown, having a not very arduous walk of some nine or ten miles before me. For some miles my path lay along the banks of the Deveron, past long stretches of moorland, and by farms which, in a parish where no Gaelic is spoken, bore strangely Celtic names. Then the river swept away eastward, while I pursued my northward way. Around me were brown hills and burns which sparkled in the sunlight, but there was nothing for a long part of my journey to call for any special notice till I came to a very narrow pass between two hills, the famed "Braes o' Balloch". Thereafter I soon reached the Fiddich and Dufftown. I had only to seek the railway station, and thence find my way back to Huntly, and from Huntly to the busy English town where my home then was. I went back, however, with pleasant memories which no changes coming with the years can efface, and with thankfulness for the breath of mountain air which had so effectively cleared away the cobwebs which in the routine of a busy city life are apt to gather about mind and brain.

THE CLUB AT MOUNT BLAIR.

BY THOMAS KYD.

THE usual good fortune of the Club in its excursions received a check during the past year; on the two first rain and mist prevailed, and even on the third, though there was a decided improvement, there were showers to spare. Nevertheless the climbs were all duly and successfully made, and on each occasion the day was thoroughly enjoyed. The official programme for 9th July was thus described by the Secretary:—

"The Club's excursion to Mount Blair marks a new departure in its mid-summer fixture. It was deemed judicious that an attempt should be made to arrange the outing so that for once the party, if so disposed, could complete the excursion and return to town the same day. But after Mount Blair had been selected doubts arose as to the possibility of its being negotiated in a day excursion, and accordingly the writer was directed by the chairman to put the matter to the test of experience, and make the necessary The result may be stated at once-this arrangements. mountain, which enjoys such a reputation in Forfarshire, as well as in many other parts of Scotland, is worthy of the Club's patronage, and its ascent can with ease be made in a single day's programme.

"Kirriemuir is, on the whole, the most convenient railway station for the occasion. After breakfast at the Ogilvy Arms Hotel there, the party will have a drive of fifteen miles— 'A delightful admixture of moor, mountain, loch, and stream, woodland, strath, and glen, lends a charm to this drive that is simply unequalled in the district. Variety that is its strong feature. At every turn a change of scene greets the eye, and the whole forms a glorious panorama which slowly unfolds, to the delight of the beholder, a series of natural pictures, ever fresh and ever new'. "Our companion rather flippantly described the road as 'switchbacky'; that is accounted for by so many watersheds having to be crossed before Glen Isla can be entered. The road leads through Kirkton of Kingoldrum, past the Loch of Lintrathen (the water supply of Dundee), and through Kirkton of Glenisla to Alrick on the right bank of the River Isla. On the occasion of our experimental excursion we were fortunate in finding an encampment of Ordnance Surveyors at Wester Doldy in Glen Isla, and thus ascertaining beyond dispute the best route to the summit.

"Mount Blair, which has an altitude of 2441 feet, is situated between two glens, Shee and Isla, and as it is not blocked by high hills on the south, commands an extensive prospect, which, owing to the vexatious heat-haze, we had to take on trust. The ascent from Alrick (900 feet) is a very simple matter; when, after a walk over heather, an altitude of about 1600 feet has been reached, a sheep-fence leads the way to the cairn. The hill is pastured by sheep, and appeared from the lively 'cheepers' we saw also to form an excellent grouse moor, but the noisiest inhabitants were curlews, who never ceased to express their objections to our presence. We could just distinguish through the haze a long wreath of snow far up Glen Isla.

"' Mount Blair commands a very beautiful view-Strathmore and the Sidlaws, with Dundee Law and one huge chimney appearing through the gap by Auchterhouse, the Lomonds in Fife, and the low line of the East Lothian hills; then to the east the sea by Montrose, the tall spire of which can be distinctly seen; to the north, the fine corries at the head of Glen Isla, with Lochnagar, Glas Maol, and, farther away, the Cairngorms. The most prominent feature in the view, however, is the fine outline of the Beinn a' Ghlo group, with Beinn Iutharn and Glas Thulachan to the north, and Beinn Vuroch and Beinn Bhrackie to the south. Between the latter and Schichallion, Buchaille Etive and the Glencoe hills are seen, while a little to the north of west, in the extreme distance, a hill is visible which is said to be Ben Nevis, but which may be Ben Alder. South of Schichallion, Ben Lawers shows to great advantage, then the twin peaks of Ben More and Am Binnein; while to the south of them again, Ben Chonzie, above Crieff, is the most prominent hill; and

across the strath the Ochils can be seen stretching away down to Stirling '.

"The ruined Castle of Forter is about two miles up the Glen from Alrick. The burning of it by the Campbells in 1640 is commemorated in the ballad of 'The Burning o' the Bonnie Hoose o' Airlie'.

"Conveyances will be in waiting at Forter Castle on the descent for the Glenisla Hotel, where a halt will be made for dinner. This hotel is delightfully situated at Kirkton, and the arrangement to dine there will doubtless be found most satisfactory.

"After dinner, the drive to Kirriemuir will be resumed. 'Thrums' will probably be reached in time to allow a visit to the the now celebrated 'Window'; also to the (so called) Hill of Kirriemuir, which is associated with 'The Little Minister'.

"Kirriemuir might also with advantage be made the starting point for a Spring or Autumn Excursion to Cat Law (2196 feet), where we should say a specially fine prospect is to be obtained. Even from the Hill of Kirriemuir (631 feet), which practically forms part of the town, a local guide-book ('Through Thrums') gives the following hills as being visible: the Sidlaws, the Ochils, Ben Ledi, Ben Chonzie, Ben Laoigh, Ben Lawers, Cat Law, Lochnagar, Dreish, St. Arnold's Seat, Catherthun, Finella Hill, the hills of Garvock, Finhaven, and Turin".

Kirriemuir was reached by the majority of the party by the morning train from Aberdeen; but others crossed the hills from Milton of Clova; a clerical member cycled from Dunkeld; and some had made a "week-end" of the excursion. Mr. George Duncan thus describes the experiences of the Clova contingent:—

"We had crossed, on the previous Saturday, from Ballater to Clova, over the Capel, in brilliant weather, and spent a restful Sunday under the hospitable roof of 'The Ogilvie Arms'. Our intention was to meet the main party of the Club on Monday at the top of Mount Blair, and we resolved to cut straight across the country from Glen Doll to Glen Isla, taking the summit of Mayar on our way. Accordingly we made an early start on Monday in most unpropitious weather.

The Club at Mount Blair.

We crossed the White Water at the bridge beyond the Doll Shooting Lodge, and ascended towards Mayar by the stalkers' path up Corrie Kilbo. It had drizzled steadily from the time we started, and, long before we reached the cairn of Mayar, we were enveloped in thick mist. The drizzle degenerated into undoubted rain-indeed, a more perfect sample of 'British hill-weather' could hardly be imagined. From Mayar we struck a course, which, crossing the head streams of the Prosen, landed us in Glen Isla, by way of the Glencally Burn. I think we must have crossed South Craig, but, owing to the exceedingly thick mist, this is mere conjecture. At all events we reached the Glen Isla road, having had quite enough of hill and bog walking for one day, and in no condition of mind or body to tackle Mount Blair. Indeed, I have rarely experienced a worse hill day".

The cyclist was more fortunate :---

"The conditions were favourable for cycling, as the roads were good, and I had the wind on my back (a rather uncommon experience in cycling!). I left about 6.30 a.m., and, after surmounting the heavy braes about Dunkeld, settled down to a steady 12 miles an hour, and covered the 31 miles to Kirriemuir in rather less than 3 hours. Towards Kirriemuir the roads were getting rather wet, and so was I".

The programme was duly carried out—with a variation in the case of about half the company. When the party arrived at Alrick the weather was most unpromising, but the chairman, Mr. Porter, was inexorable, and truly his followers had their reward. The view as the summit was neared was intermittent, but just such as mountaineers love—mist and sun struggling, the result in favour of the mist. A candidate for membership was admitted at the cairn, and thereafter a bee-line was made by compass for Forter Castle, to which the ladies and the less venturesome members had continued the drive from Alrick, under the leadership of Mr. Copland.

Immediately to the north of Mount Blair stretches westward the Ballach Pass, over which a carriage road connects Glen Isla and Glen Shee. Within a hundred yards of this pass, on the east side of the road leading to

III. O

Tulchan Lodge and Canlochan, the property of the Earl of Airlie, stands Forter Castle, an ancient stronghold of the Ogilvy family, now roofless and in ruins. In the sixth decade of the sixteenth century the lands of Forter were sold by the Coupar-Angus monks to Lord Ogilvy of Airlie, whose chief seat was in Airlie parish, hard by the site of the Airlie Castle of our own day, where the Melgum Water joins the Isla. But the troubles of the times drove the Ogilvies up the glen, where they built Newton Castle at Bellaty, named from the Newton Burn which there runs into the Isla, and Forter Castle four miles higher, guarding one of the roads open to invaders " by the back o' Dunkeld". In August, 1591, the same Lord Ogilvy was attacked by the seventh Earl of Argyll with 500 clansmen, who ravaged Glen Isla and caused him and his wife to flee.

Forter Castle suffered more severely in the Covenanting struggles from 1639 to 1641. Lord Ogilvy's son and successor had been created Earl of Airlie, and had taken refuge in England rather than subscribe the Covenant. The Earl's son was by courtesy called Lord Ogilvy; his Christian name was James, and he was one of six successive chiefs of the clan of the same name, which was in even greater favour with the family three hundred years ago than the name of David afterwards became. He was left at home in his father's place, and successfully resisted an attack on Forter by the Earl of Montrose and the Earl of Kinghorn, who had been sent by the Committee of Estates, or Tables, Montrose being then on the Covenanting side. That party devolved upon the Marquis of Argyll, son of Ogilvy's assailant half-a-century before, to march by the heights of Angus, and find work to the Earl of Airlie and his friends, Nothing loth, lest they should offer to assist Huntly. Argyll marched eastwards with 5000 men. Lord Ogilvy meanwhile had gone south to be "wi' Charlie", either in ignorance of the approach of the invaders, or in the expectation that they would be ashamed to wreak their wrath on a defenceless castle. His departure, however, opened the way for the tragedy immortalised in the ballad of "The Burning o' the Bonnie Hoose o' Airlie".

The Club at Mount Blair.

The authenticated historical basis of the event is but meagre; and so, by the exercise of a little negative criticism, we might have eaten our simple luncheon in the



FORTER CASTLE.

humble farm buildings beside the castle walls, unruffled by the sad possibilities hinted in the various versions of the song. Lord Ogilvy's wife was Helen Ogilvy, daughter of

Lord Banff, and their children were Marion, Margaret, Mary, Helen, and David, the only son becoming his successor as third Earl of Airlie, and sending down the name of David to the Lord Ogilvy of the '45, and the sixth, seventh, eighth, and ninth Earls, the last succeeding to the title in his seventh year by his father's lamented death in South Africa on 11th June, 1900. There is little if any evidence that the Marquis of Argyll led the attack on the Castle of Forter in person. He wrote to his clansman, Dougal Campbell of Inverawe, bidding him "slay and demolish my Lord Ogilvie's hows of Forthar . cast off the irone yeattis and windows and tak down the roof, and if ye find it will be langsome ye shall fyre it weill so it may be destroyed ". This ruthless order seems to have been carried out "when the corn grew green and yellow" about the 7th of July, 1640.

But it is in the ballad only that Forter Castle is known as "The Bonnie Hoose o' Airlie", a title which is warranted neither by its walls nor their surroundings, and which may have found a place in the verses by a confusion between it and the chief seat of the family in Airlie parish, beautiful The charge of both for architecture and for situation. murderous brutality made upon Argyll in Kinloch's version of the "Bonnie Hoose" is so obviously unfounded that it need be mentioned solely as an argument against the trustworthiness of the unsupported statements in the Argyll is there said to have thrown ballad generally. Lady Ogilvy out "oure her ain castle wa'", so that she never saw the plundering of Airlie. But after Forter lost its "riggin'", Lady Ogilvy found refuge in Kelly Castle, near Arbroath, the house of her grandmother Lady Drum. We may thus enter within the roofless walls of the plain oblong pile, with its porch, or perhaps tower, in the southwestern corner; we may take note of the strength of the masonry and the hardness of the mortar, prepared in limekilns that still dot the glen; we may observe the scanty fireplaces, and count the small windows, and peep through the loopholes without encountering the spectre of any Lady Margaret (whose name was Helen) sacrificing the castle

by rejecting the advances of a long-discarded lover (who may not have been there at all), and offering her seven sons or more (when she had but one son) as a pledge of her loyalty to Charles the First.

AT NETHY BRIDGE.

ANYTHING written? asks my friend of me In letter lighting here in far Strathspey: (He knew the sonnet as my somewhiles play.) And this my answer fortunate may be:— Not one poor line; unto me spirit-free, Careless of fruitage, each gold flower-day Opening and closing in its calyx grey; I write not, think not, look not, only see. Yet is there that's been written: on my soul Black mountains forest-furred, wild loch's eye-gleam, Red Sea of heather washing flat and knoll, Cot, farmhouse, corn-field silver-edged with stream, Are pencilled fadelessly by heaven's beam. Memory, well-pleased, doth the writ page up-roll.

WALTER MORISON, D.D.

August, 1887. (From British Weekly.)

FOUDLAND AND DUNNIDEER.

BY ROBERT ANDERSON.

"Oh, if I were at the glens of Foudlen, Where hunting I have been,
I wou'd find the way to bonnie Castle Gordon, Without either stockings or sheen".
-Ballad, "The Duke of Gordon's Daughter".

"But fa cud help it? ye mith as weel try't to stop the north win' comin' throu' the Glens o' Foudland".

-"Johnny Gibb".

ALEXANDER THE GREAT is said to have sighed for new worlds to conquer. The Club must be sighing for new hills to climb-outside the Cairngorms at least, and within easy reach of Aberdeen. Certainly the selection of Foudland Hill for the recent autumn excursion can only be excused on the plea that all the hills of note readily accessible for the easy-going outings of spring and autumn have been exhausted, and that, in consequence, the Club is obliged either to take to lower heights or to double back on its own footsteps and climb anew hills already ascended. Whether this dire extremity has been actually reached is matter of controversy-a controversy, however, with which this article has no concern, its purpose being to show that Let us something is to be said for Foudland after all. away with the question of height to begin with. No extenuation on that score is possible, even though Francis Douglas was pleased to call the Hill of Foudland "a high mountain "-but then old Francis speaks of Bennachie as a "great" mountain, as "by much the highest in this county"! A modern gazetteer more accurately states "the maximum" altitude of Foudland at 1529 feet only, and it must be frankly conceded that the ascent of that far from formidable altitude is by no means arduous-to be

Foudland and Dunnideer.

quite honest, one reaches the summit without any great exertion. Nor is there anything picturesque or attractive about the hill or its adjacent scenery. Foudland is neither better nor worse than scores of hills in Aberdeenshire—an ordinary moorland eminence, absolutely featureless, set (as approached from the Insch side, at any rate) in a rather poor, bleak, desolate-looking country, its shoulders lined with the debris of disused slate quarries, and cultivation straggling feebly up its sides. Doubtless here as elsewhere that magic picture so skilfully drawn by Robert Louis Stevenson—

> "Yet shall your ragged moor receive The incomparable pomp of eve,

And when the wind from place to place Doth the unmoored cloud-galleons chase, Your garden gloom and gleam again With leaping sun, with glancing rain "---

may be realised; but, lacking these occasional glories, Foudland must be characterised as commonplace in the extreme.

Whatever interest attaches to Foudland is due partly to its position and partly to the romance with which the Foudland "Glen" on its northern side is associated. is one of a range of three hills-the Hill of Skares and the Hill of Culsalmond (formerly denominated Tillymorgan) being the other two-which form the outliers of the hilly country that spreads away to the north-west. These three hills-generically termed "The Foudlands"-form a rather prominent "rib" of Aberdeenshire, and are conspicuous objects from many quarters. They touch three important territorial divisions of the county; they mark, in a sense, the boundaries of these divisions. They are situated at the head of the Garioch; Strathbogie stretches away from their base on one side; and Buchan well-nigh reaches them on the other side-the wider Buchan that is, that has the Deveron and the Ythan for its western boundary. So situated, Foudland has a commanding view over a large area-a view ranging from Mormond in the

east-Mormond with its White Horse distinctly visible to the naked eye-to the Tap o' Noth in the west, and closed in by Bennachie on the south-Bennachie here more distinguishable by the Oxen Craig than by the Mither Tap. A large extent of cultivated ground is embraced in this wide survey, field upon field meeting the eye in a singular succession of what appear to be exact rectangular divisions. From this point one realises the force of the old saying that describes the Garioch as "the girnal of Aberdeenshire". A chronicler of a century ago, indeed, would have it that Foudland is a distinct factor in the agricultural supremacy of the district indicated by the phrase just quoted, for, says he, "this extensive hill shelters the parish of Insch and a considerable part of the district of Garioch, upon the north, and hence partly occasions its great natural fertility". Be that as it may, the panorama of arable land spread out to the view from the top of Foudland is extensive-so extensive that the query has been propounded whether there is in Aberdeenshire a hill from which more cultivated land can be seen. The point is a little doubtful; probably anything in the nature of an exact investigation would reveal that Bennachie bears the palm in this respect.

Extensive, however, as is the fertile plain that spreads around and away from Foudland, it by no means monopolises attention or constitutes the sole interest. The landscape is not wholly monotonous; there is an abundance of diversity. Hills and woods are plentiful, especially in the northerly direction-the wooded slopes of Cobairdy for instance, the barer sides of the Fourman and the Clashmach, and, far off, the Balloch wood beyond Huntly (marked the Bin Wood on the Ordnance Survey map). This wood is said to be the largest wood in Scotland, which seems a rather startling assertion; more probably the claim that should be set up for it is that it contains more trees within its area than any other similar extent of ground, that area being 2700 acres. In the vicinity of the wood, of course, is Huntly Castle, the residence at one time of the Dukes of Gordon-

> "Whaur Bogie flows, and Huntly shows On high its lettered wa's".

Perhaps it may not be descried from the top of Foudland, even with a field-glass, though its location can easily be determined; but the old Castle of Towie is readily distinguishable in the nearer landscape—the ancient home of the Barclays of Tolly, with that caustic inscription above its door—

> "In time of wealth all men seem friendly; A friend is not known but in adversity".

To the north-east of Towie Castle are the Hills of Fishrie, where one of the Earls of Fife planted a number of squatters whom nobody else would take in, and some of whom had been turned off by other proprietors. There is a comparatively little hill in the neighbourhood of St. Sair's Fair-stance, from the top of which, the people thereabouts do say, you can see more parish kirks than from any other point in the region. How Foudland stands in that respect the present writer knoweth not, but you can, without much trouble, see Insch, Huntly, Rhynie, and Lumsden Village, and-away in a different direction-Aberchirder, better known perhaps by its local appellation of Foggieloan. The hill-tops discernible are those with which many excursions have familiarised the members of the Club. There, in particular, is the line of mountain heights that marks the Deeside Valley-Clochnaben, Mount Battock, Mount Keen, Lochnagar, and Ben Avon; the contour of Lochnagar as beautiful as ever, the mass of Ben Avon as imposing. Morven, The Buck of the Cabrach, and Ben Rinnes form an inner row of hills, which terminates with the Bin Hill of Cullen, beyond which is the sea. From Mormond to Ben Avon is, at any rate, a wide stretch to be comprehended in a view from a hill-top, especially a hill-top so insignificant as Foudland.

Foudland was at one time noted for its slate quarries. That they must have been numerous is attested by the many heaps of debris and quarry-holes that are encountered in all directions; nearly a million pieces a year, it is said, were for long produced at Foudland, chiefly for the Aberdeen market. The slates are described as having been of a clear light-blue colour and of excellent quality,

but the demand for them gradually ceased, principally owing to the greater cheapness of sea-borne slates from Easdale and Ballachulish. Thus a local industry perished -apparently not for the first time in the history of Foudland, for the writer of the account of the parish of Insch in the Old Statistical Account (1796) chronicles an abandonment of agriculture. "Several hundred acres uncultivated on the hill of Foudland", he says, "and in the glens or narrow vallies which run up from the low country through that hill, not only are arable, but were formerly under These are now neglected, and produce cultivation. They were first deserted by the nothing but heath. farmers in the end of last century, when that part of the country was almost depopulated by 7 years of famine: And now they lie neglected, along with many thousand acres, in like situation, in different parts of the north of Scotland ". This reproach, however, seems now wiped out, so far, at any rate, as the Glen of Foudland is concerned. It is now fully cultivated; and, viewing this smiling valley on a bright autumnal day, one wonders how the Glen of Foudland came to have its evil reputation. It is indisputable, however, that in the days antecedent to railways, when roads were the chief means of communication in the country, there was no more difficult and dangerous part of the road between Aberdeen and Inverness than that through the Glen of Foudland. In a snowstorm it was speedily blocked, and even the "Defiance" coach-that stage-coach so familiar to our grandfathers, but the memory and the name of which are so speedily vanishing -was frequently brought to a standstill here, while it was quite a common thing for carriers' carts to be snowed up. To the great Inverness Road in those days, the Glen of Foudland was a name as ominous, as suggestive of snowstorm and detention, as the Pass of Drumouchter on the Highland Railway is to-day. In the opinion of the late Mr. James MacDonald ("Place Names in Strathbogie"), the Glen of Foudland "merited the same evil repute in ancient times, as there are still traces of old roads over the shoulders of the hills, most likely used when the lower

222

Foudland and Dunnideer.

road was impassable ". Mr. MacDonald is also of opinion that the hill is named from the glen, not the glen from the hill. Foudland is virtually a combination of two Gaelic words—"fada", long, and "gleann", a glen; Foudland, "the long glen". The character of the glen secured it a distinctive name, whereas "the hill is without any strongly marked natural feature".

DUNNIDEER.

Dunnideer is a hill (876 feet) situated about a mile and a quarter to the west of the village of Insch, on the summit



DUNNIDEER CASTLE.

of which are the remains of a vitrified fort and the fragment of an ancient tower, from 50 to 60 feet high. The conical shape of the hill and the ragged wall a-top make Dunnideer a conspicuous feature in the landscape; but, obviously, there is nothing to be said about it from a hillclimbing point of view. The interest in Dunnideer is purely archæological, and even archæologists can make nothing of Dunnideer. Its history is wholly unknown; and what has been written about it is purely speculative,

not to say legendary. Thus the romancers would have it that Dunnideer was one of the places where King Arthur held his Round Table; that the Castle was built by Grig or Gregory the Great, King of Scotland, who died there in 1393 (the fragment standing is sometimes called Gregory's Wall, from this tradition); and that it was supplied with water from Foudland Hill, three miles distant, by leaden pipes, which being at last cut, the Castle was obliged to surrender from want of water (a similar legend is current in relation to Dundargue Castle, on the coast of Aberdour). These legends culminate in the ridiculous story that there is gold ore in the hill, the teeth of the sheep pasturing on it acquiring the colour of gold! To pursue "history" of this kind is a worthless occupation. Dunnideer is a mystery, and will ever remain one. Immediately west of Dunnideer, on the other side of the narrow vale of the This is said Shevock rivulet, is the Hill of Christ's Kirk. to have been the scene of the well-known poem "Christ's Kirk on the Green", generally ascribed to James V. Dubiety prevails on these points, however ; the authorship of the poem is claimed for James I., and an attempt-a blundering attempt-has been made to locate the place near Leslie, in Fife, instead of near Leslie, in Aberdeenshire.

TRACES OF OLD GLACIERS IN THE HIGHLANDS.

BY T. F. JAMIESON, LL.D., F.G.S.

IT seems to me almost a pity that the fine pedestrian powers of the Cairngorm Club couldn't be turned to more account in the service of Geology. The mountain region of Braemar forms a fine field for exploration, especially in regard to the evidence it affords of the former presence of glaciers in this country.

During the last fifty years geologists have ascertained that Scotland, and indeed a large part of Northern Europe, was heavily covered with snow and ice, just as Greenland is at the present day. All North Britain was at one time so deeply buried that even the mountains were hidden out of sight, or only some of the highest rocky peaks protruded through the mantle of snow. In Greenland these protruding masses are called Nunataks, and stick up like little islands in the sea of ice which surrounds them. This state of matters was of long duration, and the covering of ice was subject to much variation in both depth and extent, before it finally melted away. It waxed and waned during many ages, stretching out at one time over the whole land, and extending even far beyond the present coast-line, at another time shrinking back into the higher valleys, and filling the deeper glens with tongues It was a long time ere geologists could be brought of ice. to believe that such a state of matters ever existed in this country, and every other conceivable method of explanation was tried to account for the facts. But facts are stubborn things, and refuse to be finally explained except on the true method. In order to understand the features presented by the surface of the ground in our Highland glens and mountains, we require to study the action of ice as it is exhibited at the present day in Greenland, Spitzbergen, and the Alps, or even in the more extensive

development it attains in the Antarctic region. Nansen's book on the crossing of Greenland has made us familiar with the aspect of that land, and any good manual of Geology will furnish information on the subject generally.

Now, the Cairngorm Mountains constituted a fine theatre of display during the glacial period, and hunting up the evidence to be met with in their corries, glens, and hill-tops would give an additional zest to the pleasure of rambling among these grand hills. When once we understand the meaning of the features they present, we experience a fresh delight in surveying their mighty forms; we scan their outlines with a more intelligent eye; we

> "Hail in each crag a friend's familiar face, And clasp the mountains in the mind's embrace".

It is long long ago, however, since the ice vanished from our land, and the freshness of the marks it left behind it This is has been much impaired by the lapse of time. more especially the case in regard to that smoothing and polishing of the rocks which the ice produces as it slides over them. The action of the weather, the rain and frost of countless winters, has wiped out this evidence in most cases. The granite of Aberdeenshire soon yields to this action, and the geologist will generally look in vain for any trace of it on the surface of that rock, although the rounding-off and abrasion of the faces that were most exposed to the pressure of the ice can still be detected by an educated eye. In the North-West Highlands these finer markings are better preserved, and are still to be met with in many localities, especially on the harder and flintier sort of rocks; but on the Deeside hills it is rare to meet with this evidence. I remember beating all over the long Hill of Fare in search of them, and hunted over it in vain until at last I came upon a shoulder of the ridge which was of a fine tough-grained quality, and there I found them quite distinct. A shower of rain had wetted the rock, and then the sun, shining out upon the smooth glancing surface,

226

made the fine needle-like scratches and heavier scores plainly visible; showing that the movement of ice had been from south-west to north-east, parallel to the general strike of the valley of the Dee. But there is plenty of evidence still remaining, and likely to remain for a long time to come, in the moraines or heaps of gravel and boulders which the glaciers left along their margin in the glens and valleys and on the sides of the hills. The large transported blocks of granite and other rocks, perched on the top of many an eminence, constitute another line of evidence, and afford the means of tracking the movement of the ice by the direction in which they have been carried from the parent mass. The corries themselves, those rocky amphitheatres so common in many parts of the Highlands, are merely the nests in which the last remnants of the ice lingered, after the main body of the stream had disappeared. The mountain tarns and lakes are also believed to lie in rocky basins which the ice hollowed out; for it is only in regions formerly occupied by glaciers that they seem to be found. The moraines generally present the aspect of heaps of rough gravel and stones, forming mounds 30 to 100 feet in height, grouped sometimes in clusters, or stretching out like a long curving embankment.

Glaciers are streams of ice which flow along so slowly and steadily, that, like the hour-hand of a clock, they seem to be motionless to a person looking at them, or standing on their surface. Just as the rivers convey the surplus water off the land, so do the glaciers serve to carry off the surplus snow and ice. In its laws of motion ice does not differ materially from other semi-fluid bodies, such as pitch or lava. We have to picture to ourselves majestic streams, filling the valleys to the depth of hundreds of feet (and during the height of the glacial period to thousands of feet), and flowing onward with a continual but extremely slow motion. What are called moraines are the stones, gravel, and mineral debris which the glacier bore on its surface, and cast off along its sides and termination. Just as a river bears along sticks and trees and leafy branches, and strands them at its margin,

so does the glacier bear along the stones and blocks that roll down upon its surface from the rocks alongside of it, and casts them off either at its terminal escarpment, or on its flanks, forming what are called terminal or lateral moraines. Some fine examples of these will be found in the glens which pierce the north slope of the Cairngorm Mountains; as, for example, in Glen Eunach. It has a small loch at the upper end. From Lynwilg to the lower extremity of the loch is eight or nine miles. After crossing the Spev at Rothiemurchus, you find a road leading past Loch an Eilein, from which a road has been made for sportsmen up to Loch Eunach. Loch an Eilein itself is encompassed by moraine hillocks, full of large boulders of granite and gneiss. These mounds lie chiefly on the east side of the loch, and are covered with heather and fir trees. Moraines extend all the way up Glen Eunach, but are more developed at some places than at others. About three miles below the loch the glen is narrow, and has been completely choked up by a huge mound of gravel and stones, probably 200 feet in height. Above this for some distance the glen is filled with accumulations of gravel and boulders, some of which are disposed in high flat-topped banks. Along the base of the granite hill, about a mile or a mile and a-half below the loch, there are some fine lateral moraines of a very typical character, forming long irregularly-curved mounds, with steep sides which bristle with great blocks of granite, some of them 20 feet in length. These lateral moraines are best seen on the west side of the glen, and have been formed along the left flank of the glacier which occupied the basin of Loch Eunach, and stretched down the glen to here, or to the big mound above-mentioned. This wild little glen, with its loch at the top, is one of the best localities in the Highlands for studying the traces left by the old glaciers.

At Aviemore the glaciers of the Cairngorm Mountains had crossed the Spey in great force, and lodged their moraines high up on the hills on the west side of the river. In doing so they seem to have barred the valley above, damming the water so as to form a considerable lake above Craigellachie, in the neighbourhood of Kingussie. In making the Highland Railway, deep beds of fine silty sand, which had accumulated in the bottom of this lake, were cut into during my visit to the locality in 1863. This old lake extended up the valley towards Laggan, and undoubtedly must have been caused in the way I have mentioned. Similar occurrences are found in the Alps and other mountain regions where glaciers still exist.

In going up to Ben Muich Dhui from Braemar, there is a fine group of moraines at the head of Glen Derry, just at the turn where you ascend to Loch Etchachan. Further on there is a steep brae rising up to this little loch. This steep bank is strewn with large granite stones, many of which probably tumbled off the front of the glacier, when it filled all the basin of Loch Etchachan, and presented a cliff of ice overhanging this slope.

Another still more interesting display occurs a little way below Ballater. The streams of ice which came down Glen Muick, Glen Gairn, and the valley of the Dee, united at Ballater, and filled all the wide expanse of plain around and below that village, throwing down their moraines along the flanks of the inclosing hills on either side of the river. These moraine hillocks commence at the base of the hill, just outside the Pass of Ballater, and extend eastward past Tullich on to Culblean, forming a great cluster of hillocks and mounds of various forms. To the eastward of Tullich they attain a height of about 400 feet above the level of the Dee, their upper surface forming a nearly horizontal line which slopes downward a little to the These moraine hillocks fill all the curve of eastward. the hills between Tullich and Cambus o' May, and are composed in a great measure of debris of red granite. The uppermost hillocks consist of little else than a collection of granite stones of various sizes; but nearer the river there is more water-worn gravel and gritty mud mixed with stones. The altitude of the top of the moraine near the Burn of the Vat is about 900 feet. A mile further west it is about 1018 feet, or rather more than 100 feet higher, indicating a slope of the glacier of, say, 100 feet in

III. P

the mile, or 1° 30′. On the opposite side of the river, at Pannanich, the base of the hill is plastered over with moraine matter, which does not take the form of hillocks and mounds as it does on the north side, but forms a great bank leaning against the hill, and constituting in some places a rude platform or terrace, strewn with large granite boulders, and corresponding closely in height to the top of the moraine on the opposite side of the river. The granite of the shoulder of the hill to the east of Pannanich Wells is much bared, like that of Culblean, and is rounded off into pillowy masses, especially on the west front, being more rugged on the east, which was the lee side, or that which was most sheltered from the abrading action of the stream of ice. There are some fine examples of large perched boulders here just as on Culblean.

Scott, in his "Lord of the Isles", describes with great felicity a splendid scene of extinct glacial action at Loch Coruisk, in the Isle of Skye:—

> "Huge terraces of granite black Afforded rude and cumber'd track; For from the mountain hoar, Hurl'd headlong in some night of fear, When yelled the wolf and fled the deer, Loose crags had toppled o'er; And some, chance-poised and balanced, lay, So that a stripling's arm might sway A mass no host could raise, In nature's rage at random thrown, Yet trembling like the Druid's stone On its precarious base ".

Sir Walter, however, was no geologist; otherwise he might have known that these huge blocks were not hurled in Nature's rage, but were set down by the melting ice as gently as a nurse sets down a baby in its cradle. They are merely fine examples of the "perched blocks", familiar to travellers among the Swiss Alps. These, and the "bare crags and banks of stone" he mentions, are very characteristic of places where glaciers have been, and Coruisk is a grand spot for studying their effects. No doubt it requires a special acquaintance with the action of

ice to appreciate the evidence of its former presence in our Scottish glens, and I daresav it is only those who have this subject for a hobby that really take any interest at all in the matter; but the aspect of the scenery has been so moulded by the influence of the glaciers which formerly dwelt here that its features can be understood rightly by those only who can read the record, and can call up in the mind's eve the Arctic scenery that formerly prevailed in There are few places easier of access and our islands. hetter adapted for studying the subject in the field than the locality I have mentioned near Cambus o' May. The rocky slopes of Culblean and Pannanich, the great group of moraines filling the bosom of the hills up to Tullich, and the gravel-covered Muir of Dinnet stretching away to the east, are all splendid places for the purpose. The granite rock of Culblean has been scoured bare by the ice, and left in large, smooth, rounded masses, with here and there a great block perched upon the surface. Sir Walter, no doubt, would have looked upon these as

"Hurl'd headlong in some night of fear, When yelled the wolf and fled the deer";

but we know better. A good view will be got at the summit level of the hill road which leads from Tullich to Tarland, near the Burn of the Vat. On either side of the Culblean ridge numerous mounds of debris are to be seen. but the ridge itself has been swept bare all the way down to the river. The Muir of Dinnet is a great expanse of gravel spread out by the floods of water issuing from the front of the retreating glacier. Beneath this sheet of gravel will be found the grey boulder clay, or bed of gritty mud, on which the glacier rested. Good sections for studying its character and composition are, or were, to be seen along the side of the Dee in this neighbourhood. As you approach the rock at Cambus o' May from the east, great blocks of granite will be seen which have been torn up and carried eastward some distance by the ice.

ACROSS CREAG MEAGHAIDH.

BY ALEX. INKSON M'CONNOCHIE.

CREAG MEAGHAIDH, as an individual summit, is popularly associated with Loch Laggan, and not without reason; but it looks down on Glen Roy as well as on the valley of the Spean. The name, however, embraces the group (or range) on the north-west shore of Loch Laggan which is drained on the opposite side by the Spey and the Roy. But the upper portions of these rivers are quite outside the beaten track, and so the excellent highway along the right bank of the loch is on the whole the most convenient base for climbing "the lofty Corryarder, the haunt of eagles and of clouds", as Creag Meaghaidh is called in Mrs. Grant's "Letters from the Mountains".

The view of the Creag Meaghaidh group from Garva Bridge on the Spey attracted attention on our westward walk from Newtonmore. Carn Liath (3298) there forms the background; the foreground is the little glen formed by Allt Choire a' Bhein, beautifully wooded in parts. Looking down Strathspey from the bridge there are only two houses, Garvamore and Garvabeg, to be seen; looking up, what a prospect !- mountains and hills with jagged contours, a few with trees on their lower slopes, but no cultivation, no houses-for the strath is there given over to sheep and grouse. Beyond Garvamore (westward) there is only one inhabited house, Meallgarbha, and it will probably soon be in the hands of the forester, for in a wooden building there-which puzzled us a long way offfawns from Ardverikie were being reared for a new deer forest, Corrieyairack. At Meallgarbha we parted company with Wade's great road to Fort Augustus via the Pass of Corrieyairack, and thereafter we hugged the left bank of the Spey by an indifferent cart-track, better marked on the map than on the ground. Deserted Shesgnan was duly passed; the shepherd had gone, but the house may find a tenant when the fawns at Meallgarbha receive their The next point of interest passed is Loch Spey, freedom. generally regarded as the source of that river; then we walked warily, for we were soon to change the watershed, to leave Strathspey for Glen Roy-but a sheep fence saved us discussion, and gave an opportunity of leaping from Badenoch into Lochaber. The nature of the ground there is indicated by the respective altitudes of Loch Spey (1142) and the col (1151); the "back-bone" of Scotland is not very apparent in this neighbourhood. In a short time we found ourselves at solitary Luibh-chonnal, near the confluence of the Allt Chonnal with the Roy, with Creag Meaghaidh facing our quarters for the night. Here the Roy as it drops at a right angle into the centre of the glen has a fall of some note, the width of which seems as great We were lulled to sleep by its musical as its height. rhythm; it sounded not unlike the Garbh Uisge as heard at night from under the Shelter Stone.

Luibh-chonnal is a paradise for the mountaineer; go in what direction one may, hills are at once encountered, and the forester, as yet, troubles not. It has, however, one drawback which we cannot avoid mentioning, so lively is our recollection of its midges. Hitherto we had laboured under the belief that for fierceness and numbers the midges of Rothiemurchus were *facile principes*; but their cousins of Glen Roy have now that distinction in our long and varied experience. Our only satisfaction was that they were quite impartial in their attacks; even our host had to give up cutting his meadow grass, as he could not stand so long as to sharpen his scythe.

We know now that the so-called parallel roads of Glen Roy mark the gradual subsidence of the water in that valley as the melting glacier at its west end set it free —peradventure the ground has not yet thoroughly dried, and so midges abound! A fragment of these "roads" may be traced even at the head of the glen; it extends in an easterly direction from the Roy Fall. These roads, although wonderfully clear when viewed

from a distance under favourable light, are nevertheless often very obscure when we come to stand upon them. Sometimes, indeed, they seem to vanish altogether in ghostlike fashion, so shadowy and vague is the outline of what remains. The clearness of the lines at a distance seems to depend upon some subtle difference in the shade of light, or colour, due either to alteration of the angle at which the surface is presented to the light or to some change in the The lines are character of the vegetation covering it. perfectly level, strictly parallel, and run along the bare mountain-sides as neatly as if drawn with a ruler and pen. They sweep round the shoulders of the hills, wind into their side-recesses, and encircle all the upper part of the valley, everywhere preserving the same rigid parallelism. and the same undeviating horizontality. They look all too mathematically regular for the work of Nature, and yet they seem on too grand a scale to have been traced by mere mortal hands. No wonder that the imaginative Highlanders ascribed them to the ancient heroes of their race, and saw in these lines the hunting-roads of Fingal and his companions, that they had made for chasing the deer. They call them "Casan", or "the footpaths"; for, on climbing up to them, they are each found to consist of a green ledge, or narrow terrace, jutting out from the face of the hill; so that they actually serve as convenient tracks for walking on. During the glacial period the ice upon the west side of Scotland seems to have been vastly thicker than it was on the east, owing, no doubt, to the snowfall having been much heavier in the former district, just as is now the case with the rainfall there. The amount of rain in the West Highlands is twice or three times what it is on the east coast. This is due not so much to the greater height of the hills as to the fact that the clouds of vapour coming from the Atlantic have most of their moisture condensed there; it is there that the wet sponge is first squeezed. In Lochaber, particularly, the volume of the streams in relation to the areas they drain is remarkable. The honour of establishing the origin of the parallel roads in Glen Roy and other Lochaber glens belongs to an

Across Creag Meaghaidh.

Aberdeenshire geologist, Dr. T. F. Jamieson, to whose papers in the *Journal* of the Geological Society the present writer expresses his indebtedness. Dr. Jamieson's "Recapitulation" may be fittingly added: That the parallel roads are the beaches of freshwater lakes; that these lakes seem to have arisen from glaciers damming the mouths of the valleys, and reversing their drainage; that the date of these lakes is posterior to the great landglaciation of Scotland; that neither the sea nor any diluvial catastrophe has, since the time of the lakes, approached the 850-feet line—therefore the chief submergence of the glacial period must have preceded the formation of the roads, or else not have been so extensive as to reach them.

It was at Luibh-chonnal that, about forty years ago, Dr. Jamieson first studied the mystery of the parallel roads. His explanation of the matter was accepted by such giants in the scientific world as Murchison, Lyell, and Darwin, as may be seen from the following letters (three of them to Dr. Jamieson) in possession of the writer:—

> Ватн, Dec. 11, 1861.

My DEAR SIR,

I have too long delayed to thank you for your most interesting account of your foray in Lochaber.

I have long been of opinion that we have as yet had nothing satisfactory as to the origin of the Parallel roads, and I rejoice to see that you have now got into what seems to me in all probability to be the *right road*.

With your experience in the phenomena of our Highland glens and their sources, I confidently hope that you will win the spurs in this long-contested tournament.

Yours sincerely,

ROD. MURCHISON.

Down, BROMLEY, KENT, Oct. 14, 1862.

MY DEAR LYELL,

I return Jamieson's letter. I have no comments, except to say that he has removed all my difficulties, and that now and for evermore I give up and abominate Glen Roy

and all its belongings. It certainly is a splendid case, and wonderful monument of the old ice period. You ought to give a wood-cut. How many have blundered over these horrid shelves!

. . . I do believe every word in my Glen Roy paper is false.

Ever yours,

C. DARWIN.

mar 1 27 "-3 dear Si 11. 8. et I am wind Mige for your at sid the he found 1- J .: C. Gele . - IL fed. sum my mejotent; a ch last. I for my for such I sue give up The Raine there ; he I & ich - grow. 4 by dear hi Jun in com

Down, BROMLEY, KENT, S.E., Jan. 24th, [1863.]

My DEAR SIR,

I have just received your Glen Roy paper in MS., and it seems to me not only conclusive but admirably done and most interesting. I heartily congratulate you on having solved a problem which has puzzled so many and which now

236

Across Creag Meaghaidh.

throws so much light on the grand old glacial period. As for myself, you let me down so easily that, by Heavens, it is as pleasant as being thrown down on a soft hay-cock on a fine summer's day. There are other men who would have had no satisfaction without hurling us all on the hard ground and then trampling on us. You cannot do the trampling at all well—you cannot even give a single kick to a fallen enemy!

My seeing your MS. shows that I am referee, which ought to be a secret; but, as there can be no doubt about my report, there can be no wrong in my want of secrecy.

With the most sincere admiration, pray believe me,

Yours sincerely,

CH. DARWIN.

Luibh-chonnal, it may be mentioned, boasts of a mineral well, the smell of which was enough for us, though a Clubman declared that it was "in no way inferior" to Strathpeffer or even the Wine Well of Peterhead! The "language question" is in a topsyturvy state in these parts. In Upper Badenoch we started a conversation with a venerable lady at her own door, but no response seemed forthcoming. The mystery was quickly solved by a young lady who came to the rescue with the remark, "Oh! grandma doesn't know a word of English". The rising generation at the head of Glen Roy is precisely in the same condition—a circumstance which is remarkable, and the only one of its kind we have experienced in our Highland wanderings.

We started from Luibh-chonnal at 7.15 a.m., with the cairn of Creag Meaghaidh appearing and disappearing as the restless mist permitted. It had rained heavily during the early morning, and had not quite ceased as we parted with our kindly host and his collies at the Fall. We kept by the banks of the Roy all the way to Loch Roy—no easy matter, for its tributary and almost parallel streams are bewildering. Moreover bogs and hags keep one on the *qui vive*. Loch Roy is enclosed in a magnificent corrie both corrie and loch reminded us somewhat of Lochnagar, only the crags of the Roy corrie are not so high, and grass is not wanting. The loch attracted attention at a distance

from the apparent greenness of its waters, but sedges were found to be the cause of its peculiar colour; yet it has sandy banks, and its chief feeder toppled over the crags in a headlong descent. Fallen debris is responsible for the loch, two huge "arms" almost embracing the mountain tarn. We lingered half-an-hour here, then scrambled up the steep slope on the west side, landing on a wide shelf with the famous "Window" and two cairns in front of us.

The "Window" of Choir Arder is a great "Eag", a long and deep cut in the mountain which is prominent from many points, particularly from Ben Muich Dhui (C.C.J., II., 84). It is unquestionably *the* feature of Creag Meaghaidh, and, with its neighbouring corrie and the loch at the bottom of its perpendicular crags, renders the climb peculiarly interesting. Prince Charles Edward Stuart passed through the "Window" twice, as may be learned from Blaikie's "Itinerary", published by the Scottish History Society.

There is a great grassy plateau stretching from the top of the "Window" to the cairn, and beyond. There is an intermediate cairn at a lesser elevation (c. 50 feet), a huge, ungraceful and now somewhat dilapidated erection which owes its existence to an unfortunate enthusiast on Loch Laggan-side. The cairn (3700) is neatly built and still retains a part of the staff. We saw many ptarmigan on the plateau, and one solitary snow bunting at the cairn.

The weather had now settled down to a gentle rain, but the sun seemed to be continually struggling with the clouds. Some mountaineers contend, ourselves among the number, that it is under such conditions that the best views are obtained. The present occasion certainly upheld that assertion, and we positively revelled in the prospect. Peak after peak appeared and disappeared in the most entrancing manner, but it was useless to attempt identification. Has not the unknown charms? We could see that we were surrounded by mountains whose graceful outlines and irregular contours put to shame our flat-topped though higher Cairngorms. One of the charms of the prospect was that at no time could we see all round the horizon;

238

all would be shrouded in mist, when suddenly the curtain would be lifted for a minute in, say, a westerly direction, and a forest of tops would demand attention. Then the mist descended as unexpectedly as it had risen, and the horizon become temporarily clear towards the north—and so on till we were favoured, in instalments, with a complete view, some portions of the horizon, particularly to the south-west, appearing oftener than others. Numerous lochs and tarns were seen both from the plateau and from the cairn.

The day was still young (10.30) when we turned our backs on the cairn and made for the crags at the top of Choir Arder. These precipices, with their grand gullies, are appalling, though they abound in verdure. How quietly the lochan nestles at the bottom of the corrie, 1500 feet below! Looking to the left, in the direction of the "Window", the steepness and greenness of the left side of the gorge were particularly remarkable, and we wondered how the sheep, dotted all over, could maintain their footing. Some were contentedly feeding on little isolated plateaus from which there seemed to be no retreat. We turned away from the top of the cliffs as a descent there was by no means inviting, and in a few minutes were delighted with a new scene-the lochan to which Meall Coire Coille na Froise gives shelter. The lochan lies at the foot of precipitous rocks, rich with the vegetation which is characteristic of the range. We were lured by its charms to make its burn our guide in the descent to Loch Laggan; perhaps, however, we should have taken the Prince's route. In any case the descent is a considerable one, for the altitude of Loch Laggan is only 819 feet.

Loch Laggan is one of the most beautiful of our Highland lochs. Did not the Queen spend a month in 1847 at Ardverikie on its southern shore? The sun smiled on our descent and for the rest of the day. Her Majesty wrote of the road along the loch, it "is extremely pretty"; it is also extremely level, so much so that we easily made, despite our knapsacks, three miles in 39 minutes. But we very properly spent the surplus minutes and a few more at the hotel at the upper end, from which we laid a course to Dalwhinnie station.

We had started on this expedition so hurriedly that we were without the O.S. map, a want which we often deplored. True, we had "Bartholomew" and a compass, vet in unguarded moments we listened to a multitude of local and somewhat contradictory instructions. And accordingly we crossed the Mashie at the wrong point, and naturally blunder followed blunder. We were promptly and well punished for our temporary aberration ; how the sun broiled us as we crossed kopje after kopje without, as we learned too late, decreasing the distance to the Highland Railway! Looking back on that misadventure it now seems to us that it was only by sheer doggedness that we reached Glen Truim that evening. As we blundered along without apparently getting forward we began to lose hopes of catching our train for Aviemore; evening seemed to come before its time, but we declined to consult our watches-for the pace could not be increased, and to add to our anxieties we had left "Bartholomew" at a burn-side. At last came the welcome sound of a railway whistle, but there was still a weary trudge ere the station came in sight. We pushed on; and our train passed us as we approached the distillery! It was followed, before we entered the station, by a goods train; yet we did not despair. A coal train came along in half-an-hour and ended our troubles. Having obtained the necessary permission (for due consideration) and parted with all possible claims for damages en route, we set out on the last section of a two days' round-for we had started from Aviemoreand arrived at the base of Craigellachie about 9.15 p.m. in excellent condition for dinner.

CAIRN TOUL AND ITS CORRIES.

BY ALEXANDER COPLAND.

OUR Secretary entertains feelings of veneration, respect, and admiration for Cairn Toul and its corries. He recommends Coire an t-Saighdeir to the stalwarts of the Club in these words, Vol. II., page 49, of the *Journal* of the Club:—"But for a rough, steep, climb through a wilderness of boulders, try the ascent of Cairn Toul from the Larig, passing through Coire an t-Saighdeir (the Soldier's Corrie) with its fissured crags". If the disembodied soul of the hero rejoices as it "rides on the wind o'er its own Highland vale", a scramble up Cairn Toul through the Sodjer's Corrie, though less easily accomplished when that soul is in the flesh, must nevertheless have an exhilarating and enlivening effect, and no youthful Cairngormer within cycling or tramping distance of Glen Dee is entitled to evade the invitation to make the ascent in proper season.

Although hardly entitled to claim adolescence, we were badly bitten by the Secretary's recommendation, and once -yea, twice-did we exercise our limbs, and more than our limbs, in visiting Coire Odhar and Coire an t-Saighdeir last summer. We had several other inducements, however, than the advice above-mentioned for doing so. One was the expectation of finding a blue bonnet-full of brilliant gems-the finds of a famous hunter or quarrier of Cairngorms-which for some unexplained reason he cachéd under a boulder in Coire an t-Saighdeir. Having suddenly taken ill, on his return to civilisation, the said hunter on his death-bed endeavoured to give directions to his sorrowing and interested relatives where to find the hidden treasure; but, alas! up to this time they and everyone else have been unable to locate it. Another reason was the expectation-not by any means very sanguine-that we might light upon a small mariner's compass which a good many years ago went amissing from the albert of a friend while descending by the "fissured crags" of the western end of this corrie, and still remains among the detritus, unnecessarily supplying to the snow buntings and the ptarmigan who nest there the true polar direction (magnetic). A further reason and more hopeful expectation was that among the Alpine rareties, sparingly strewn by Flora in this sublime retreat, we might, peradventure, light upon a tuft of the White Dryas or Mountain Avens (*Dryas octopetala*), the name of which flower was adopted as a *nom de plume* by a mountain climber of our acquaintance, who had what the French call a *penchant* for vagabondising among the hills long before the Cairngorm Club made it fashionable to do so.

Well, on a bright morning in July last we had the good fortune to overhaul in Glen Lui Beg a gentleman connected with the Ordnance Survey going in the same direction as we were bound, namely, to Glen Dee and Cairn Toul. He was engaged in sketching into the six-inch maps of the survey the prominent features of the Cairngorms-the crags, rocks, &c., of conspicuous outline and feature which will greatly improve these maps when re-This was a fortunate encounter for more published. reasons than one. For, as Major Galbraith of Garsehattachin said or sung, "company is aye the best when comin' through the heather ". We found it so on this occasionalbeit our Ordnance Survey friend had neither the choleric fiery face and temper of the Major nor did he wear a cocked hat and regimentals.

Crossing the Lui Beg Burn by the picturesque wooden foot-bridge at the mouth of the glen, whose northern extremity is stopped by Ben Muich Dhui, and ascending the stiff bit of peaty brae of Carn a' Mhaim, we speedily got upon the pony path leading to Glen Dee. While walking along this path and looking at the sky-line of the rocky fiacaill of Carn a' Mhaim, there gradually appeared a huge hobgoblin head and ear of Pan-like form glowering, as it were, over the fiacaill into Glen Lui Beg—the Bodan-diaouil of MacGillivray, the Bodindeweill of Sir James Balfour, and the Devil's Point of modern times. How the vast conical protuberant mass of granite which forms the south-eastern flank of Cairn Toul was so named we have often wondered and inquired. But explanation, history, or legend regarding it we have never obtained. We offer the above solution of the mystery-the appearance in the sky of the hobgoblin head at this point-and if anyone upon personal observation questions it, let him supply a better. Fairly into Glen Dee, a tramp of about a mile and a quarter enabled us to pass the Devil's Point, and arrive opposite that marvel in the wilderness, the Corrour Bothy. This hospitable shelter, like the Hospice of St. Bernard, has on occasion saved valuable lives, but is not always attainable. For, if the river is in flood, or Friar Tuck not in residence, the wayfarer has no chance of a venison pasty or salmon steak for supper, with unlimited punch thereafter, and must trudge on by the Larig to Aviemore, or by Glen Lui Beg and Glen Lui to Braemar. It is true the pasty and the salmon steak are imaginary so far as the writer's experience goes; yet true it is and of verity that he has vivid recollections of a wonderful tomato and maccaroni soup served in the finest condition in this neighbourhood, with salmon from the Fraser River, beef roti, stewed prunes, and tea, coffee, and punch ad libitum. So profuse was the hospitality that in recrossing the river, wonderful to relate, he saw a double row of big steppingstones where only a single row existed before meridian. Yet he reached the eastern bank in safety: for Providence is said to be kind to bairns and people in genial condition.

Now—talking of salmon—seeing that Dee salmon, even the female (*Salmo salar*) come the length of Corrour in an interesting condition, it is right and proper that their seclusion should be respected, unless the operations of Nature are to be kindly assisted by that experienced accoucheur, the Inspector of the River Dee Fisheries. In his very interesting and useful operations, spawning is elevated to the position of one of the fine arts. A stream such as the Dee, the Geldie, or the Bynac is selected, where gravid fish resort. A pock-net is stretched across the

stream. Half-a-dozen men with a sweep net go some distance up the water, stretch it across to either bank, where by ropes two men lead the net downwards, four other men following behind with staves, who gently indicate to the salmonidae that they should "move on". They do so, of course, like law-abiding creatures obeying primeval law, and enter the pock-net. From its capacious pouch the head accoucheur carefully lifts a lady fish ready to spawn, and, by gentle stroking pressure of the hand along the sides and belly, out flow the ova in most satisfactory fashion into a suitable receptacle in position to receive them. Then Salmo salar of the masculine gender is selected and similarly treated; the milt and roe are brought into contact by gentle agitation of the water into which they have been placed-and there you are ! In due time the infant fry will emerge at the Drum Hatchery. The parent fish, after manipulation, are returned to the mountain stream safe and sound, and no doubt delighted with their unexpected experience. Curious people-you will meet with curious, inquisitive people-have asked-Are the sexes equal, or are there more females than males among salmon? Well, it is sometimes the one way, sometimes the other, in different seasons. Of 15 fish in a pocknet 12 have been found females-3 males only being found among them, in strict accordance with the connubial allowance of the Koran. But it may happen the other way. The arrangements of Nature in the fish world are mysterious; but be assured the purpose of Nature is accomplished.

We hope this digression will be pardoned and accepted by the critical reader. So, crossing the Dee on big stepping-stones by a hop, step, and jump, we gain the western bank, and pick our way as carefully as possible through the peaty bog lying between it and the Corrour Bothy, and affording an unlimited supply of fuel to the Hospice. There are several big and deep pools in this mossy bog, none of which we would care to fathom by our legs in the dark. One of these we are just now passing contains a plentiful growth of the beautiful Buck or Bogbean (*Menyanthes trifoliata*). The leaves, as the name indicates, are 3-foliolate; the flowers racemose, conspicuous, and white or blushing pink. It grows in marshes and spongy bogs, and is distributed over Europe (Arctic), Siberia, Dahuria, N.W. India, and N. America. It is bitter, and is reputed tonic and febrifuge; and is used to add bitterness to beer (void of arsenic); and the rootstock is said to be full of starch—and hence is eaten. We have never eaten it, as our capacity for starch is fully supplied from long kidney potatoes. Another pool nearer the Bothy contained a curious rush-like plant, with long ensiform leaves and globular flowers of a bright greenish lemon colour, floating on the surface of the water.

The corrie rising behind the Bothy is called Coire Odhar, and down it a stream named after the corrie, rising about 3032 feet on Cairn Toul, falls, entering the Dee at 1806 feet, after a run of about seven furlongs. This burn cuts deep into its channel about a hundred feet above the Bothy, and on the north bank, near a considerable waterfall, which is not shown on the Ordnance Maps, though it should be, a rare Hieracium (one of the Hawkweeds) is sparsely distributed. We have been informed that a celebrated English botanist, on the hunt for plants here, along with his lady, when he lighted upon this rarity, fell on his knees before the plant, shouting loudly to his companion to share his felicity. The forester who accompanied them told us that the botanist exulted on his find as much as, nay more than, many a sportsman on grassing his first stag, though that is a feat that makes the blood tingle. enquiring what appearance the Hawkweed bore, we were told it was like a horse-gowan! This Coire Odhar, or Corrour, is a famous resort of deer. In the ample bosom of the huge Corrour hollow, which rests at an elevation of about 200 to 300 feet above the river, there is abundant pasture. For ages the rich vegetable soil has been soaked with the dews of heaven, and the granite which forms the body of the mountain being near the surface, in July the place seems a paradise for frogs. Ascending Cairn Toul by this corrie on one occasion, we startled a small herd of deer which went leisurely off in the direction of the zig-zag

III. Q

footpath which lands you on the brow of the corrie, all except one stag, which to our surprise attempted, ostrichlike, to hide where he lay. Our party consisted of four, and we spread out to encompass him and ascertain the reason. The poor beast kept low, but upon the nearest of the party getting within a few yards of his lair, up he rose, and went off like De Wet, following the little troop which were by this time out of sight on the mountain above. There was evidently some ailment troubling him, if not a fit of laziness, or he counted on the peaceable and benevolent appearance of our party not to disturb him.

When you have reached the 2500 feet contour line on Coire Odhar, you can easily by a walk of about half-a-mile north-westwards reach the lip of Coire an t-Saighdeir. Over the lip of protruding granite the scenery becomes distinctly Arctic. You find yourself in a hollow inclining upwards in a north-westerly direction, containing small pools of water surrounded by stunted herbage and Alpine flowers thinly distributed, and looking as if a large Marsh snow-wreath had only recently disappeared. marigolds, violets, and Pinguicula of diminutive proportions occupy the damp ground. Looking narrowly among these, you perceive the minute bi-ternate root leaves and the drooping raceme of purplish flowers of the Alpine meadow rue (Thalictrum alpinum), which is common enough among the Cairngorms, but grows also over northern and Arctic Europe, N. and W. Asia to Himalaya, and in North America. On the drier slope leading into the corrie, and plenteously covered with stones and short heather, you notice large dark green masses of the beautiful Arctic plant Azalea procumbens-our only Azalea. The flowers are pink of various shades. It is widely distributed over Arctic and Alpine Europe, Asia, and America, especially among the Rocky Mountains. Fairly over the lip a slight descent lands you in what the late Dr. MacGillivray justly termed a magnificent excavation, altogether covered with blocks and stones. The corrie is semicircular in shape, with fissured crags and steep stony slopes. Its diameter is fully half-a-mile, and, while the

Allt Coire an t-Saighdeir gushes out from the breast of the mountain at 2800 feet, the encircling rocky wall of this corrie runs up from 3878 feet at the southern end of the bow to 4087 feet at its northern extremity. There are two small pools or wells of crystal clear water in the centre of the hollow, fed from the rills and springs on the sides. of the corrie; but, as the lip of the corrie rises mound-like some height above these pools, the water from them, forming the source of the Allt Coire an t-Saighdeir, has perforce to flow a considerable distance underground before it again bursts forth to the light at the 2800-feet level. Anxious to find the Dryas octopetala, we climbed along the southern side of the corrie, carefully searching the fissured crags. Again and again the white flowers of Cerastium latifolium, Stellaria cerastoides, Cochlearia Danica, and Arabis petræa in the distance promised success, and lured us on. But it was not to be. Splendid specimens of Saxifraga stellaris we found in plenty, and the yellow Globe flower Trollius europæus, Erigeron alpinus, Oyxria reniformis, Sedum Rhodiola, &c., &c., but not a solitary specimen of the Dryas, although we risked life and limb in searching for it. As afternoon wore on, the rolling mist-clouds curling over the edge of the encircling precipice came lower and lower. No sound but the sigh of the wind broke the silence. The spirit of desolation brooded over a lifeless shattered scene. Once only in Coire an t-Saighdeir have we seen a mammiferous quadruped, and it was a weasel-a bloodthirsty marauder, seemingly in fairly good condition, battening doubtless on snow-flecks and young ptarmigan.

Now why is this corrie called the Coire an t-Saighdeir (Saŏjjăér)—the corrie of the soldier, arrower, or hero? Diligent enquiry has been as unsuccessful in unearthing history or legend to explain the origin of the name as our search for the Mountain Avens. The Gaelic name alone remains to indicate that some courageous, gallant man did something famous here. But who he was, or what he did, is now hid from mortal ken as effectually as the blue bonnet-full of Cairngorms which Johnny Coutts too securely hid under a boulder.

And what is the meaning of the name of the mountain itself-Cairntoul or Cairn Toul? Our departed friend -honest, unsophisticated John Downie of Tomintoul, Braemar-had his theory, which in season and out of season he trotted out. John maintained that the final portion of the name (toul) was derived from the Gaelic soul (a barn); that the barn was the Saucer Corrie north of and above Coire an t-Saighdeir; and that it was called "soul" or "the soul" because it formed a store-house or barn for the snow which fell and lay plenteously there. But seeing that Coire an t-Saighdeir, its near neighbour, would contain in its capacious hollow a good many saucer corries stored with snow, the modern searcher after truth is inclined to doubt whether John had lighted upon the proper barn or store-house for snow. The Gaelic for the substantive barn is given as "sabhall" (sav-ull), "sobhal" (soval), and "sgiobal" (skébb-all), and although the first and second examples may sound by the letters representing the pronunciation something like "soul", surely the third will require a vigorous twist of tongue to accomplish it. However, as this Saucer Corrie, circular, and about 1100 feet in diameter, has the culminating ridge of the mountain for its western circumference, according to John it properly earned the distinguishing title of the Cairn of the Corrie of the Soul, in the lapse of ages, for the sake of brevity, shortened to Cairn Soul; and by corruption, which affects philology as well as plums of over-ripeness, Cairn Soul became Cairntoul or Cairn Toul. We admit corruption of language-alas! who can deny it? In Aberdeen there were recently owned and managed two fine steam vessels, one named the "Garrawalt", the other the "Glassalt". These were no doubt intended to convey to foreign nations knowledge of the fact that there are two fine romantic streams, with waterfalls, on Her Majesty's Highland property, in compliment to whom the steamers were so corruptly named. But, in place of "Garrawalt", the name of the one stream is, and always in Gaelic has been, Garbh Allt (rough burn), and the name of the other Glas Allt (grey burn). Fortunately for the preservation of the pure Erse names, one or both steamers (well insured, we hope) have disappeared.

We are not, and never have been, satisfied that a mountain so distinguished by form and altitude as Cairn Toul unquestionably is, should be called a barn ! Our whole nature revolts against such an insult. Perish the thought of so ignoble a derivation. In default of assistance in this matter of supreme importance from the degenerate natives who daily see the cone of this picturesque mountain pointing heavenwards from its mantle of snow, we unearthed from the dust of 250 years Gordon's Map of Aberdonia and Banfia to ascertain by what name this mountain is therein called, and we find it is not Cairn Soul, Cairntoul, or Cairn Toul. What do you think it Corintrack! May confusion dog the shade of the is? voluminous breeched Dutchman Blaeu, to whom was entrusted the important work of engraving that map! No wonder that more in sorrow than in anger an able editor of the Spalding Club wrote in regard to Blaeu's work-" It is to be regretted that the Dutch engraver has disfigured the names and references". Our wellknown land-marker, Beinn Bhrotain, he makes Bini Vroden; but mercifully, notwithstanding their Dutch disguises, Bini Bourd, Carn-gorm, and Bin Avin are still recognisable as mountains in the territories of our But, after all, we prefer Corintrack to Cairn-Club. There cannot be a doubt that the Dutchman's toul. Corin stands for the Gaelic Cairn; but what of "track"? It cannot be "trek"! There's the rub. In our difficulty we resorted to that fountain of pure and simple Erse, Joyce's "Irish Local Names", where, at page 25, we found this : --- "Carrantuchill, the highest mountain in Ireland. It descends on the Killarney side by a curved edge, which the spectator catches in profile, all jagged and serrated with great masses of rock projecting like teeth. Tuathail [thoohil] means left-handed, and is applied to anything reversed from its proper direction; carran is a reaping-hook; and carrantuchill is 'the reversed reapinghook', because the teeth are on the convex instead of the

concave edge". Now we give that quotation for what it is worth, and we ask the unprejudiced and intelligent mountaineer, when next he visits the Ordnance Survey Cairn on Ben Muich Dhui, or traverses the Larig, to look towards the summit of the mountain in question, and see whether the features which gave to the highest mountain in Ireland the name Carrantuchill are not at once apparent in the form of the grand Sgor an Lochain Uaine or the Cairn itself. After writing the above we referred to the "Place Names of West Aberdeenshire" of the New Spalding Club, where we find our deceased friend. Mr. James Macdonald, at page 87, quotes (1) Carn an t-sabhail (toul) "barn cairn", and (2) Carn tuathal "north cairn" as explanations not quite satisfactory; and adds (3) Carrantuchill, Ireland, as having been mentioned as probably a parallel name. "This", he says, "is plausible, but as to whether it is the true meaning of Cairntoul or not, I do not venture an opinion".

Having attained the summit of Cairn Toul, and enjoyed the extensive and magnificent views therefrom, the business is to get down again; and, as the subject of this paper is Cairn Toul and its corries, we must of necessity get down a corrie somehow. We therefore select An Garbh-choire, the grandest corrie of all, with its beautiful Lochan Uaine (little green-coloured loch) in its bosom, for our descent. Carefully climbing from our perch, 4240 feet above sealevel, northwards across the lip of the Saucer Corrie, we reach a steep slope of disintegrated granite in An Garbhchoire of the mountain. Our first descent of this corrie was made 22 years ago, and, as the process of denudation during that period of the life of a mountain is not appreciable, we may repeat the description we then gave of our climb down :---

"The descent from the cairn to the lochan in the bosom of the corrie is about 1200 feet, and the walls of the corrie are exceedingly steep, with much of the disintegrated granite as difficult to walk among as scoriæ. Tom and I had to spread out and climb parallel to each other, as the stones set loose by our progress often went thundering

250

down before us, and would have been dangerous to one climbing below another. On our way down we picked up such Alpine plants as came in our way, among which were Veronica alpina (in fruit), Arabis petræa, Thalictrum alpinum, Silenes acaulis. Cerastium latifolium, Stellaria cerastoides, Cochlearia officinalis, Trollius europœus, Sedum Rhodiola, Epilobium alpinum, Sibbaldia procumbens (in fruit), Oxyria reniformis, Saxifraga stellaris, aizoides, and rivularis, Salix herbacea, Azalea procumbens, &c., &c. We made for the north edge of the corrie, so as to descend to Glen Garbh-choire, but found ourselves on a high precipitous ridge, with water pouring over deep shelving rocks; and, after climbing down several hundred feet, we could get no farther, and had to climb back again and seek another outlet. This was ultimately found, and we got to the glen below, not without difficulty and danger, the descent being about another 1200 feet, and exceedingly steep".

The late Professor MacGillivray and his son, in August, 1850, accompanying the Messrs. Backhouse on a botanical expedition, descended from Lochan Uaine into Glen Garbh-choire by this same precipitous rocky bank, "with great difficulty and some danger", and in doing so were so fortunate as to find the rare Alpine plants Salix Myrsinites and Saussurea alpina. They ascended by the steep slope of Cairn Toul at the mouth of Glen Garbh-choire, and in doing so the young MacGillivray lighted upon a single tuft of the Dryas octopetala, which he appropriated. There is no record, so far as we know, of the plant being found again there during the past 50 years, although the late Dr. Roy states that it is found here and there on all the Cairngorms at an elevation of 2400 to 2800 feet. On the expedition referred to, the party started at 5 a.m. from Castletown of Braemar on 14th August, 1850, and returned there at 3 a.m. the following morning! There were giants in those days.

An Garbh-choire continues its lofty, precipitous wall about a mile west of the Sgor an Lochain Uaine, otherwise the Angel's Peak, at heights ranging from 3730 feet to

4137 feet above sea-level. We never have had an opportunity to investigate the botanical capacity of this range, and, so far as we know, it has not been minutely explored. From the edges of the precipices on either side of Glen Garbh-choire we have looked down into its recesses, and have been, like others, impressed with its grim grandeur, and have speculated on the operations which produced the state of matters which now we see.* We hold to the rivers of frozen water, and believe that King Frost, the king of quarriers, is and has been the grand scooper-out and disintegrator of the Cairngorm corries.

* See Dr. Jamieson's article in this No.-ED., C.C.J.

EXCURSIONS AND NOTES.

Ben Nevis.

THE Club has at last added the monarch of British mountains to its official list of ascents. The climb, which was a record one for numbers, was made on Saturday, 21st July, and is thus described by Messrs. Christie and J. G. Kyd :--

A leisurely breakfast found us ready to start from the hotel at 10 a.m., and we spent an easy and profitable 21 hours in reaching the top. This comparatively long time was occupied, principally on the advice of the writer (who had been there before), in taking advantage of every "coign of 'vantage" on the way to have a look through the glass at the clearly defined horizon, in case the summit might be crowned with its usual cloud-cap. The climb otherwise was devoid of interest, and after an hour or two spent on the almost level top, we descended in nearly as leisurely a manner, thoroughly enjoying the views and the fine day. Fort William was reached again about 7.30 p.m. The view from the top was clear from about S.S.W. to E.N.E., and a magnificent panorama it was, particularly towards the west, where a very fine view of the peaks on the distant islands was obtained. A sail up Loch Eil in the evening, after dinner, to get another view of the Ben, completed a very enjoyable day. We were exceptionally lucky in obtaining such a clear view, as the top was clouded above the 3000 feet line all day on Sunday and, as long as we had it in sight, on Monday.-C. T. CHRISTIE.

I journeyed by Inverness, intending to meet the Club party at Fort William Station on the evening of Friday. I arrived at Fort William at an early hour, so I spent rather a dreary day in that dreary little town. However, train time came at last. I studied carefully the face of every passenger, but, to my dismay, not one of my companions arrived. I offered a boy in the town a modest fee if he would take me up to the top of the "Ben" in the dark, but he would not rise to the bait, as he was busy fishing. At last I made up my mind to sleep at Fort William and ascend in the morning, with or without Club society. I therefore started at 8.30 a.m. on Saturday. Walking at a fair pace, I reached the top about twelve, keeping the Observatory path, but failing to discover the toll-man. The summit is about as bleak a place as could be imagined. 'The view was fair, but hazy towards the west. Leaving the summit, I got back to my starting place, rather disappointed with the ease of the ascent. Learning afterwards that those who should have been my companions had ascended on the same day, I was more puzzled at missing them than at escaping attentions at the receipt of custom. -J. G. Kyp.

Foudland and Dunnideer. THE autumn excursion of the Club (24th September) was to Foudland, Dunnideer being also ascended. Dunnideer was taken first. Here Mr. William Porter, the Chairman of the Club, read an interesting paper, in which was succinctly gathered up practically

all that is known-or, rather, all that is averred-about the hill and the ruins on the top of it. Resuming their carriages, the party drove to Skirts of Foudland, and crossed the hill almost due south and north, descending on the Glen of Foudland at Bainshole. The day was fairly good, with a sharp autumnal air, and tolerably clear light; and an excellent view was obtained from the top of Foudland. The features of the view are described elsewhere. Now and again, portions of the landscape were obscured in cloud, but the rain showers quickly passed; in one of these brief showers the party were caught as they were leaving the top, but the disturbance was only trifling. The return drive to Insch by Kirktown of Culsalmond, Colpy, and Williamston was made in bright and exhilarating sunshine. The party dined comfortably in the Station Hotel, Mr. Porter presiding, and Provost Dawson, of Insch, being the Club's guest; and there being a comfortable allowance of time-all day through, in fact-a half-hour was devoted to a saunter through the pleasant little village of Insch before the train left for Aberdeen, which was reachedmirabile dictu !--- before 8 p.m.--R.A.

THE O.S. MAPS AND THE CAIRNGORMS. MR. C. G. CASH thus writes to the Editor of the C.C.J.:—"You will perhaps allow me a little space in which to reply to four points in Colonel Sir John Farquharson's paper in your July issue. Of course, the Colonel and I are in the main in

sympathy, but we are not in exact agreement on some points. First, as to the scale of the one-inch map. I wrote purely as a mountaineer. 'The O.S. and the Cairngorms' was my theme, and no cycles go to the mountains-though I have ridden Glen Eunach, and found it not so bad as I feared. The one-inch scale may be too large for a cyclist who covers many miles of road per day, but it is too small for a man who wishes to study somewhat minutely the topography of a mountain. So much has this been felt, that the Scottish Mountaineering Club issued in January, 1898, a revised O.S. (2) In map of the Coolins on the scale of 4 inches to the mile. the Colonel's list of maps I am surprised to find no mention of the new issue of the one-inch map of Scotland, with details and contours in black, and hachures in brown. This will be the hill-man's map par excellence until the larger scale is improved. (3) May I protest against the Colonel's use of 'England' and 'Great Britain' as terms inclusive of Ireland. This error is annoyingly frequent, but I did not expect to find an ex-Director-General of the O.S. making it. You, Mr. Editor, should not have passed it. (4) As to the British Association. The Committee of Section E. of the B.A. in 1891 recommended that the six-inch maps should be hachured, and its experts would scarcely recommend what is impossible. The Colonel's

Excursions and Notes.

difficulties seem to me to be purely imaginary. Surely a scale of graduated thickness could be arranged for the hachures; and they would not interfere with the legibility of the details of the map if they were printed in brown as on the new issue of the one-inch map. Finally, may I draw attention to two articles I wrote for the Scotsman of September 18 and 25, 1900? In them I urged a reform of what seems to me and many others the most serious defect of our O.S. service—that is, the short time its officers are connected with it. The responsible officers should hold their offices permanently, and with their responsibility should go some power of initiating".

THE SURVEY.

THE Scotsman of September 18 and 25 last contained two interesting articles on the Ordnance Survey, over ORDNANCE the initials "C. G. C.", which will be familiar to readers of this Journal as those of one of our own contributors. The earlier article dealt professedly with

the recent Blue-Book Report of the Ordnance Survey, and also ably criticised some of the weaker features in the arrangements of the Survey Department. The later article gave a concise but fairly complete outline of the history of the Survey, and a necessarily short account of its methods. We extract a few passages of special interest. Speaking of the latest form of the one-inch maps of Scotland, the writer says :---

"In Scotland the hill features were engraved in hachures on the same plate as the outline, and there is also a separate outline plate showing elevation by contour-lines. It is only on these outline plates that the recent revision has been carried out. To carry it out on the hill plates in addition would not only have doubled the cost of engraving the revision, but would have entailed damaging and repairing the hill features on the plates. On the other hand, if these hill maps were to be published unrevised, they would gradually go out of use, the original cost of drawing and engraving the hills would be thrown away, and there would probably be complaints from the public. The hachured hill plates give such an exquisite and graphic representation of the surface features of the ground that it is quite out of the question to withdraw them. An endeavour has been made to get over this difficulty. Transfers from the hill plates have been taken, and have been laid down on zinc after removing all the detail except the hills; and transfers have also been taken from the revised outline plates and laid down on other zinc plates; and from these two sets of zinc plates a map containing both the hill features and the results of revision has been obtained by double printing, the outline being in black and the hill shading in brown. The printing of the hills in brown, while showing the features of the country in detail, enables the names and outline of the map to be clearly read. The map combines the beautiful orographical effect of the hachures with the precise mathematical information of the contour lines, and is thus a great improvement on the previous editions, in which these forms of information were separated. The cost of preparing revised hill sheets in this manner is very moderate, and the sheets are being sold, printed on somewhat thinner paper, at a slightly lower price than was previously charged, viz., 1s. 6d., instead of 1s. 9d. No doubt this is the form in which Ordnance Survey maps will most commend themselves to the public, as at once the most useful and the most beautiful. Sheets are now issued in this form for nearly all Scotland north of the latitude of Forfar, except the Outer Hebrides".

In regard to the troublesome and difficult question of place-names, we read: ---

"In the course of the revision of the larger scale maps of Wales, arrangements have been made for a revision of the place-names as written on the maps during the original survey. This revision has been carried out by Welsh-speaking revisers, who submit the names as ascertained to the best local authority who is willing to assist by examining the names. The names, with the remarks of the local authorities, are then examined by Welsh scholars, who have undertaken to examine the Welsh names in their respective counties. The names of these gentlemen are printed in the report. In Scotland the Gaelic names are also being examined during the revision of the Highland districts. The names are first locally inquired into by a Gaelicspeaking employee of the Survey, who submits them to the best local authority he can find, and all those which are doubtful are submitted to the Place-Names Committee of the Royal Scottish Geographical Society, which, says the report, continues to render valuable assistance to the Survey in this matter. While the Gaelic-speaking member of the Survey is known to be very competent and zealous, it should be noted that the report does not name a band of Gaelic-speaking scholars comparable to the Welsh ones. The Place-Names Committee of the R.S.G.S. exercise some of the functions of such a body, but they are not all, it is to be feared, Gaelic scholars or even Gaelic speakers, and they revise only a few of the names. We should like to know that the Survey is assisted in this matter by such men as the Edinburgh University Professor of Celtic, who possesses and has displayed such trained fitness for the work. It should be further noted that the report mentions only Gaelic names in Scotland. Nothing is said of Norse names, though these constitute a serious difficulty ".

One serious defect of the six-inch maps of the Cairngorm District is thus pointed out :--

"It is not to be supposed that the work of the Survey is faultless. Indeed, the Survey itself welcomes and asks for helpful criticism, but it is to be feared gets far too little of it. Any error or omission in any of its maps should be pointed out by letter to the Director-General at the Southampton office, and much help might be rendered by people examining in detail maps of places they are intimately familiar with. We shall confine ourselves here the rendered by results of the state of the stat ourselves here to pointing out one defect on the six-inch map, a defect frequently complained of, and that is the wholly inadequate mapping of the higher ground. Up to a height of 1000 feet above sea-level the maps are admirably contoured; but above this all the more recently surveyed parts are without contours. This is very unsatisfactory to all who have occasion to use the maps, and Sir A. Geikie, whose general praise of the maps has been quoted, complained that his geological surveyors had the greatest difficulty in carrying on their work at altitudes above 1000 feet in the absence of contours on the six-inch maps; and a distinguished traveller said that, whether from the point of view of the geographer or of the mountaineer, it is 'barbarous' to stop contours half way up a hill. The 1892 committee, already referred to, had this matter under consideration, and recommended that above the 1000 feet level contours should be interpolated at 250 feet intervals by water level, urging that the work should be carried out at as early a date as possible; for, said the committee, 'it affects a comparatively small area of country, in which the map has not been completed in this particular as in other districts; it has been already done in part for Scotland; it is a feature required by the Geological Survey; and is of the greatest service for ascertaining the watersheds for high-level water supplies '—a matter of rapidly increasing importance—' and occasionally for mining purposes; while at the same time it is a matter of general interest for the whole community'. The total cost of doing this work for Scotland the committee estimated at £5000. As far as we are aware, there is no reason for the continuance of this particular defect in the maps, beyond the

expense and the present over-weighted condition of the Survey. If public attention can be directed to the matter, sufficient pressure may be brought to bear on the proper authorities to secure that it shall be attended to, and that another step shall be taken towards the perfecting of the work of the Ordnance Survey in Scotland".

The organisation of the Survey is thus criticised : ---

"The Ordnance Survey, like so much of our public service, has suffered through lack of a dictator. It has been sat on by various Commissions, Royal and Parliamentary, and inquired into by committees, appointed by various departments, and it has had a series of Directors-General, no one of whom has had a free hand to do what he thought necessary. Hence it has come about that only quite recently has the Survey produced complete sets of maps on a uniform method, and that even yet these maps are far from satisfying those who have a critical sense of what modern cartography is capable of. And yet we must repeat that the excellence of the work of the Survey has often been matter of praise. But it is desirable and necessary that there should be more permanence about the responsible staff, and that the head of this staff should remain continuously in office. He should be an expert in surveying and cartography, and along with his responsibility should go some power of initiative. During the last ten years every responsibile office of the Survey has been in the hands of at least three successive officers, and, though there can be no question of the efficiency and zeal of these officers, there can also be no question that, as the work itself is of a continuous nature, its performance can in no way be improved by such frequent changes in the men performing it. By way of contrast we may note that in the sister survey, the Geological, the same men are found holding the same offices for many years in succession. They are indeed permanent officials, and so useful and necessary is this arrangement found to be, that it has been asked whether the rule of retiral by age limit should not be set aside in certain cases so as to avoid the breach of continuity in the work that is more or less inevitable with a change of officer. We fail to understand why the arrangement that obtains in the Geological Survey should not apply also to the Ordnance Survey".

Lastly, the general attitude of the public towards the maps of the Survey is thus described : ---

"There remains yet one other matter that should be remarked on, and that is the comparative ignorance of the general public with regard to the Ordnance Survey and its maps. Scotland is visited annually by thousands of tourists and holiday makers, but we have so far failed to find more than a very small number of them using the Survey map, and our own copy usually provokes inquiry as to what map it is, and whether and where copies can be obtained. Bartholomew and Johnston produce reductions of the Survey maps, with modifications of their own; these are good maps, and, being largely advertised, and constantly brought under the notice of travellers, are purchased and used. Indeed, we have found that otherwise well-informed people call them 'Ordnance' maps, and are surprised when the real state of matters is made known to them. Something should be done more than has been hitherto attempted to make the Ordnance Survey maps known. They should be advertised, and should be more easily procurable. Schools Boards should see that every school possesses and displays the Survey maps on various scales of the district in which the school is situated. Every post-office might well display a one-inch and a six-inch Survey map of the surrounding neighbourhood. In these and such-like ways knowledge of the maps would be spread, and interest in the work awakened''.

It is much to be hoped that the publication of these and such-like articles may have the effect of drawing the attention of the public and the authorities to the excellencies and defects of the Ordnance Survey, and so bring about those reforms that are needed to make its work thoroughly efficient and satisfactory.

A RAID ON AN EVRIE. The bird measures 7 feet 2 inches from tip to tip of the wings when expanded, and 3 feet 2 inches from beak to

tail. It had built its eyrie in a small cave on the face of a high cliff, and a keeper, having noted the spot, watched until the return of the female bird one evening, and having fastened a rope round his waist and secured it round the stump of a tree, descended as soon as darkness had set in to the nest, situated many feet below. He was immediately attacked by the eagle, but after a short struggle succeeded in breaking its wing with a cudgel. He then waited until daylight, when he destroyed the bird, and took the only eaglet from the nest, and re-ascended the face of the cliff.—*Daily Free Press*, 25th July, 1900.

AN AGED MOUNTAINEER.

DONALD FORBES, better known as "Killiechassie", who is in the 80th year of his age, created some diversion in Fort William on Saturday, 18th August last, by signifying his intention of climbing Ben

Nevis. This he subsequently did, occupying a little over three hours in the ascent, and a like period in the return journey. On reaching the summit, he danced the Highland Fling on the Observatory roof, after which he returned to Fort William looking by no means exhausted. So far as is known, Donald is the oldest person who has tackled Ben Nevis.

THE following new members have been admitted: NEW MEMBERS. —Messrs. Alexander Simpson, Robert William Mackie, John D. Bell, J. Mathieson, Alexander Emslie Smith, Jun., John Beaton, and James Fraser.

REVIEWS.

"THE EARLY MOUNTAINEERS". LAST year, Mr. Francis Gribble published an entertaining volume under this title—a collection of the earliest accounts of mountain ascents extant. Some of these accounts are very amusing

Peter III. of Arragon, who flourished in the in their naivete. thirteenth century, decided to make an ascent of Pic Canigou, in the Pyrenees, in order to "ascertain what there was on the top of it". He had to finish the ascent by himself, his companions being too tired and too frightened to go to the top; "and when he was on the top of the mountain he found a lake there, and when he threw a stone into the lake, a horrible dragon of enormous size came out of it, and began to fly about in the air, and to darken the air with its breath". There are other stories of dragons on the mountaintops, and due mention is made of the well-known legend about Mount Pilatus-that, if anyone threw a stone into the lake near the summit. Pilate (whose body lay in the lake) would avenge himself by stirring up a tempest. One of the earliest climbers of Pilatus sagely records that "the climbing of mountains takes one's breath away, though it may be rendered less unpleasant by agreeable conversation". And "the first of the early mountaineers who is something more than a name", Professor Conrad Gesner, made the following notable declaration in 1543-"I have resolved for the future, so long as God suffers me to live, to climb mountains, or at all events to climb one mountain every year, at the season when vegetation is at its best. partly for the sake of studying botany, and partly for the delight of the mind and the proper exercise of the body. For what, think you, is the pleasure, what the joy of a mind, affected as it should be, to marvel at the spectacle of the mighty masses of the mountains, and lift up one's head, as it were, among the clouds. The mind is strangely excited by the amazing altitude, and carried away to the contemplation of the great Architect of the Universe. . . . Cultivators of philosophy will proceed to contemplate the great spectacles of this earthly paradise; and by no means the least of these are the steep and broken mountain-tops, the unscaleable precipices, the vast slopes stretching towards the sky, the dark and shady forests".

THE SPEY AND THE FESHIE. Ar a meeting of the Inverness Field Club on 10th April, Mr. Lionel W. Hinxman, of the Scottish Geological Survey, read a paper on "The River Spey"; and one part of this paper in particular—the whole of it, indeed, for that matter—is of interest to members of the Club

nore or less familiar with "the run o' Spey". The middle portion of the course of the river, according to Mr. Hinxman, consists largely of ancient lake basins. One of these extends from Kingussie to the foot of Loch Insh, this loch, however, representing but a small

remnant of the ancient lake, whose waters covered an area seven miles in length and nearly a mile in breadth. The barrier to this basin was formed by the Feshie, which flows into the Spey almost at right angles, and carries an extraordinary load of rock-waste, which is spread out in a large alluvial fan between Feshie Bridge and the foot of Loch Insh. The effect of this, at the present day, is to convert large areas of otherwise good land into useless swamp. Mr. Hinxman suggested that if the Feshie were made to enter the Spey by a more oblique channel half-a-mile further down, and if the channel of the Spey were deepened below the island of Kincraig, the upper part of Loch Insh would be drained, and the marshy meadows above, that are now flooded for half the year, would be converted into fertile arable land. The upper course of the Feshie, Mr. Hinxman added, presents an excellent example of the shifting of a watershed, and the capture of the head waters of a stream belonging to another river-system. It is evident that the river Eidart, which joins the Feshie a mile below the bend, where it touches the boundary between the counties of Aberdeen and Inverness, was once the head stream of that river, but that the Feshie has gradually cut back its bed to the county march, and captured the upper part of the Geldie. Thus the former head waters of the Geldie are now those of the Feshie, and the watershed between the basins of the Spey and the Dee has been shifted more than six miles to the eastward.

THE GAICK

MENTION of this catastrophe was made in last number (page 192), in connection with the publication of a CATASTROPHE. pamphlet by Mr. Alexander Macpherson, Kingussie.

A curious version of the catastrophe is given in a work just published-" Superstitions of the Highlands and Islands of Scotland", collected entirely from oral sources by Rev. John Gregorson Campbell, Tiree. The catastrophe, in fact, according to this version, is assigned to the direct agency of the devil, who made his appearance to "The Black Officer of Ballychroan" (Captain Macpherson) some time before. "Late at night strange noises were heard about the house, and the roof was like to be knocked in about the ears of the inmates. First came an unearthly slashing sound, and then a noise as if the roof were being violently struck with a fishing-rod. The dogs cowered in terror about the men's feet. The captain rose and went out, and one of his attendants overheard him speaking to something, or someone, that answered with the voice of a he-goat". The diabolical agency continued at work even after the occurrence of the catastrophe, which was caused by an avalanche, or whirlwind, "or some unusual and destructive agency". "When the melancholy procession with the dead bodies was on the way from the forest, even the elements were not at peace, but indicated the agency that had been at work. The day became exceedingly boisterous with wind and rain, so much so when the Black Officer's body was foremost, that the party was unable to move on, and the order had to be changed ". The reason for associating Captain Macpherson with the Evil One will be found in Mr. Macpherson's pamphlet.

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