

I.

DESCRIPTIVE LIST OF ANTIQUITIES NEAR LOCH ETIVE, ARGYLLSHIRE,
CONSISTING OF VITRIFIED FORTS, CAIRNS, CIRCLES, CRANNOGS,
Etc.; WITH SOME REMARKS ON THE GROWTH OF PEAT. BY R.
ANGUS SMITH, ESQ., PH.D., F.R.S., ETC. (PLATES VII.-XII.) PART I.

When seeking rest at Oban in 1867, I was advised to visit the vitrified fort Dun mhic Uisneachan,¹ let us say, Dun MacUisneachan; it is frequently called there, Beregonium.

As a chemist I felt curious concerning such forts, but had seen only the little one in Bute. I soon came to the conclusion that Dunmacsniochan, as the people call it more usually, had been a very important

¹ The use of this exact grammatical *mhic* does not seem agreeable to the habits of the people in this case. May the name not be used without offence as Macuisneachan, a common way of using *Mac*?

place. It was easy to conclude that it had been a fort or defence against men, and not against the elements or wild animals only, and, if so, there must have been a population either near to it or able easily to approach it. The place was wild, but from it there was a view remarkably beautiful on a clear day—really one of the very finest views in Scotland. There seemed a fine taste in the choice of place, but the cultivation was slight. Where was the food for a large population? The remains of an old St Columba church stood in a cemetery near, and at the side of it, in a cave, Mr John Campbell, who lives close to it, found an old urn called of the Celtic type, but very rude. Pagans as well as Christians had certainly dwelt around the place in old times. Surely something must be left behind. So I determined to seek an opportunity of remaining in the neighbourhood. This did not occur until last year (1869).

I knew nothing of Scottish antiquities, and had never even seen a cairn. I cannot, therefore, give you any important views on any point. I have seen museums here, and in France, Germany, Switzerland, Denmark, and Sweden, but have learnt that neither books nor museums sharpen the eye so much as actual inquiry on the ground to be examined.

On consideration there were reasons for expecting remains other than those appearing at the fort. The district had been viewed as important, Dunstaffnage was opposite, about two miles across the water; that had been held up as the chief cradle of the Scottish monarchy, and until Mr Skene showed otherwise, the place of deposit of the coronation stone. I did not know until lately that the vitrified fort had been fancied as a palace of Fergus, and by others as the seat of Fingal. The traditions, the histories, and the fancies would be most interesting to examine, even if nothing remained true, but I purpose here to give only a short catalogue of the things distinctly visible which seemed to me connected with the ancient population, not even attempting a detailed description, but under the impression that I am doing some small service by making a list, if I do nothing more.

The greater part of the places to be spoken of are mentioned already in several works, but I do not know of any account which shows intimate knowledge of the district.

Whilst I may be found to say a good deal of that which may be seen elsewhere, I imagine that in most, if not in all, cases I am able to make an addition of some small circumstance, rumour, or notion, which may hereafter be of use. Even if this were not the case, a mere juxtaposition of the whole will be of value, as Dr Stuart pointed out to me. To do this is small enough work, but it satisfied the curiosity of a holiday, and it may be useful to others. At another time I may be able to increase it.

The district in which Dun Macuisneachan stands is between two lochs—Creran and Etive. It is almost inaccessible except by water, and no doubt was once quite so, except to the best Highland feet. It was therefore a safe point of settlement for any one coming from the sea,—safer than Dunstaffnage, although not so convenient for attacks inland. The range of vision is great, extending seaward to Colonsay, and embracing capes and islands between, giving an aspect, as it were, of a bay, narrow, but forty miles in length.

The Dun is an isolated rock (see Plate VII.), one end rugged and washed by the sea; the other, inland, is lower; of clay slate and conglomerate. The highest point is 150 feet above the sea. It is divided into two very distinct parts, that next the sea being largest and highest. There is a depression between, and in the depression a small elevation. The vitrified walls surround both divisions; the largest shows a covered wall with the end exposed about 6 feet high and 4 feet broad. I did not measure it; it was difficult to do so, as the grass has overgrown nearly all, and it is at almost all points in appearance a mere elongated mound, the end sharply cut down. The exposed part looks, however, more like a portion of a regular wall than those I have since seen elsewhere, and it seems surprising that its object could be doubted by any one.

The vitrification has penetrated to the centre, yet I did not see in any parts pieces of charcoal, although there were marks on one place which resembled the impression made by burnt wood. It was easy to trace the wall, although covered with grass, and but little raised above the rest of the turf. Everywhere, when the turf was removed, the vitrified masses appeared. A large quantity had fallen down the precipitous sides, and from that portion specimens were generally taken by tourists. It has been supposed that the fusion of the stones of the vitrified forts was too

difficult to believe possible. This is not so, and many of them are very easily melted. Basalt is rather a mixed rock, but it generally contains a very decided amount of soda and potash—five to six per cent., besides lime and iron, making above twenty per cent. of bases, which melt with silica, or form a kind of glass.

This part is reasoned out beautifully by Mr Keddie, in his paper to the Philosophical Society of Glasgow. I do not know if I can add anything whatever useful.

I had some pieces from Dunagoil, in Bute, and examined the melted and unmelted portion to see if there was a difference in the amount of alkali. It seemed to me that, no matter what the rock was, enough of the surface would be melted by the alkali of the wood ashes to cause cohesion, and that where much of the ash happened to fall, a considerable amount of the silica would melt. And this really occurs, as sandstone itself is seen imbedded in the wall at Dun Mac Uisneachan, bent, beginning to yield; and this would not be caused by heat solely.

I am not pleased with the analyses made in my laboratory, although some weeks were spent on them. Still I give the average result. It would require much labour to finish the subject.

	Oxide of Iron.	Lime.	Magnesia.	Potash.	Soda.
Superficial and } Fused Part, }	15.55	5.45	2.85	2.03	2.2.

Altogether, 28 per cent. of base.

Across the enclosure are lines on the grass not easily seen in all states of the sky, but certainly in existence, indicating walls covered over with turf. It seems as if an inner enclosure had been formed, perhaps apartments for dwellings. No one has made any examination of this, and I thought it well not to do so without permission (now obtained).

That an inner series of buildings should be expected, is natural, and especially after reading the careful work of Mr Williams, and the latest, and by far the clearest, account of vitrified forts by Dr Stuart. We incline to ask if these buildings were of perishable material? On the smaller part of the fort there is a large number of loose stones. They are not at all likely to have been there naturally, but were almost certainly taken up to the hill, and they are probably the remains of dwell-

ings. Greater quantities may exist under the turf of the larger hill, as the grass is abundant, and the soil probably so also.

To illustrate the probability of this. On the vitrified fort at Knockfarrel there is decidedly a quadrangle with a double wall. It is not large, but it may be one of many once existing. I do not see clearly from his writings that Mr Williams examined it, although of all early writers on these forts he was the one with the greatest common sense.

On the outside of the southern wall at Dun-Mac Uisneachan, and in a rock at a precipitous spot, is a well—at least it is an opening called a well. It is a hole in which there is usually water. From its shape we might suppose it to be artificial, but no marks of tools were observed. The back part of the well is about six or seven feet above the water—the front less than two. It is full of loose stones. The fact of water being there in dry weather points to a spring, very unlikely on such a rock. But this ought to be examined. An old inhabitant of the neighbourhood, Duncan Stewart, says he remembers when the hole was deepened. He adds also that his father told him that, when a boy, he used to throw down stones, and wonder at the length of time they took to fall. This indicates a considerable depth, and would be very strange. It shows, however, a want of water above, whereas now the water is at the top; but its origin is not ascertained. It may be simple enough, and only collected from the ground above the well. (I have since found the well to be only $5\frac{1}{2}$ feet deep, and to be supplied through a crack in the rock by the fort drainage, yet the delusion as to its depth has lasted a century).

That wells existed in these forts is known, and they ought in all cases to be looked for. At Noath there is one—the depth I do not find. Some of the stones had been taken out lately; but as sheep fell into it the shepherds filled it up, and this year when I saw it it was again full of large stones. We could not wonder at the presence of water there, as the surface of the Noath fort itself would collect a good deal, and the well was about the centre. At Knockfarrel there is a deep depression beside the four-sided one; it may turn out to have been a well.

Mr Williams mentions a lesser enclosure by the side of the greater in some of these forts. This of Benderloch¹ has the two very clearly divided,

¹ Benderloch is the district between Creran and Etive, and is a Gaelic contraction meaning "between the lochs."

but, singularly, there are the remains of a stone boulder circle within the smaller. There are, besides, many more of the loose stones in this smaller division, such as we may suppose to have formed dwellings. I was told that many had been removed to build houses below. Between the two parts of the hill there is a projecting rock not very prominent; it has a great mass of vitrified matter on its summit. This projection is rather more noticeable from below, although the vitrified character cannot be seen at a distance. There is no appearance of an enclosure in this part, and it gives one the idea of a tower, the chief value of which was its elevation, and, connected with this, suggesting the use of this part for a beacon.

The idea that all vitrified forts were beacons has arisen in some minds, probably when they saw only such small specimens at those at the greater Cumbrae, or at Dunagoil, in Bute. The existence of forts does not oppose the existence of vitrification by beacons, and we may consider such a result almost necessary when the nature of the ground allowed—for example, amongst loose and fusible stones; but such vitrification could exist only to a small extent, since the fuel would be placed uppermost, and the stones not exposed to the greatest heat of the fire.

Nobody seems to have examined Dun Macuisneachan carefully, and no utensils have been found except, I believe, a quern.

In the depression between the two divisions of the rock, and at the south side, the most convenient entrance exists. We see distinctly the remains on the turf of a zig-zag road; five of the angles may be observed. If this place is ever examined, great care must be taken not to destroy its present appearance. This road is called Queen Street, or Sraid a Bhan Righ. It would be interesting to learn the age of the name. It is, probably, a modern caricature; nicknames and fancy names abound there.

The raised beach along the shore to the south is natural; but it is said to have had a different appearance formerly, having had artificial work upon it. The field along the fort and shore was covered with peat. This was removed. Duncan Stewart, who was ploughing on the spot afterwards, was interrupted by great stones, which he thinks must have been 12 feet long. One of these he broke up. The others, which did not so much interfere with the plough, were allowed to lie. He thinks they are about 60 feet to the south of the standing-stone in the middle of the

field. Still the memory may not be exact, as he says he remembers three standing-stones. Pennant says there were two, and he would probably be correct on that point, although his observations on this place are, on the whole, very absurd. This field, as well as the circle and enclosures above, will probably give something new to inquirers, if any portion will.

The standing-stone gives one an idea of great age. It is a piece of conglomerate, with the connecting aluminous metamorphic rock a good deal washed out, whilst the hard old pebbles that it had embedded remain. There are no artificial markings but one, and that is a hole little more than an inch deep, as if made not very long ago. Its edges have none of the appearance of being weather-worn like the rest of the pillar. The reason of the stone looking so worn may be that it has been under peat. The acid of the peat may have attacked the fusible portion. It has a destructive power on mineral bases, as well as a preserving power for some organic substances. Stones here in their natural position—that is, projections of rocks—do not show this excessively worn condition so much. We know well how much peat acid clears off the iron from clays and from stones. Still no consequent whiteness was seen here.

In examining such places, we feel quite satisfied with the authenticity of some names, but we hesitate at others. No man will probably doubt the name Dun Mac Uisneachan, or Dun Mac Sniocan, being genuine tradition. Celtic scholars have heard of the sons of Usnoth, we are told that their names are connected with several places around. Neither do we doubt the name of the prominent rock which stands near, and forms the extremity of the hill of Ledaig, threatening to fall on the post-office and the old burial place. It is called Dun Valanree (see Plate VII.), to write it phonetically, or Dan Bhaile an righ, the fort of the king's town; at the foot of this the urn was found (see Plate X.) This points to the time when a chief lived at the fort. A well is found on this hill also; it has been imagined to communicate with that on Dun Mac Uisneachan, but I saw no reason for thinking so. The story of wooden water-pipes leading to the well in the fort has grown uncertain, requiring corroboration. It has not become stronger by turning the pipes into lead, according to the tale of an old man there who says he remembers them, but he is not old enough to have seen what he fancies. (This account of the pipes and the supply of the well in the field may now be called a delu-

sion. It was dissipated by measuring the depth of the well, and finding the origin of the water).

The name Market Street and Meal Street—Sraid a Mhargaid and Sraid a Mhin—are suspicious. However, we must not be too suspicious. We have learned to believe in enormous antiquity for some things, and we have learned, on the other side, to look on the most ancient habits brought down actually to our own days—the use of flint and bone instruments for example. As to tradition, I met an old acquaintance on the Oban steamer who told me that he was much surprised, when the Dean of Lismore's book was published, to find one of the longest poems almost word for word the same as that which an old woman had taught him as a child near Dalmally.

We must learn to believe a great deal, as there is very much to be known. There seem, however, to be no traditions regarding Dun Mac Uisneachan, except the story that everybody tells you of six kings having lived there, and of its having been burnt.

The burning is, probably, a fabrication caused by observing the vitrification; so may the kings be. We do not hear of six sons of Usnoth or Uisneach.

If we look at the surroundings we see evidence of population, and of some care. The fact of a Christian church being built, and leaving the name of Cill or Kills, is an evidence of its being an eligible spot for meeting the people. The burial-ground, too, must have been very large, as bones were taken up when cutting the road past the smithy. The burial-ground extended to the rocks that form the shore. The old or Celtic burials were made near the spot, as the urn Mr Campbell found in the cave in his garden proves. A cairn with many urns was disturbed when making the road into the schoolhouse. That the Christian burials might have been numerous, we can imagine from the place being rendered sacred by the church. Very probably it was a sacred place for the population previously; a place of meeting it naturally was from the configuration of the land.

Passing it eastwards, we see a standing stone close to the so-called Meal Street. It looks like a remnant of a stone circle. On the road to Loch Creran, at the right hand, there is a hole containing many large stones. the remains of a stone circle. Near to it the circle is visible when

the corn is beginning to become yellow; there being probably more moisture in it, vegetation remains longer green. Still curiously, the circle is seen once a year for a week or two marked on the crops.

As we pass on to Loch Creran, turning to the left, and in the fields south of Barcaldine old castle, two circles are seen in ruins, each of them being double, and one with an enclosure not quite square (Plate XI.) Old stones, once evidently standing, now fallen, are seen. One was to be raised up again by a farmer who had taken an interest in it. Near Barcaldine is a mound called Tom Ossian, or the Mound of Ossian. This does not appear to me artificial, although there seems a considerable difficulty in telling what elevations here are so. Several run in a straight line, and would seem to have in some parts been raised as a line of defence, but they adjoin natural lines not unlike them, so that great care only could separate the two classes. It is a habit of the people here to give to many grave-mounds the name of Ossian. It implies that the place covers, in their belief, one of the great ancients. In this case it is said to be the place where Ossian sat, according to the second legend mentioned in the Statistical Report. Towards Loch Linnhe there are other cairns marked in the Marine Ordnance Map, one has been very large at Ach na monadh.

The district between Lochs Creran and Etive is called Benderloch. It is divided into two by the long hill Ledaig, called in the marine map Ben-Lora. I am told this name is old, although it sounds as if taken from later times. So complete is the division, that it was difficult to find room for even a road between the precipitous rock and the shore. The fort is on the northern division, but near the southern, and so that it stands at the same distance from Loch Etive as from that part of Loch Linnhe looking to Lismore, and nearly the same to Loch Creran. It is situated on the shore of a fine bay called Lochnell, a modern name from the house of the proprietor. The marine map puts down the few houses behind The Dun as Selma, and another a little off as New Selma. This is rather a pity, as the name is said to have been given only towards the end of last century by one of the Campbells of Lochnell. If given at all, it could only be applicable to the fort; because Selma means a fine view, whereas behind the fort the view is entirely obstructed. It is well not to mix the certain with the uncertain. On Sir John Sinclair's map, as

on the marine map, the hill is called Lora; and on the former the moss towards Etive is the Heath of Lora, and the Falls of Connel are called the Falls of Lora. We cannot object to any individual taking this view of the subject, but an official document would require to be more carefully handled. On the other hand, it might be said that new names must be employed, if used generally by the people, whatever their origin may be; this general use is not found here.

As we go south, along the raised beach of Connell Bay, the moss under the hill is seen. Querns have been taken from it, but I have not heard of anything else at that spot. On the western side of the road, and south of the Clachan of Ledaig, a gravel mound was opened this summer, and about two feet below the surface was a stone coffin. For rudeness or simplicity I have seen nothing equal to it described. It was only about two feet long, made with the smaller boulder pebbles abundant there. The interior resembled a section of an egg lengthways. Over it were two pieces of the clay slate of the hills. No human remains were found, and no charcoal. It was apparently quite out of the confines of Christian burial, and I can only imagine that, at a time when only the chief people were buried formally under cairns or great stone structures, some mother had determined that her child also should have a similar honour, and put up this small imitation to its memory. Yet these may be found common, and my ignorance may cause these fancies. I went a week or two afterwards in order to have a drawing made, but the place was too much disturbed. It could be built in half an hour, and a minute could destroy it.

AGE AND GROWTH OF PEAT.

Near the point where we now are, the road divides into two. One line goes straight forward to Connel Ferry, the other leads along the hill-side to Ardchattan, up the Etive. The plain between this and the loch is a moss called by Dr Wilson the Black Moss. On pages 91 and 106 of his "Pre-Historic Scotland" he says that stones showing the action of fire have been found, along with stakes, which seem to indicate circular dwellings. He adds that they are under eight or ten feet of moss, under which is a foot of soil, before coming to the gravel on which the cairns of the neighbourhood rest. This, he considers, indicates a

period before the Romans. I suppose the question of the age of peat is quite unsettled. I am inclined to believe that a moss may be very old, or comparatively recent. We scarcely give the peat-moss fair play, although in this case I do think the lower moss, being very black, must be old.

When thinking of this subject, I turned to the "Handwörterbuch der Chemie," and found opinions there which it may be interesting to quote. An analysis by Liebig of a Lemna from a peat-moss in Switzerland is given, and his remark is mentioned, that the water in which it grew contained all the ingredients required for feeding it; it is inferred that one can easily understand why peat should grow, under such circumstances, on the most barren ground. When discussing the time required to grow, it is said that between Olehing and Loehausen, near Munich, a surface of peat was burnt, and after sixteen years there was a depth of seven inches above the burnt part. In Erdinger Moss, in Bavaria, three feet of turf is found made in old cut-out beds. The newer turf is coarser than the old. "In Langmoos an old road is covered $1\frac{1}{4}$ feet." "If the growth of turf is carefully attended to, it may become of great value." Sprengel says that, "under favourable circumstances, a peat-moss (torf-moor) will produce more combustible matter than the best forest." In "Liebig's Agricultural Chemistry," he shows that wood and meadowland grow remarkably near the same amount of dry woody fibre—about one and a fifth ton per annum per acre. If we suppose an acre of ground to be covered with solid fir wood an inch thick, it would weigh about fifty-five tons; and growing one and a fifth ton per annum, it would require forty-five years. Considering the rapidity of growth of surface-plants on some peat bogs, we cannot suppose it less rapid, when not removed by cattle or otherwise.

Now, as peat will hold something like eighty per cent. of water, or even more, we may fairly allow in the same time five inches of peat to have grown, considered roughly, equal to one of wood. On the other hand, we know that grass and other plants may be stimulated, so that several crops may be obtained in the year, and, under favourable circumstances, let us say three. We might thus have in some places five, and in others fifteen, inches of soft peat in forty-five years, according as the peat plants were well fed.

We must divide the peat into two classes, some purposes require more — the fibrous, which is fresh or not very old, and the amorphous. The rapid growth can apply to the first only; the true black peat burning with much flame is much older, and we cannot yet calculate the time for its formation. *In order to form it, a decay goes on which consists of oxidation of the carbon mainly, whilst the hydrogen compounds remain, and proportionately increase.* The carbonaceous bodies are carried away in considerable quantities in the brown water. This lost quantity is not easily calculated. Some peat water has two grains of organic matter in it, some less than one. If we supposed one grain per gallon, and 36 inches of rainfall, we should require to subtract 115 lbs., or about 1 cwt. per acre every year, and with 72 inches twice as much for removal by water. When the peat is fibrous there is no decay perceptible, and the growth might be taken without deduction. In some cases the plants remain nearly fresh, I believe, for centuries. In a lake dwelling of which I am going to speak, the plants below the hearth-stone and the floor appeared only slightly yellow.

Still the decay is needful for the conversion to true peat. If the plant is well protected from air, and from flowing water containing air, its change may be arrested completely. A certain openness of structure is needful for the formation of true black peat.

I need not speak of the matter excepting in relation to the subject of antiquities. If these notions are correct, we may have from 10 inches to 30 inches of open fibrous peat in a century, according to the nature of the water supplying the moss. If the supply of water is abundant and easy, and if the water itself is well supplied with earthy salts, we can see no necessary limit to the depth which the peat may attain during long ages. If there be a plain, and if the plants are obliged to obtain their inorganic salts by capillary attraction or osmose, or by the dialytic action of the peat, then a natural limit must take place. It will not be a sharp line, but the early peat will grow very fast, and the later slowly, until it ceases to increase in depth. We must, therefore, judge very differently of different mosses. One may have remained of the same thickness for an indefinitely long time, being as thick in much of the prehistoric as in historic days; another may have grown about two feet in a century. This latter, however, will not in all probability have attained the black stage

at which the richer hydrogen compounds are found. At present we have no guide to the length of time required for this stage.

When people speak of the age of peat as being excessively great, they ought to mention the quality of peat. If black, we may allow at present very great antiquity until we learn better. If covered over from air we may allow a great age, even to fibrous peat. If otherwise, there seems no necessity for speaking of a very great age.

By following up this inquiry, which I know to be imperfect, but new at least to me, we may arrive at some more definite ideas. As an extreme one I may consider that less than a century cannot be allowed to thirty inches of fibrous peat, and that where water is very pure and the supply of salts obtained by dialysis only, the probability is that one foot in a century is plenty for moderately soft peat. But when the moss is deep and dialysis has a great distance to act, growth may stop entirely. In seeking to grow turf it seems important not to cut down to the soil. The peat grows best on a portion of its kind. This is to be observed abundantly in places where part of the ground has been left bare and part covered. It is rather remarkable that in questioning Mr M'Gregor (the ground officer at Lochanabeich), his opinion came out that it would take about fifty years to grow a foot under favourable circumstances such as he had seen. If these ideas are correct we may gain by the manuring of peat, if it is ever much required in the arts. As a scientific experiment, at any rate, it is well worth attending to.

As to peat obtaining its inorganic constituents from rain, I think it improbable, as in that case there is no limit to its possible thickness, whereas the thick deposits are all in low places, in hollows of hills, where superficial sources of the salts are more readily found.

LAKE-DWELLINGS.

Mr Campbell, of the post office, Ledaig, told me that when a boy he remembered seeing something like bones on or in the peat moss, near the meeting of the roads from Connel Ferry and Achnachree. He waded through a swamp to a dry place, and there he supposed a burial-ground existed. I went with him over the now pretty dry grass, and we dug with a knife, finding a few bones, large nuts and shells, also a whitish substance that looked like peat ashes (see Plate VIII).

About one hundred and twenty years ago a company from England engaged in working iron had diverted a stream from this to the east, and made dry ground where was a lake. Mr Campbell even recollected that some twenty-five to thirty years ago, some of the land was badly drained : his wading shows it. This led me to think that not a burial-ground but a lake-dwelling was to be had in mind. Soon afterwards I made fuller search.

The space that called forth interest was scarcely distinguishable from the rest of the moss. A little attention, however, showed a depression. The whole was of a brownish-green colour, but in the middle of the depression, where had been the old lake, there was a part greener than the rest. It was of an oval form about fifty feet long, and twenty-eight broad. The outer part had a double row of turfs as if two walls had existed. I expected piles at these places, but the whole was soft and consisted of turf only. On digging down about three-and-a-half feet, we came to wood, consisting of young trees from six to eight inches in diameter, lying packed closely together. Under these there was another larger layer crossing, and under these again more. There seemed four all along the building. This was opened in three parts, Mr Hosack of Barcaldine, &c., being present. In these three parts the same layers of wood were seen. It would seem as if the trees were laid down layer after layer until a solid stratum was formed. No piles were seen, but the ground was purposely left little disturbed, as I wished a few others to be present at the full uncovering, especially as I was a novice in these matters. There were many leaves, half rotten, and a few branches. The young trees had been felled with sharp axes. There was none of the clumsiness of the stone age. The encircling mounds were but a few inches high, but they showed organic matter decaying and turned into peat. It seemed as if a double wall of wattles had existed, or at least peat or perhaps turf. I saw no proof of clay to fill up the chinks : the Highlanders do not object to chinks even now.

The wood was birch. On the moss there is a lake called Lochan-a-beich or beith, which is explained as the "Lake of the birches."

There are no trees that can give it that name now, but we can imagine a time when there were many birches. Many scores of the same class must have been laid under this spot. At the east end of the oval was an

elongation not surrounded by the turf mound. I believe the foundation extends along it. I suppose this to have been a platform before the door, a place for the inhabitants to sun themselves, and a landing and disembarking spot. (This platform was afterwards found to extend all round.)

In the middle nearly, but a little to the westerly end, of the oval house was the fire-place. It is higher than the rest of the space. It was here that the bones were found, with shells and nuts. Under a few inches of a white powder is the hearth. It consists of four flattish stones; under the stones also is to be found more peat ashes and some few remnants, but very few, of the substances connected with food. There were no implements, but we did not look into the spot most promising. These will be farther from the fire, if at all. Under the ash was a floor of clay about six inches thick. This was laid so flat that I think the carpet below me is not laid more correctly. Mr Hosack, who knows the country well, believed this clay to have come from a considerable distance. Mr M'Gregor and the neighbours present also knew of none of the same in Benderloch.

The clay had been put there because of the moisture coming up from below. Under it the moss was brown, but still full-leaved moss, as if it had grown last year. It surely could not have grown in that condition. It had not begun any change into peat. Under a layer of moss and peaty matter were the beams or young trees lying as mentioned before. It might be asked, Did they put moss over the trees and then clay? I am inclined to think that the moss and peat gradually came through the crannoge or tree foundation as it sank.

The wooden structure is more allied to that at Wauwyl, as described by Professor Keller, than to any of the others in Switzerland, but I could see no stakes even to keep the trees in their places. One piece of hazel was found standing up, but it appeared rather fresh, as if some one had put in a stick to try if the place was wholly of peat like the moss around.

This dwelling is larger than single-roomed dwellings in the Highlands now are. It may have been double, or one large room. The people need not have been lower in civilisation than some we see, if houses are to be the criterion. The bones found were split up in the recognised prehistoric method. This is supposed to indicate a scarcity of food: it

may also indicate an idle way of spending time and lounging over the meals. When thinking whether it was possible to judge from this as to the age of the remains, I asked some friends who had been brought up in the Highlands, whether any peculiar attention was ever given to the marrow of bones generally, independent of the admired "marrow bones."

I heard of nothing like splitting, but a lady from near Loch Broom said that her father had a peculiar knack by which he could break a bone, and he occasionally performed it as a feat before his sons and guests, using a leg of a sheep. The lady did not know if it was done by strength or by skill, but thinks it required both. Her brothers, who were strong men, often tried but could not accomplish it. This is an evident relic of early times. As many of the prehistoric are also contemporaneous habits, it will be interesting to trace out that of bone-splitting more fully.

And now as to the age of this dwelling. The peaty turf over it was soft and full of fibre. I see no reason for looking to great age from this. Even allowing a very long term for its growth—a foot in a century—we have only three hundred years, and as until 1740, there was a greater supply of water to it, the growth may have been more rapid. On the other hand, the stream, in former times, went through this, and it may have washed off the surface of the moss and prevented the increase. The wood, however, was quite rotten, and although in every respect looking fresh, even preserving the perfect appearance of the bark, the spade went through it with ease. Birch does not keep well under water. Although easily crumbled by the fingers or cut by the spade when wet, it became actually hard and strong when dried. It seems as if the water united with the woody fibre, and made a soft compound or hydrate. This compound was easily decomposed by driving off the water. It is analogous to the soft gelatinous hydrate of alumina and iron which becomes hard by drying.

The circumstances are a little contradictory. The size and independent position of the house might point to a person of some local village importance, but the split bones and the poor hearth take us far back. How far? We do not require to go out of this century in Scotland to find men having only two apartments and still giving judgment as magistrates or so-called bailies to the neighbourhood for miles, and keeping peace better than more learned lawyers have been able to do. In the High-

lands itself I have seen men living in hovels, dark and inexpressibly low in material civilisation, whilst the owners had really as much good feeling and general wisdom in their speech as many men who gave much better dwellings to their cows, and incomparably better to their horses.

The dwelling does not show the civilisation of the individual correctly, neither does the food. In the dwellings mentioned, the food seems to have been far inferior in variety and elegance to that used in the lake dwellings of Switzerland among men who are said to have worshipped the water and the moon.

If the dwelling does not show the condition in civilisation of the individual, neither does it of the race. We have dwellings from London to Caithness and Kerry in abundance, as uncomfortable as those of many savages, but out of some of the worst, some of our best minds have emerged.

According to Scott many of the Highlanders of last century were savage, but a sudden peace brought an almost instant civilisation. The talent to rise was there; where was it prepared? Such a change is not made among negroes except in rare individuals. The theory of development forbids us to believe this sudden step to be taken by any nation never previously affected by civilisation. This, I believe, is a very important point. Such a step proves the organisation to have been previously developed. The organisation of a nation cannot be supposed to develop at once, not even that of an individual. I do not therefore look for savage traits among such people, except so far as necessity produced savage habits, just as we see it produces in war in our own times.

In order to see if a wild race has a developed organisation, it would be needful to bring up some of the infants to civilised ways. If they showed an incapacity, we might presume if the numbers were sufficient for a good experiment, that they were really savage. If they showed a capacity, we could not imagine them to be properly savage. The power may lie dormant, but cannot far precede, we may suppose, its first exercise. The theory in opposition to this is the supernatural. This is obvious, but perhaps I ought not to bring it forward here.

The white ash at the hearthstone was supposed to be peat ash, but it was mixed with a good deal of bone ash. The analysis is as follows:—

Soft Earth from Floor of Lake Dwelling.

Phosphate of lime,	8·595
Phosphoric acid in combination with iron and alumina,	1·127
Sesquioxides of iron and alumina,	11·331
Silica and sand,	59·287
Moisture and organic matter,	20·320
	<hr/>
	100·660
	<hr/>

(Total phosphoric acid = 4·658%).

The clay or hard portion of earth contains a very little phosphoric acid.

The peat portion contains but a trace. A large quantity of the ash was employed for the test.

The bones must have occasionally been thrown into the fire, and in such a case they crumble very readily, whilst the moisture would assist. They belonged to sheep and goats.

As there is no reason to suppose that, however inferior as architects, the men were savage, we look now for the inhabitants. Who were the people that cracked nuts at that hearthstone? The lake is called, phonetically written, Loch-an tawail, as I should say, but Mr John Campbell tells me, that it is either the Loch of Samuel or the Loch of Somerled. Now I am no Gaelic scholar, and ought not to speak, but neither am I an antiquarian. However, it would appear that the names Samuel and Somerled are one in Gaelic. The Loch of Somerled would be Loch-an-t-Shomhairle, which quite agrees with the sound. Now, did the "mighty Somerled" live on this lake dwelling?—perhaps some of the relatives. We are told he had possessions both on the mainland and the Western islands; the power went to the second son, whose descendants are Macdougalls of Lorn, and live within six miles of this place.

See more in a note by Sir Walter Scott to the first Canto of the "Lord of the Isles." Did Somerled, who died in the 12th century, live only in a small house like this? It is not probable, but we do not know much of the times. It is only certain that he was closely connected with the neighbourhood. However, we do not depend on traditions concerning him, as the family kept the name of Somerled. There is found in the Priory of Ardchattan the following inscription:—"Funallus Somherle

Macdougallus prior de Ardchattan MCCCC." (from the 2d Statistical Account).

Here we have a very probable direction in which to look for the inhabitants of the island ; in fact, an almost certain one. Another inscription is, "HIC JACENT NATI SOMERLEDI MACDOUGALL DUNCANUS ET DUGALLUS, HUIUS MONASTERII SUCCESSIVE PRIORES, UNACUM EORUNDEM PATRE, MATRE, ET FRATRE ALANO, QUODUM DUGALLUS HUIUS MONUMENTI FABRICATOR OBIT ANNO DOMINI MCCCCII."

I shall leave islands for a while so as to move in order. There may be something at a later period to say regarding the small discarded burying place up the hill, and the well near it now neglected, although in the memory of young persons it was considered as sacred, and into which, or into a neighbouring tree, people put gifts when they drank of it. Moving on eastward near the hill, we come to a very large cairn. (See Plate VIII.) This is called Ossian's cairn ; the name appearing again. It has not been opened, but many of the stones have been removed exposing very near the circumference stone coffins, and, it was said, urns. It is reported to be hollow within, because sounds were heard of some falling stone, when the men that removed the outside were working and had approached near the middle ; a curious little remembrance of forty years ago. (Since opened and chambers found in it, to be described.)

One remnant of a stone coffin stands outside hardly distinguishable.

The cairn was surrounded by trees and a wall, according to the reverend wishes of General Campbell of Lochnell, but all this is going to ruin.

Behind is another cairn, further in the moss, and to the south. A good deal of it has been removed in order to make roads over small pieces of the moss.

Going still east till we come to the brook, and crossing it, we find two memorials of early times on the farm of Achnacridhe beg (pronounced Achnacree). They are cromlechs, I suppose. (See Plate IX.) I do not know why it has become common to call cromlechs, dolmens, or late. I am not aware that anything is gained, and we use another dialect of the Celtic for domestic structures. Besides, according to Max Müller, a dolmen is a hole stone, or stone with a hole in it. These are rarer, and the name ought to be properly applied, or it may cause much confusion.

Some people may think that these are neither the one nor the other. They are, however, megalithic structures; the largest and most easterly has ten large boulder stones arranged somewhat in form of a grave. These have over them two large blocks of granite: one has slipped off the boulders a little. Each may be about a couple of tons weight. The smaller cromlech is only a few paces to the west of the larger. It consists of five large boulders with one mass on the top. The use of five and ten is worth remarking. Around these cromlechs there is a circle of small stones, evidently the remains of a cairn which has covered the whole. It is a case such as has been often observed of a greater and lesser burial in one cairn. The cairn stones are removed except at the lowest layers: they are of the usual small boulder class, six to eight inches in diameter, used for the other cairns. These abound in the beds of the streams at the sides of the lochs, and in the little soil which exists on the plain. These cromlechs lie on a fine romantic spot looking on Ben Cruachan, Loch Etive, Mull, and Morven.

If we go forward by the side of the loch towards Connel Ferry, we come on several cairns. One is very large, and the farm takes its name from it, Achnacarn. I will not at present pretend to characterise every one. All those along the road have been diminished in size, and some are scarcely distinguishable. That they should be found along the roads speaks in favour of their being raised when the moss was difficult to traverse. It may be said that these roads are new (forty years old); that may be, but the line along which they go would even in remote times be passable; that towards the lake manifestly so, as the moss ends there, and that towards the hill would no doubt have been made passable from its convenience for those going from the extreme points of Benderloch. The latter must have been frequently traversed, even if the place were thinly inhabited, exactly as it is daily now passed by many persons as well as the postman. At any rate the cairns are near the roads, as a rule, and I think it shows the moss to be older than they. There are one or two towards the cottages of Loch-a-nan-Ragh, and three near Lochanabeich. These were not less than fifty feet in diameter; only the base remains. Dr Wilson is quite correct in saying that they stand in the soil below, but we need not consider them older than the moss, nor does he say that they are, although one might infer it.

There is, however, one cairn in the moss itself, although not far from one of the lochs, so that it is easily approached. This is called "The Baron's cairn" (see Plate IX.); it is not so large as the others, and nothing remarkable is seen about it—a dreary heap of stones in a moss. It is not chambered. I made an opening at the top in order to see, and without disturbing the sides in the slightest. Indeed it is too low to be chambered. It has been mentioned by several who have written of this district, and sometimes spoken of alone as if it were important, but its only importance seems to consist in its having a name that speaks of times less distant than in other cases. No one can tell who was the Baron. Did he live here? Before leaving, I made enquiries as to the probability of people having lately lived on the moss near. There was a cottage, now removed. Mr M'Gregor, the ground officer, informed me that the family had not been long on the place, and that they had got a cottage put up there only for a short time, as it was the only convenient spot obtainable. The ground was grassy, and the space that seemed to have been enclosed was larger than gardens generally are in the Highlands. This appearance, Mr M'Gregor says, it must have had very long. No one knows its history, and the name remains in the mouths of very few. It is "The Baron's Court" (Cuart a Bharan). Here, then, may be the homestead as well as the grave of the Baron. This old garden, as I suppose it to be, may have enclosed a house. One cannot mistake the changes that take place on turf near inhabited places. The site was chosen probably to be a little off the moss, and near the small lake. It is not mentioned in Sir John Sinclair's Notes, or in the Statistical Account. The choice of place may have arisen from the accessibility. The way from Loch Etive is less mossy if one keeps on the road near to the first little lake, and skirting it for a while, goes on to the second. It may, however, be that the frequent passage of feet has rendered this more solid. It may also be that the solid grass plats around houses near a moss are obtained in a great measure by the constant tread of feet pressing and draining, as well as by the waste products nourishing a richer vegetation. I hope to examine this "Baron's Court" further (probably a real court or Thingwall). At present it is interesting to connect a cairn with the old dwelling-place of its occupant, and to connect a dwelling-place in the lakes with a family name well known.

The "Baron's cairn" stands on the soil below the moss, and there is a depression round it as if the moss had been cut down to make abundant room for the cairn. It is not at all probable that a burial, which evidently took a good deal of trouble, would take place in the wet moss. I think this the proper explanation of the resting place of such a cairn, although the weight of stones might cause a great depression; and water passing, along with air, continually through the cairn would remove peat. The condition is very different from that of the moss under the lake-dwelling, kept in continual moisture, and enclosed under a covering of clay as well as of the turf above it.

If we now pass up Loch Etive, we come to Achnaba. The title of this farm is curious, and illustrative of the mode in which names are so readily formed in the Highlands. One of the deep hollows of the district is here; it resembles the shape made by a cow lying down in hay or in some soft place, and so they call the farm "The Field of the Cow." The other curious names must be explained elsewhere. On this farm are three or four stone circles; but I am not sure of the number, as I really saw only one. It is very complete, but scarcely visible all at once as it is so much overgrown. Another was covered over very lately with soil; and two or three are among the woods.

Going up the lake we come to Ardochattan, the priory, and the old church above, at Baile Mheudan. It is not clear why it is called St Bede's in some books. The name is rather that of St Modan of the eighth century, who is said to have retired for prayer into the mountainous district of Dumbartonshire from Stirling, where he lived a good deal, and to have died near the town of Dumbarton. The use of B in the name may arise from the change of B and M into V, written Bh and Mh, to satisfy grammatical necessities. If a person heard the place called Baile Veudan, he would not know whether the original form was Meudan or Beudan. However, in this case the chief reasons go towards M, and the "New Statistical Account" has it so; see also authorities in "Butler's Lives of the Saints."

It is very interesting to connect a thorough ruin such as this, or the one at Kills, with names so old in Scotland, and so little spoken of in history. Tradition has been left to do all, and we are led to have more confidence in it.

We may pass over to the south side. Almost exactly opposite the Priory, and above the South Ferry house, is a somewhat conical hill, called Dun Cathich, which means, perhaps, the hill of Battle. Around the summit is a stone circle of a striking kind. (See Plate X.) Like all those of the district, it is composed not of tall, upright stones, but of rounded masses. These stones are much larger than any others in the circles around, and are of granite. The hill is perhaps 300 feet high. The stones touch each other nearly or wholly; in the other instances seen there was always some considerable distance between them, greater generally than the breadth of the stones. The people say that the granite is from Duranish, which is the hill opposite, and farther up the loch, looking to Bunawe, and from which paving-stones are brought to Glasgow. This question did not arise until it was too late to examine if evidence could be had of natural or artificial transport. If the latter, there was at the time of building considerable skill in making boats or rafts to bear a good weight.

The circle may be sepulchral, like many other circles, but its position is peculiar, and the size of the blocks gives its importance. The name of the place below is Ruth na charn. *Carn* may mean a cairn burial, or a stony hill. It is however said, that this was one of the beacon mounds, which extended from Dun mac Uisneachan. The first is said to be the yellow hill of Connel—a small conical and artificial point near that ferry, and a series is pointed out up the Awe, from which it went onwards to the east. The second is Tom-na-h-aire, "The mound of watching," between Dun Cathich and Connel, on the south side of the Etive.

There is said to have been another series from Lochnell. A little examination of these lines would probably give matter of interest. The beacons are spoken of as so arranged that a very few minutes were necessary to telegraph a message to Edinburgh or Stirling.

On the south side of Loch Etive there are some things to examine; but excepting a trace of a destroyed circle on the Oban road, and about half a mile from the Connel Inn, westwards, I have nothing described till we come to Lochnell or Lochneala.

Lochnell was visited because of the numerous legends connected with it. At Lochgilphead I was shown one of the places where Diarmid killed the famous boar, and died afterwards. Here at Lochnell I was shown

one also ; but the congregation of legends, and the fixture of names connected with them, on the farms, streams, rocks, and wells, makes this one of the most remarkable of all the places in which Diarmid killed the boar, and connecting it with Loch Etive, it must not be neglected. Whether Diarmid ever killed a boar or not, it is still interesting to inquire why the legends attached themselves to certain places. I am not, however, to deal with them here.

At the upper part of the loch there is a very large stone circle. (See Plate XI.) At one side the stones are doubled, not in a very regular manner, but in a way that has brought out remarks, and may still be remarked. (See a drawing of a covered circle, with stones doubled at one part. It is in Denmark (Zealand) in the Year Book for Nordisk Oldkyndighed og Historié 1866). I am told of others that have been destroyed near this. On the side of the road is a pillar about 12 feet high, square, rough, and without any markings, and not much weather-worn. Beside it is an oblong made of twelve boulders, as if a grave. The name given to the upright is "Clach Dhiarmid," Diarmid's stone or pillar, whilst the enclosure below is called his grave. (See Plate XII.) The completeness of the story, as it was told by an old farmer here, is unusual, perhaps explained by the seclusion keeping families long in the same place.

At the lower part of the lake, on a knoll, is another megalithic burying-place. (See Plate XII.) Here there is a distinct grave made, not of boulders as at Achnacree, but of flattish stones. There is a large granite mass above it, but evidently not entire as at first. An old man of the district says, that about sixty or seventy years ago a piece was broken off to make a millstone, which is still in use, I have forgotten where. A few feet from this grave is another, but no covering stone appears. This is smaller than the first. Around the two is one circle, covered at present chiefly with turf, but with stone below. The whole has been covered with one cairn to all appearance. This, like the other cairns and structures, is in a very prominent place. The views from them all are fine. We cannot suppose that effect was neglected. This was no doubt the burial of an important person. I fear the opinion on the age of such monuments puts the common saying here quite out of belief: they give the grave to Cuchullin. Late opinions would send it to the bronze age; but perhaps it is much older.

In a field near the stream of Feochan, which drains the lake, and not far from the outlet, is the base of a large cairn, about 60 feet in diameter. The stones have been used probably to build the neighbouring houses. A stone kist, nearly square, is seen in the centre. The burial was probably of ashes only. The adjoining hamlet, like that at Clach Dhiarmid, is called Cleigh or Burial Place; one may imagine from that name other places of sepulture around; but, as in our own cemeteries, there may have been many small, and only a few large enough to remain for many years.

Lake Dwellings.—Stories had been told me of a buried city which was submerged by the floods that made the lake, and of which parts could be seen on a clear day. It was also said that there was an island on the place in which the Campbells of Lochnell lived in former times. Their estate has the name of Lochnell, and from it they take their present territorial name always used in the Highlands. This island is at the upper end of the lake, and cannot be approached without a boat. The number and size of the stones upon it show that some building had been there, but there is no surface proof that a large well-constructed house existed. There are trees upon it. The stones must have been carried to the island. They are all too similar to be natural. However, there was a natural island below, as the depth and distance from the shore prevent us thinking of such a great undertaking as the manufacture of one from the lake bottom upwards, whilst some of the rocks seem *in situ*.

At the lower end of Lochnell, as the stream from it begins to form, is a very small island, which might be approached by wading. (See Plate XII., right-hand corner.) It is nearly round, not much larger than a good-sized cottage. Four small trees stand on it. It is surrounded by stones large enough to be difficult to lift, and in some places showing themselves to have been put together by art. It would appear as if there had been a pretty firm wall all round—very firm it could not be without mortar or heavier stones. Within the range of stones three or four feet is a raised turf, as if this had been the wall of the house; the centre of the space was rather higher than the rest, and there I expected a fire-place to be found. By digging about three feet and a half, the ashes of peat were obtained, bones, charcoal, and nuts. A very small hole was made. I had not then received liberty to dig. I was satisfied that this was a lake-dwelling, and that it had been defended by a wall. Advantage seems to have been

taken of a shallow place, and stones must have been carried to it. It may turn out that there is a wooden foundation. It is not easy to see by what means the covering of earth now over the floor was so much raised. The water from the lake has little or no deposit in summer; but there may be natural circumstances that have raised the soil. The bones here were split as at the lake-dwelling in the moss.

As it is probable that these lake-dwellings existed till a very late date, we may find some clue to the inhabitants of this lower one.

As all future is uncertain, this little is sent, not knowing whether I may be able to send another communication. It may be well to preserve this list of these monuments and remains, adding to our knowledge of them from time to time.



*Dun Mac Uisneachan from the shore S.W. fancifully called
Beregonium, castle of Fergus and Selma.*



*Dun Bhaile an Righ or Dun Valanree -
extremity of Ledaig.*



*Lake dwelling at Ledcay - (Conna Ferry) the long line is the
border of the old lake - The view towards Lashawe with the
beginning of Cruachan on the left.*



Great Cairn at Achmacridhe (Achnacree)



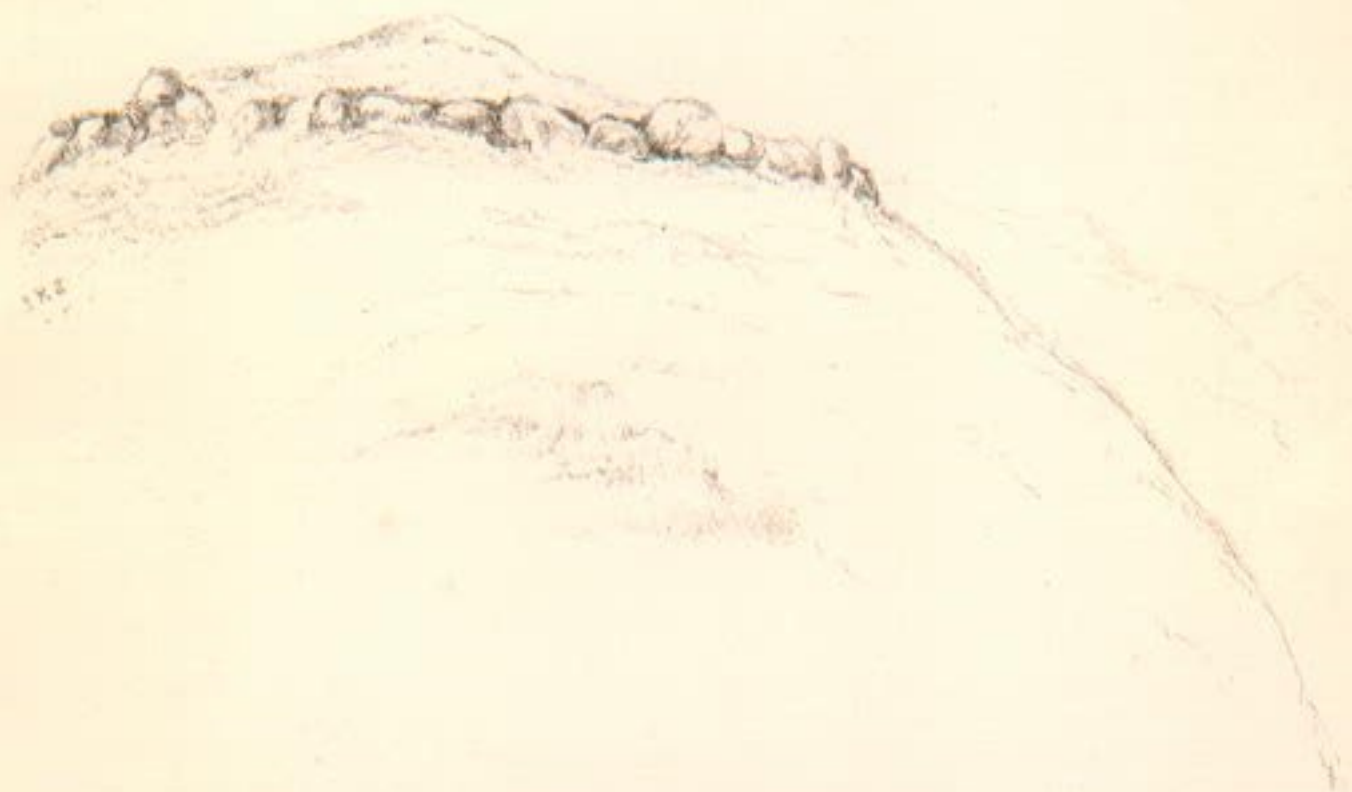
Cromlechs at Achnacridhe beag or Achnacree beg.



Baron's Cairn - Lochanabeich - Connel Ferry.



Urn from a cave under Dun Bhaile an Rìgh (Valanree,



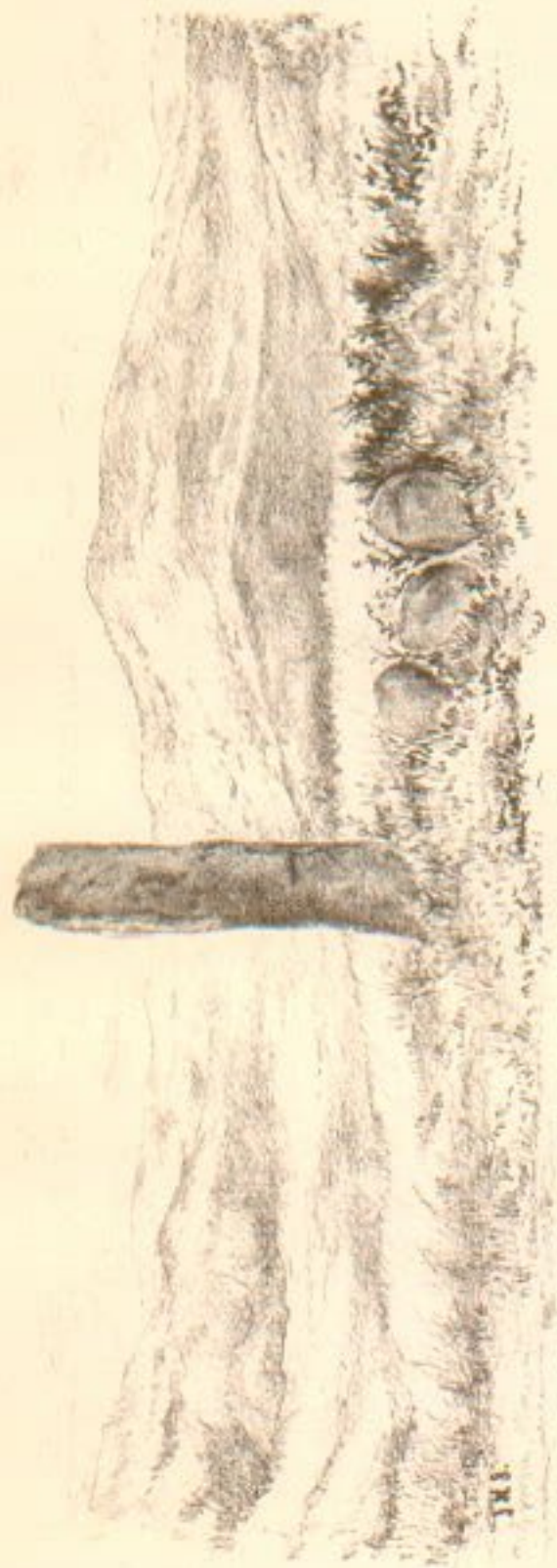
Dun Cathaich - on Loch Etive opposite Ardchattan.



Circle at Cleigh - head of Lochbrell.



*Remains of two double circles at Barvaldine
& outline of Appin hills.*



Standing stone called Clach Dhuir mid at head of Lochnell and oblong enclosure below



*Megalithic double burying place near outlet of Lochnell.
The little wooded island to the right was a lake dwelling*