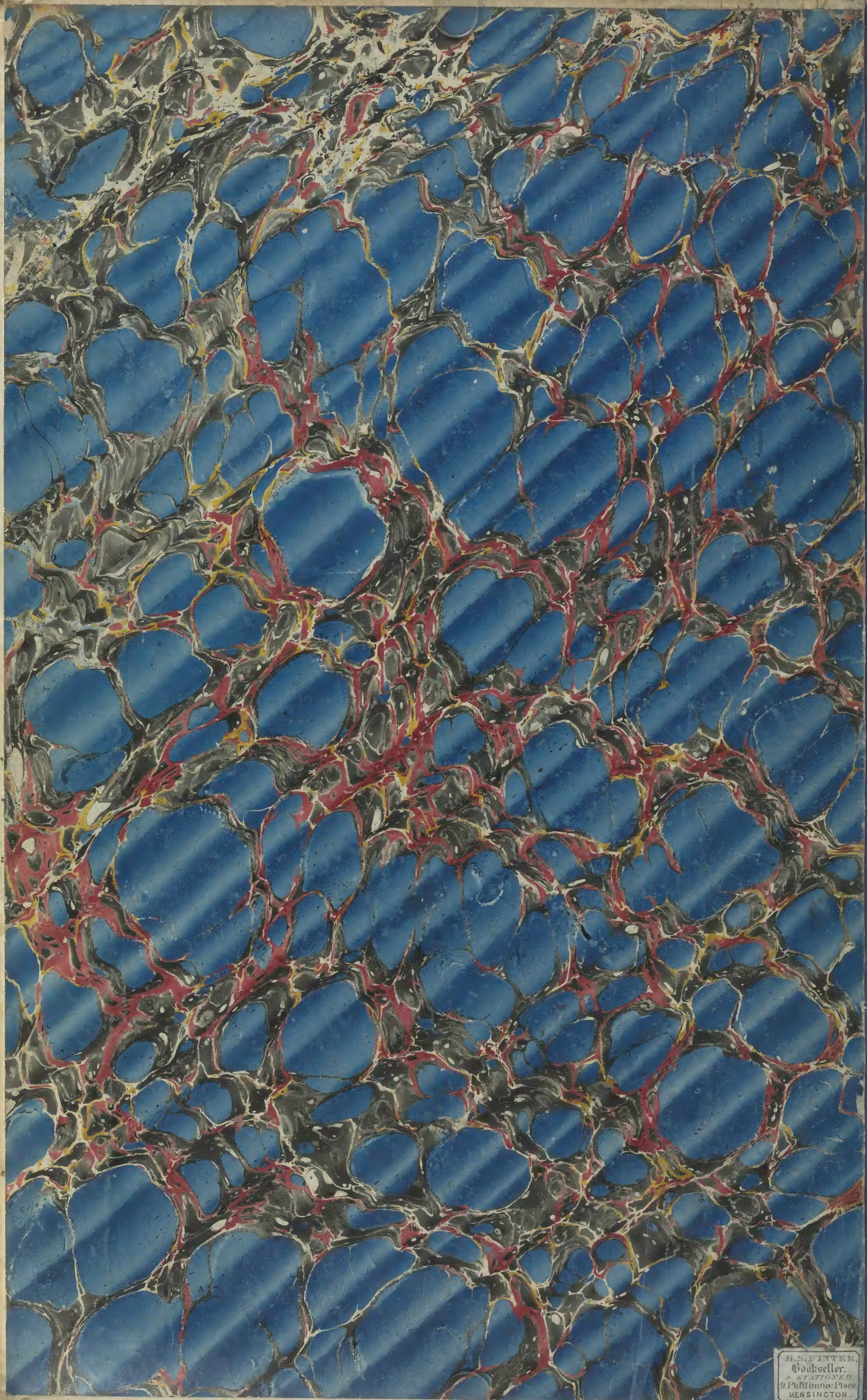


J. F. Campbell

January, 1872

Detten-Keim

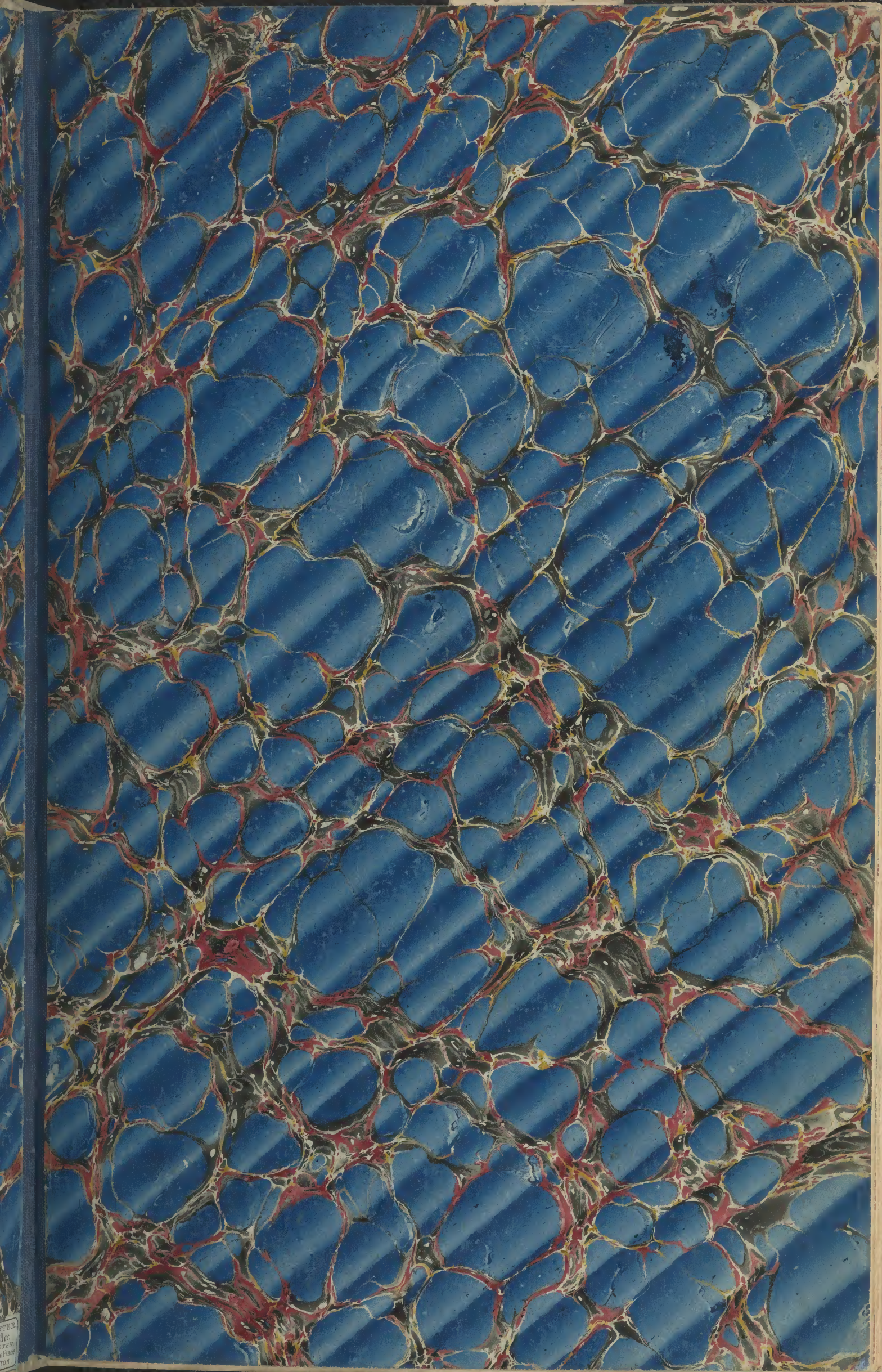
Wales.
Aug 25. 72



H. S. WINTER,
Bookseller,
NOTTINGHAM,
9 Pall Mall Place,
KENSINGTON.

Derr-cell House.
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Aug 25. 72



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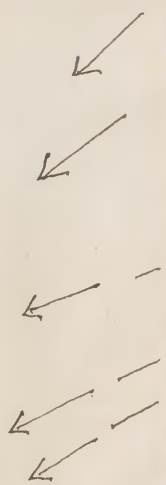
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Derreell House.
Confluence of

Derreell House.
Wales.
Aug 25. 72



Reduced Map of
Ireland submerged 500 feet
Photographed, April 26 1873. — &
stuck in here to be considered
with Rubbings made in Ireland
1872.

Whether Ireland to be considered as
a group of Islands ^{in a sea} or as a group
of high grounds in a mer de glace.
The marks found in low grounds
seem to indicate ~~the~~ movements
which would result from
tides, or from ice flowing
amongst the high grounds.

See my travelling map Collins Railway
map on which are observations made
in 1872. and ten years earlier in
1863

In the opening paragraph of our last paper we ventured to suggest the probability of the speedy advent of severe gales, "severer, if possible," we said, "than those recently experienced," and we went even so far as to indicate the compass points of south and south-east as the directions whence they might be looked for. During the past week the first of these storms, lasting nearly forty-eight hours without a lull, and oscillating with extraordinary rapidity, from south to south east, without ever going the smallest fraction of a point beyond, came upon us with a fury unparalleled, perhaps, in any storm that could be condended upon for at least a dozen years past. And such deluges of rain too! the sea everywhere for more than a mile from the shore, red and turbid with the burden of over-swollen rivers, mountain torrents, and streams that roared and rushed seawards with a weight and impetuosity of volume that we do not recollect to have ever seen equalled. It may now be asked how it was that we were able, upon what data, we ventured upon a prediction that has been in all respects so literally fulfilled, and our business in this column being to instruct as well as to amuse, we cheerfully take the reader into our confidence. Nor is it any great secret after all; the matter is as simple and easy as the stability of Columbus' egg when once you come to know it. Having had occasion to be a good deal from home during the third week of January, we noticed with surprise in riding along the coast that no sea-birds, either webfeet or waders, were to be seen in certain bays and along certain shores where at this season they should be plentiful, and where, indeed, immense flocks were to be seen only a day or two previously. Had they altogether left our shores? and if, as we were persuaded, they had not, where then were they? It was to us a subject of no small interest, and on taking an ornithologising cruise to examine into the matter, we found that our sea-bird friends, longshanks and palmipedes, were in truth as plentiful as ever, but that they had crowded into creeks and bays with northern and eastern exposure, having altogether deserted those opening to the compass points of south and south-east. The case was clear. These birds, we reasoned, instinctively aware that storms of no ordinary violence are approaching, have meantime left the shores most exposed to their fury, and have taken shelter where they shall be least felt; and in the event it has turned out that we reasoned rightly. We have before now hinted to our Meteorological Society friends the propriety of keeping an eye in this direction, and the longer we live, and the more we study the habits of our wild birds, the more are we convinced that they are almost infallible prognosticators of weather changes, particularly of changes from calm or comparative calm to storms. And while speaking of our winter wild birds, let us mention, by the way, that we were privileged to dine at a friend's house not long ago on a dish we never tasted before, to wit, a field-fare pie, and that we found it excellent. These birds, with their inseparable companions and cousins, the redwing thrushes, have been abundant all winter, and from the open character of the weather are as plump, and almost as large, as partridges, and to our thinking quite as good to eat. When we had finished our field-fare repast, so much were we pleased that we couldn't help repeating Martial's lines—

Inter aves *turdus*, si quis me iudice certet,
Inter quadrupes gloria prima leput:—

which, for the benefit of our host, who, sooth to say, as Ben Jonson said of Shakspeare, knows "little Latin and less Greek," we converted on the spot into the following jingle in the vernacular:—

Which is the best to eat of all our birds? Give me the thrush field-fare,
Of quadrupes? O give me still the soup of good brown hare!

Be it known to the reader that ornithologists are agreed—and here the mere scholar must give place to the naturalist—that the *turdus* of the Romans was not, as is generally supposed, our song thrush or blackbird, but the more cosmopolitan field-fare and redwing.

Sometime ago we printed a letter from a "Scotch Farmer," anxiously inquiring as to the how and why and wherefore of "braxy" in sheep, a subject on which we were obliged to confess our profound ignorance readily as we would have afforded our correspondent the desired enlightenment if it was in our power. Out of some half-dozen letters that have reached us in reply, we select the following from Mr John Weir, Kinlochannua, Arisaig, as the most sensible of the lot, and most to the purpose. The letter is too long to be given in its entirety, but its pith and point is contained in the following extract:—"Your correspondent," says Mr Weir, "asks for a cure for braxy, by which, I suppose, he means *prevention*, which in the treatment of all diseases is, to a proverb, better than any cure, and particularly in the case of such a malady as braxy, unless he has come the length of knowing, and his sheep of showing, symptoms of what is seldom or never known to ordinary men till such time as it has done its work. Should no better recipe be forthcoming on the subject, it might be worth his while to try the following—good shelter, good management, and in particular, good feeding, both natural and artificial, including turnips, oilcake, pease or beans, and sugar." We fear that "Scotch Farmer" will consider all this somewhat vague and unsatisfactory, but it is the best

J. H. Campbell
Niddery Lodge
Sturminster Newton
Scrap book and Journal.
January 1872.

we can offer him. It proves, at least, our desire to be of use to him if we could, in consideration whereof, should he and ourselves ever foregather in the neighbourhood of "Killin," we shall expect, at least, a slice of "braxy" ham, if no better may be had!

We now proceed to give the correct solutions of our last batch of *Toimhseachain*, some of which have puzzled our correspondents extremely. One writer, evidently at a loss for the right word, says he had never in all his life to deal with such an "ungovernable" lot of riddles.—

The first is—Sleep.

The second—A rainbow.

The third—The young man was the woman's son.

The fourth—A cow's udder.

The fifth—A ball or clew of yarn.

The sixth—A long, low, thatched house.

The seventh—A common ladder.

The eighth—Adam's son. Cain or Abel.

The ninth—The uncle's brother was the father of the pro-pounder of the riddle.

The tenth is—A maggot eating the kernel of a nut (its mother) which is inside of the husk or shell—(its grand-mother).

The eleventh is—A meal-miller had a great deal of corn to grind; but it was hard frost, and he had in consequence no water to drive his mill. He went in to dinner, and puzzled his household with the riddle, "Since I have no water, I must drink water (with my food), but if I had water (so good would my day's work be) that I could (afford) to drink wine."

The twelfth is—A man going through a tunnel on a railway train, "faidh thalamh" the tunnel, "air darach" on the oak sleepers; "the horse that never was born" the engine, driven and guided and kept in track by wheels, rods, and pistons of iron like itself.

The thirteenth—A cow's tail.

In dealing with these riddles the most successful have been Mr Robert Whyte, Fort-William; "D.R.," Croick; "Boun Gleamaig," "Glencoe," "M.D.," and "Tormaid." No one has succeeded in hitting on the correct solution of the whole batch. With reference to the superstition of the

"Spoon" mentioned in our last paper, "D.R.," Croick, to whom we are indebted for some very valuable contributions to our stock of folk-lore, writes as follows:—

"The superstition connected with 'spain do dh'adharc ocheo,' a spoon from the living horn, is well known in this part of the country. A Mr A. R., one of my neighbours, has one at present in his possession, made only two years ago. This spoon, sure enough, possesses in a high degree the healing virtue which superstition ascribes to these 'spoons,' for the cow was a six-year-old, had two calves, and was in calf for the third time when she met with the accident which deprived her of it. I trust that her having lost it whilst fighting with a neighbour's cow does not in any way detract from its 'virtue.' At all events she still lives, and is, as Nether-Lochaber says, 'a healthy and well-to-do cow enough,' and I would add, long may she continue so. I am not aware that the spoon has ever been used yet to effect a cure, but the reason is that the particular disease or sickness for which it popularly proves efficacious has not appeared in the district for a number of years past. There are two other such spoons within the bounds, but they are now useless—the cows that lost them being dead long ago. One of these is in the possession of its present owner for the last five-and-twenty years, and although it is well known that it is no better than any ordinary spoon, it is carefully kept, wrapped up in cloth, and brought to the table only when an unusually large company happens to take diets in the house, as on a wedding occasion, the time of peat-cutting, or such like important events. The healing virtue attributed to the 'spoon' is confined by the people here to the whooping-cough, and all the old folk with whom I conversed on the subject seemed firmly to believe that taking food two or three times with the spoon invariably relieved the sufferer and his using it daily at each diet speedily restored him to wonted health and strength. They had recourse to various other cures for this disease—all of superstitious nature. For instance, if whooping-cough broke out in a family, some neighbour was sure to send some fresh butter to the sufferers. This was called 'Im gun iarruidh.' It was efficacious as a cure, altogether because it was given spontaneously—without being asked for. Sometimes the father or mother would take the persons sick out to several of the neighbours' houses, and they would require to partake of some kind of food in each house, however little appetite they might have for it. This was said to have a beneficial effect in checking the disease before it reached its most dangerous stage. But the strangest cure of all is—Water oozing or gushing out of a perpendicular rock, taken with a spoon made of the aspen tree. Let it be observed that water flowing over a rock will not do—it must issue from a crevice in the body of the rock. When this could be obtained it was sure to cure the most violent case of whooping-cough. Probably the origin of this will be traced to the belief that the cross on which our Saviour was crucified was made of the aspen tree. Here its being used for any ordinary purpose like other timber, is looked on as something highly improper. The water oozing from the rock, not flowing over it, has probably some reference to the water that welled from the rock when smit by the rod of Moses at Meribah."

We are much obliged to "D. R." for his very interesting communication. And now let us give our fifth, and meantime, at least, our last batch of riddles. With one or two exceptions, they are "all of the olden time," and some of them, the reader will observe, are versified with exquisite tact and taste, attaining to a pitch of excellence in this respect that one feels that it were in vain to attempt to equal it in our degenerate day.—

The first is—

An tigh a chunnaic mi fhìn 's mo Dhònull,
'Us sinn an diugh air an tolmán bhoidheach,
Toillidh ciad nan ciadan ann,
'S cha thoillinn fhìn a'm ònar ann.

The second—

Baraille gun cheann gun mhàs,
'S e làn do dh'fheòil duine.

The third—

Thuit ubhal 'an abhainn,
Bha deich ga togail,
Ceithir-ar-fhichead ga cagnadh,
'S aon neach ga 'slugadh.

The fourth—

Chuir boirionnach truinnseir arain air
Beulaobh aoidh, 's thubhairt i—
'Na ith an t'aran 'tha brist',
'S na brist an t'aran 'tha slàn',
Ciamar 'dh'ith e 'leor?

The fifth—

'N diugh chunnaic mi 'm baile faoin,
'S bu mhòr m'ioghuadh ri na bh'ann,
Tuath gun stoc, gun chainnt, gun chèol,
'S na 'bha beò ann, bha iad dall!

The sixth—

Muc dhubh 'sa choill,
Gun fhuil, gun fheòil,
'S gun chnaimh 'na ceann!

The seventh—

Bodach 'sa chuill,
'S dà shuil dheug air.

The eighth—

'S airde e na na beanntan,
'S doimhne e na mhuir,
'S bidich' e na 'n dreadhan-doun,
'S milse e na 'mhill.

The ninth—

Tha e biorrach, biorrach,
Tha e geannach, geannach,
Tha e luath, luath,
Tha e ruadh, ruadh,
Tha dà shuil a mhinnean air,
Tha dà chluas a choinean air.

The tenth—

Tha caora dhubh 'sa bhaile ud thall,
Biadh gu math i
'S gheibh thu fichead rùsg 'san latha dhi.

The eleventh—

'S e 's luaithe na ghaoth,
Togaidh e 'n dealanach,
Bheir e naigheachd leis gach taobh,
Ged nach sgriobh 's nach labhair e!

There now, dear reader, you have another batch (eleven this time, there being

"Luck in odd numbers, quoth Rory O'More")

whereupon to exercise your ingenuity till we meet again.

Au revoir.

5th February 1872. *J. H. Campbell*

*This is from the Revd Alexander
Stewart Maule Ballechin Esq.
A contributor to the Gael.
In 1873, he published some a
Gaelic ballad whereupon I
wrote & he wrote. & he wrote
wrote. See journal &
Correspondence 1873. April 22
J.H.C.*

Letten-keine Wales.
Aug 25. 72

a Popular tale can be told in any language
and the method of telling the incidents has
nothing to do with the tale. a Popular tale
may be Verisifical, like Esop's fables, but
still it continues to be the Popular tale

Dec. 27. 1871. Forres Elgin
and Nairn Gazette

FORRES MECHANICS' LECTURES.

"THE HEROES OF OSSIAN."

THE third lecture of the present course in connection with the Forres Mechanics' Institute and Library was given in the lower hall on Wednesday evening last week by J. Murdoch, Esq., of the Inland Revenue, Inverness, the subject being "An Evening with the Heroes of Ossian." Rev. Adam Robertson, of the Free Church, presided. There was a good attendance.

The CHAIRMAN said he had great pleasure in introducing Mr Murdoch to the present meeting. He had no doubt most of them knew something more or less about those very remarkable productions that were to form the subject of to-night's lecture. At least for himself he could say that he had become familiar with and admired them many years ago. He did not intend now to occupy himself very much with the controversy that existed about them—how Macpherson, a schoolmaster of Inverness-shire, had published translations of several of these gaelic poems of Ossian, the authenticity of which was stoutly denied by a large class of literary men, whilst others whose opinions were of equal weight and importance said they were real and genuine productions; and the controversy as to this had come down to the present day without any satisfactory solution having been arrived at. Some affirm that Macpherson composed the poetry himself and others only go the length of saying that he translated it from traditionary sources. He had been acquainted with not a few old ladies who would as soon have doubted the authenticity of the Scriptures as of Ossian's poems, and would have cut him dead had he ventured to express a different opinion; but he had always taken care to declare his ignorance on the subject. He had no doubt that whatever mist still hung around Ossian's poems would be completely dispelled by Mr Murdoch's lecture. (Applause.)

Mr MURDOCH rose and said his title—"An evening with the Heroes of Ossian"—would have warranted him in steering clear of the controversial part of the subject and he had intended doing so; but as the Chairman had introduced it perhaps it might be expected that he (Mr M.) would give his opinion on the matter. The report on the subject published in 1805 had an important bearing on the subject, but they might judge how far that which ought to throw perhaps the principal light on it had been allowed to affect the question when he stated that a second edition had not been called for, and consequently it was not surprising that people are not very well qualified to pronounce an opinion on the subject. This report, however, had demonstrated the fact that Macpherson did collect these poems from the recitation of them by old people in the country—a fact which is sworn to by parties who heard the reciters and who saw Macpherson taking them down. It was also proved that Macpherson had a considerable number of volumes, some of them containing poems of considerable length, so that he must have had considerable quantities of gaelic poetry from which to make his compositions. These documents, however, had never been found, though a vague statement had been made after the translator's death that they were in the Advocates' Library in Edinburgh. He had no hesitation in stating that, however much he and other highlanders might feel interested in or proud or otherwise of these compositions given by Macpherson to the world, we were not entirely dependent on him for our Ossianic poetry. He was an ambitious man and it is quite a likely thing that when his statement that these magnificent productions were translations was met by the charge that he must be the author of them, he was only too glad to accept such an honour. Be this as it might, Macpherson had the honour of directing other men's minds to the subjects who collected similar materials, taking care at the same time that no room should be left for doubting their authenticity. Different Scotch, English and Irish collectors each and all claimed them for their own nation. The length of the poems gave rise to great doubts, as it was hard to believe that those poor people of the highlands should have been able to repeat pieces of thousands of lines in length and that they should have been handed down from the third to the beginning of the eighteenth century, seemed to be out of the question. He did not think, however, that such reasons justified the denial of the genuineness of the poems. A great deal of ancient history was remembered and preserved in the same way and the poetry being in rhyme made it more easily remembered. He recollected when a boy listening to prose stories of great length in gaelic and he was told in the same language the whole of the Arabian Night's tales. He considered this to be

John Murdoch in the
Heroes of Ossian.

a great feat of memory. In these olden times there were professional remembrancers, each chief having his bard, and he had the distinguished honour of bearing the name of one of the very best of them. Notwithstanding all this, circumstances had rendered it possible for Macpherson to have had gaelic originals of these splendid poems, but if so they had never been found. Apart altogether from the interest and amusement one might take in reading or reciting good poetry, it might be worth while to consider what occupied the attention of these people in by past times, before the days of newspapers, mechanics' institutes, telegraphs, railways and such like. In fact a great deal of their time was taken up in the recitation of or listening to Ossian's poems, and they were little likely to be forgotten, seeing that they were hearing them over and over again. Mr Murdoch said he had intended steering clear altogether of the controversy, but he could not help making these remarks upon it since the Chairman had alluded to it. He then went on with his lecture (which he thought would be more correctly styled, "An Evening with the Feine"); taking hero after hero from the poetry and romantic prose associated with the name of Ossian, describing each in person, deeds and character, drawing them, as he said, clearly out of the mist of Mr Macpherson's chopped prose, and leaving Fionn, Oscar, Cailte, Connan, Cuchullin and the rest distinctly defined before the minds of his audience as they were left by the bards the seanachies in their own graphic compositions. The characters whose deeds resound in Ossianic song were vivified in excellent selections of poetry, some of which, it did not surprise us to learn, were translated and rendered in the poetical form by Mr Murdoch, who showed that he possessed a thorough acquaintance with as well as a love of his subject. We regret that, owing to a pressure of matter that demands immediate attention, we cannot give our report of the lecture this week. We shall, however, return to it next week, when our space will not be so occupied. Mr Murdoch was listened to with great attention, and the frequent applause by which he was greeted evidenced how highly his lecture was appreciated.

At the close Mr ROBERT URQUHART, President of the Institute, said he had great pleasure in proposing a cordial vote of thanks to Mr Murdoch for his interesting and instructive lecture. (Applause.) He hoped it would be the means of inspiring the young men of the present day with a greater desire to become acquainted with the poetry of Ossian, which was much better known in his early days than it is now. He was put very much in the position of a well-known judge when commenting on a particular case—Mr Carment said he thanked God he never doubted! (Laughter.) He (Mr U.) knew some of the old ladies to whom the Chairman referred, and he might say that he always sided with his friend Mr Robertson. (Laughter.) But instead of the cuts of his lady friends, he would, if he expressed any doubts, be more afraid of the cuts of another class. (Laughter and cheers.) Mr Urquhart begged to propose a hearty vote of thanks to the lecturer, which was warmly responded to.

The CHAIRMAN intimated that the next lecture would be given (after the Christmas and New Year vacation) on Wednesday, 10th January, by Dr Hunter, Cluny Hill House, the subject being "Our Bodies and how we should Treat them."

After a vote of thanks to the Chairman, the meeting separated.

JANUARY 3, 1872.

FORRES MECHANICS' LECTURES.

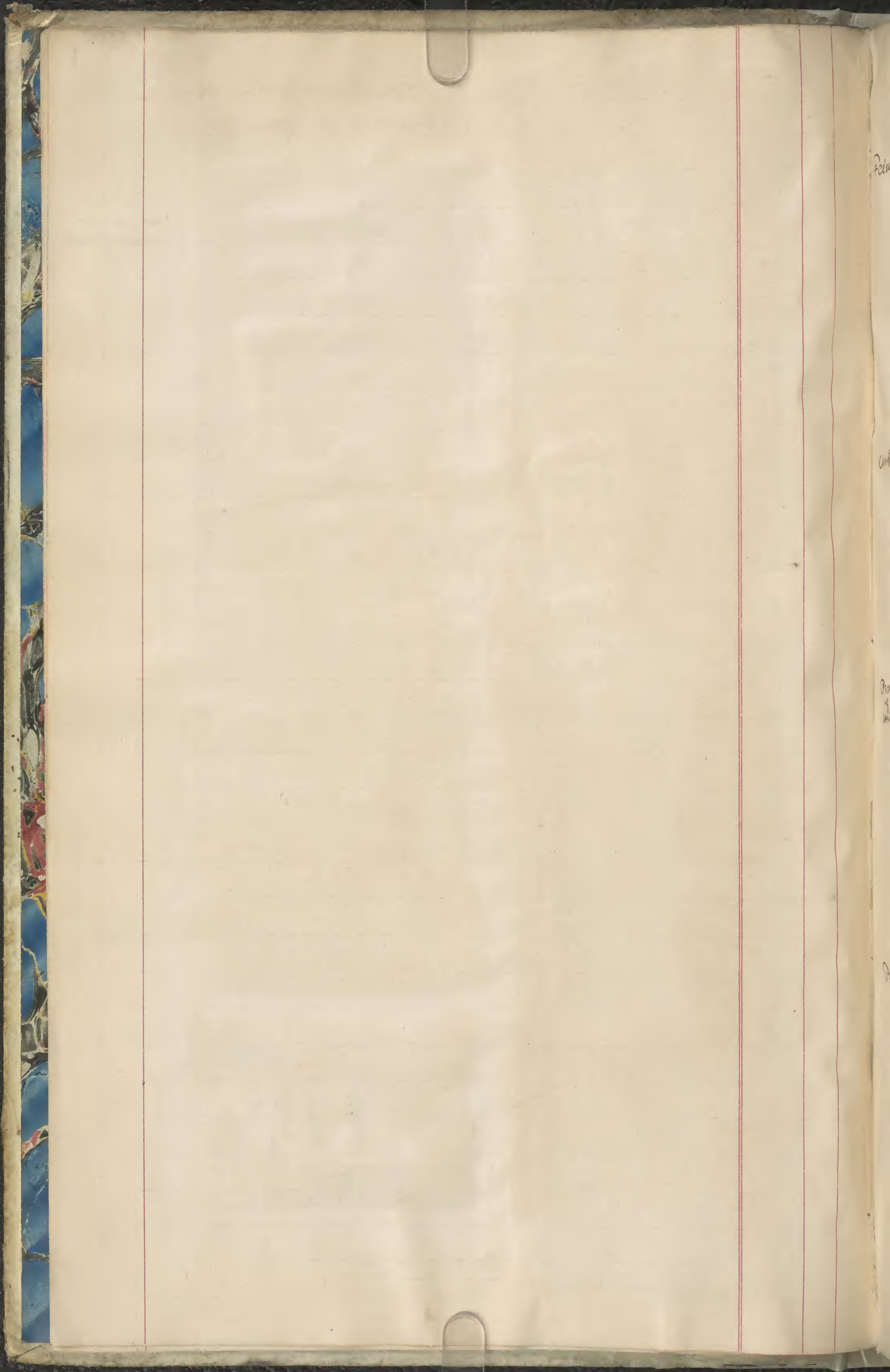
"THE HEROES OF OSSIAN."

Last week we were able to give only the opening portions of Mr Murdoch's lecture, "An Evening with the Heroes of Ossian." We have pleasure now in presenting the remainder of it and its great interest well justifies its publication. After his introductory remarks on the controversy regarding the authenticity of Ossian's poetry, the lecturer proceeded:—

arabian nights

originals
never found

John Murdoch
Wales.
Aug 25. 72



John Muir on the Odes of Ossian

42

Letten-keim Wales, 1872

Feine

Were it not for the odium which has lately fallen upon the name through the strange and disquieting conduct of certain Irish malcontents and revolutionaries, I would have offered my small contribution to the mechanics of Forres under the more truly descriptive heading of "An Evening with the Feine." For one of my objects is to take hero after hero, and from the poetry and romantic prose associated with the name of Ossian endeavour to describe each in person, deeds and character, so as to draw him clearly out of the mist of Mr Macpherson's chopped prose, and thus leave Fionn, and Oscar and Caoilte and Connan, and Cuchullin and the rest distinctly defined before your minds, as they were left by the Bards and Seanachies in their own graphic compositions. In this way, I should have at once reproduced the persons and characters whose deeds resound in Ossianic song, and given, in what I would deem tolerable English, some very good specimens of our Gaelic poetry. But alas! I come before you claiming your kind indulgence, as I feel sorely how far I have come short of doing justice to myself, not to speak of the higher claims of my subject and my audience. So long as men are capable of regarding a thing of beauty as a joy, the subjects which I purpose bringing before you to-night will be of considerable interest, without any reference to the issues raised by Dr. Johnson as to the authenticity of Mr Macpherson's Ossianic poems. We read the Arthurian poetry—served up to us moderns by the Poet Laureate—with interest and delight, apart altogether from the question as to whether they are his own, or the modernized productions of ancient British or Welsh bards. And I cannot see why we should be scared from our Highland poetry—which is, to say the very least, equal to the Mabenogian compositions which form the staple of some of Teunyson's best renderings—simply because no one can furnish documentary evidence that Ossian wrote those associated with his name. A man might as well decline to eat honey because he did not know the hive from which it came.

antenn

The Ossianic poetry is there; it has the ring of the pure metal; it bears the stamp of true genius; and I fancy that we have much the same reason to be proud of it, and altogether the same reason to cherish and enjoy it, whether it was the work of Fingal's son in the third century, or of Macpherson in the eighteenth.

Ossianic
Ossian

For my own part I do not know what I would take and forego the ennobling gratification of reading the poems of Ossian, particularly in Gaelic; and most particularly of hearing them read or recited by a thorough Gaelic reader.

Permit me here to state that when speaking of Ossian's poems I do not by any means confine myself to those poems which were given to the public by Mr Macpherson about a hundred and ten years ago. Let me also state that there are many poems in print, in manuscript, and afloat in the minds of the people, which no one well-versed in the subject ascribes to Ossian himself, although they come in what I may call the literature of the subject, under the general head of "Ossianic poetry." Ossian was but one star in a galaxy of Gaelic warrior bards. And supposing you were to uproot from our memory and literature all that hangs in any measure upon the credit of Macpherson, and even all that is, with any show of evidence, ascribed to Ossian himself, we should still possess a mass of heroic sentiment, story, and song, of which any nation might well be proud.

Professor

And you may look forward to a day, not far distant, when this subject of our only really ancient Scottish literature will have its place in our Universities, and when no man will be regarded as having had a really liberal education, who is not better acquainted with Ossianic literature, Highland traditions, and Scottish and Irish MSS., than he is with the literature of Greece and Rome. This is one of the results to be anticipated from the establishing of a Gaelic Professorship in Edinburgh. In fact, this Professorship will be but the nucleus of a wider system of efforts to bring to the light of day and the enlightenment of men the vast quantities of Gaelic poetry and prose which archeologists know to be in existence. Already the general public are aware that among the learned, Professor Blackie is quite an enthusiast in the cause of Gaelic literature. But in the same city we have not only Dr. MacLachlan, who is also well known as an ardent student and teacher of Gaelic, but we have Skene, who has devoted a great part of his life to the subject; and we have the very able and erudite professor of polite literature, Dr. Masson, who insists upon our Gaelic compositions, proving one of our most valuable literary inheritances as a nation. Then there is that Titan in literature, poetry, and philosophy, Matthew Arnold, who demands for Gaelic and its treasures a hitherto unacknowledged place in the literature, education, and history of our country. These men, in common with Max Muller and others, find that they cannot make way in any direction in philology, in ethnology, in history, or in topography, without the aid of Gaelic literature. To several branches of inquiry it is as necessary as conchology, ichthyology, comparative anatomy, and botany are to geology.

Supposing, for example, that we desire to form an honest estimate of the minds of the people who inhabited, say the north and west of Scotland 16, 17, and 18 hundred years ago, how are we to go about the inquiry? I venture to assert that Tacitus and Caesar and Agricola will serve us but very little. But the poems and other compositions which they admired, which they cherished, which they understood, whether they composed them or not, will be admitted to be of immense value. I may even go the length of saying that whether those productions are the records of facts, or the mere emanations of the brains of the Bards and story tellers themselves, they afford us a large amount of evidence as to the character of the people. Will not, for example, future philosophers judge as much of the mental level and tone of the present generation, from the works of Scott, and Dickens and Miss Braddon, as they will from the records of our conquests and from the returns of the Board of Trade.

And so it is, that apart from any pride or vanity which we, as Scots, may have in the achievements of our forefathers, these compositions are in actual eager requisition for the purposes of science and philosophy. An ancient ballad, a fragment of a story, a riddle, a baby rhyme, a fable, is now seized on by the student of mankind with as much anxiety as a fossil shell, plant, or bone is grasped by the geologist. And, as the fossil or the boulder is valued not merely for its original composition and form but for the accidental marks which it may bear of contact with other objects before it settled in its bed of stone; so the legends, the traditions, the ballads come to be of use to the ethnologist not merely for what they were originally, but for the evidences of erosion and denudation, as I may call it, which they bear. For instance, we find in one version of a story, say, a word which we find different in another. The purely literary man would merely draw his pen through the less elegant, and insert the other. Not so the careful searcher after scientific information. The difference is to him like the mark of an iceberg on the side of a glen, and the picking up in the story of an uncouth word is like the Scandinavian boulder found on the top of a Scottish hill.

Thus it is very briefly seen that these things which were to a large extent the mere pastime of our primitive fathers are some of the solid materials out of which philosophers build up science; and so it is that the brothers Grimm, and Dr Dascent, and Mr Campbell of Islay, and others who are collecting stories, and legends and ballads are just as much engaged in the cause of science and in the work of building up the science of man, as they are who are deciphering MSS., and studying antiquities in the British Museum; and so, further, whilst I am perhaps gratifying myself and amusing you with Fenian ballads, I may be casting a net which will by and by be drawn ashore with a valuable haul of materials yet to be used in the ambitious architecture of the wise.

I have mentioned that we are not, as some suppose, dependent entirely upon Macpherson even for what we have to-day in English of ancient Gaelic compositions. Apart from what Mr Macpherson did in the way of rescuing Fenian lore from impending destruction, he did good service in directing attention to the mine from which he procured fame and wealth for himself. Hence we can now refer to collections made soon afterwards, by Kennedy, by Hill, Gillis, Smith, Miss Brooke, Stewart, MacCallum; and subsequently to them, by McCampbell, of Islay, Mr Alex. Carmichael, of Lochmaddy, and many others who have collections although they have not yet been published. Since then, too, large collections have been made in Ireland; and it is a remarkable thing how the theory of the common property of the world in these stories and ballads is

borne out by a comparison of our Highland lore with that of Ireland. So striking is the sameness of the Highland and the Irish stories and poems that many Irish critics have said that we have none at all of our own—we have only stolen from Ireland; whilst some of us, not to be behind them in egotism and bigotry have gone the length of saying that the Irish have only trumped up their stories since the days of Macpherson. For my part, I take them where I can best find them to complete my sketches, whether that be in Ireland or in Scotland. The truth is, that as regards real, historical materials, we must depend mostly upon what is to be found in Ireland, where, beyond all question, they have a large quantity of valuable MSS.; whilst I am inclined to think that we are richer in real poetry of an ancient date, although sadly deficient in that kind of elaborate and intricate verse of which the Irish can boast.

Before leaving this point it is but right that I should direct attention to an important fact, which seems to me to be very generally overlooked by persons who enter into the controversy which Dr Johnson raised with the partisans of Macpherson. You are aware of course that Dr Johnson denied, not merely that Macpherson had Gaelic originals for his English version, but that he could possibly have them, alleging that the Highlanders could not make, could not repeat, could not remember such poems,

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Ireland

Scotland joined

This is one of the most remarkable bits of the
assianic controversy. I have touched on it
in my introduction to *Senohan na Feime*
now in process of making up. Jan 25 1872.
I think I shall answer for the facts. Which
seem to be irreconcilable at first.

This opinion is partly the same as mine in
Vol IV. Popular Tales. It will be modified when
the new book comes out. I suppose.

John Murelloch on the Heroes of Ossian.

35

and that there were not two hundred lines of Gaelic poetry in existence two hundred years old. Nay, so confident was the sceptic on the subject that he carried the war into the enemy's camp, by making a tour into the Highlands for the purpose of making good his assertions. As was natural in the case of a man so determined and totally ignorant of Gaelic, he came back confirmed in his unbelief. So to all who accepted the oracle, Macpherson, who hitherto only ambitioned to be a translator, was now proved to be one of the greatest poets of any age. I am afraid there are not many men of any age to disown so flattering an imputation, particularly when to lie under it was merely to take no action in the matter, and when to disown the soft impeachment necessitated some tough work. At any rate, it is no wonder to find that, as David Hume said, no help was to be had from Macpherson himself in disproving Johnson's assertions.

True, all this time Highlanders generally regarded Macpherson merely as a collector and translator, and but a poor translator too. In other words, those who knew the language in which the originals were said to exist, believed in the genuineness of Macpherson's Ossianic poems. Those who did not know that language were perhaps to be excused a little if they withheld their belief for a time.

After a good deal of pen and ink war, I may say that the question was left just so; and so most people accept it to this day.

About 30 years, however, after the publication of Temora, one of Macpherson's great essays, a committee of the Highland Society of Edinburgh was appointed to collect matter-of-fact evidence on the subject, carrying out a plan suggested by no less a master of reason than the famous David Hume. I shall not detain you with any account of the inquiry, further than to say, that it was gone about in the most deliberate and judicial manner, the witnesses being brought before the Justices of the Peace, and sworn as to the truth of their allegations. These depositions, together with a mass of valuable, pertinent, and interesting matter bearing on the subject, were published in a small octavo volume of between three and four hundred pages, in 1805; and I feel perfectly justified in saying that no one who is not acquainted with that Report is in a position at this day to give a very intelligent opinion on the subject. Yet, strange to say, most people who have an opinion on the subject hold just that opinion which was formed before that report was made; and in all the years which have passed since the first publication, no second edition has been called for. Without committing you to the opinion, I presume I am expected to say what I think on the subject. Briefly then, I believe

1st, As may have been inferred already, that there were large quantities of prose and metrical compositions afloat among the people when Macpherson made his tour—far more than are now—and that of those he collected a considerable quantity. So that if the poems which he published were fabrications of his own, they were so not because he had not ample materials in Gaelic from which to make translations.

2nd, I believe that he got considerable quantities of old MSS.

3rd, That he left the originals from which he made his versions with Beckett his publisher, in 1762, and inserted an advertisement in the public papers that those originals were there for the inspection of the incredulous.

Mr Murdoch now went on to introduce the "heroes," and of them all the highest place is occupied by Fionn. He is known as a stout, square-built man with fair flowing hair—found in proverbs relating to personal strength, to daring, to honour, to magnanimity and military generalship—in all he is the enemy to be feared, the friend to be trusted, the model to be imitated, the generous soul to be loved by women and followed by brave and noble men. Like all the other heroes, Fingal or Feinn MacCumhal was capable of bearing any amount of bodily hardship, was an expert swordsman, spearman, and horseman and capable of doing even on foot what ordinary men could hardly do on horseback. All the heroes required to be poets, which made it natural they should afterwards be found the authors as well as the subjects of "metaphor and measure"—Burns's pithy definition of poetry. And so it is that what are called Ossianic poems and tales are in tradition and in ancient writings ascribed to Fionn himself to his cousin Caoilte, as well as to Fergus and Ossian, the two sons of Fionn.

These were all men of culture as well as prowess in fight, of high lineage, and some of them of noted genius and nobility of soul. Fionn in particular was the very soul and centre of magnanimity. Ossian in one of the poems found in the Dean of Lismore's book says of him—

A powerful king,
My patron, my might,
Both poet and chief,
Braver than kings
Firm Chief of the Feinn.

Generous, just,
A rider bold,
Of vigorous deeds.
First in songs,
A righteous judge,
Steady his rule,
Polished his mein,
Who knew but victory.
Who is like him
In fight or song?
Marble his skin,
The rose his cheek.
Blue was his eye,
His hair like gold.
Of noble mind,
Of ready deeds,
To women mild,
A giant he,
The field's delight.

With miser's mind
From none withheld.
Anything false
His lips ne'er spoke.
He never grudged,
No, never, Fionn;
The sun ne'er saw king
That excelled him.
Ne'er could I tell
The third of his praise.
But sad am I now,
After Fionn of the Feinn.
Away with the chief
My joy is all fled.
No friends among the great
No courtesy, no gold, no

queen,
No princess, no chiefs.
Sad am I now,
Our head ta'en away,
I'm a shaking tree,
My leaves all gone,
An empty nut,
A reinless horse.
Sad, sad am I,
A feeble kern.

But,
When Fionn did live
All things were mine.
Seven sides had the house
Of Cumhal's son,
Seven score shields
On every side,
Fifty robes of wool
Around the king,
Fifty warriors
Filled the robes.
Ten bright cups
For drink in his hall,
Ten blue flagons,
Ten horns of gold,
A noble house
Was that of Feinn.
No grudge, nor lust,
Babbling, nor sham.
No man despised
Among the Feinn.
The first himself,
All else like him,
Finn ne'er refused
To any man,
However unknown.
Ne'er from his house
Sent those who came.
Good man was Feinn,
Good man was he,
No gifts e'er given
Like his so free.

Examples were then given of how the traits described in the foregoing lines come out in word and deed, but we refrain from quoting further as we have already gone beyond the allotted space for our report. The next hero taken up was Diarmid O'Duibhne—who by the way is said to have been a progenitor of the Argyle Campbells—so remarkable for his beauty that he possessed irresistible attractions for the fair sex. The next heroes were Cuchullin and Caoilte—the former next in ability to Fionn and the latter a dear, affectionate, brave fellow and withal a gifted and cultured bard. Clann Uishnach were the next alluded to along with a number of minor ones, interesting examples from each being given. Altogether the lecture was a treat, and we trust Mr Murdoch may be induced to publish it in a complete and revised form.

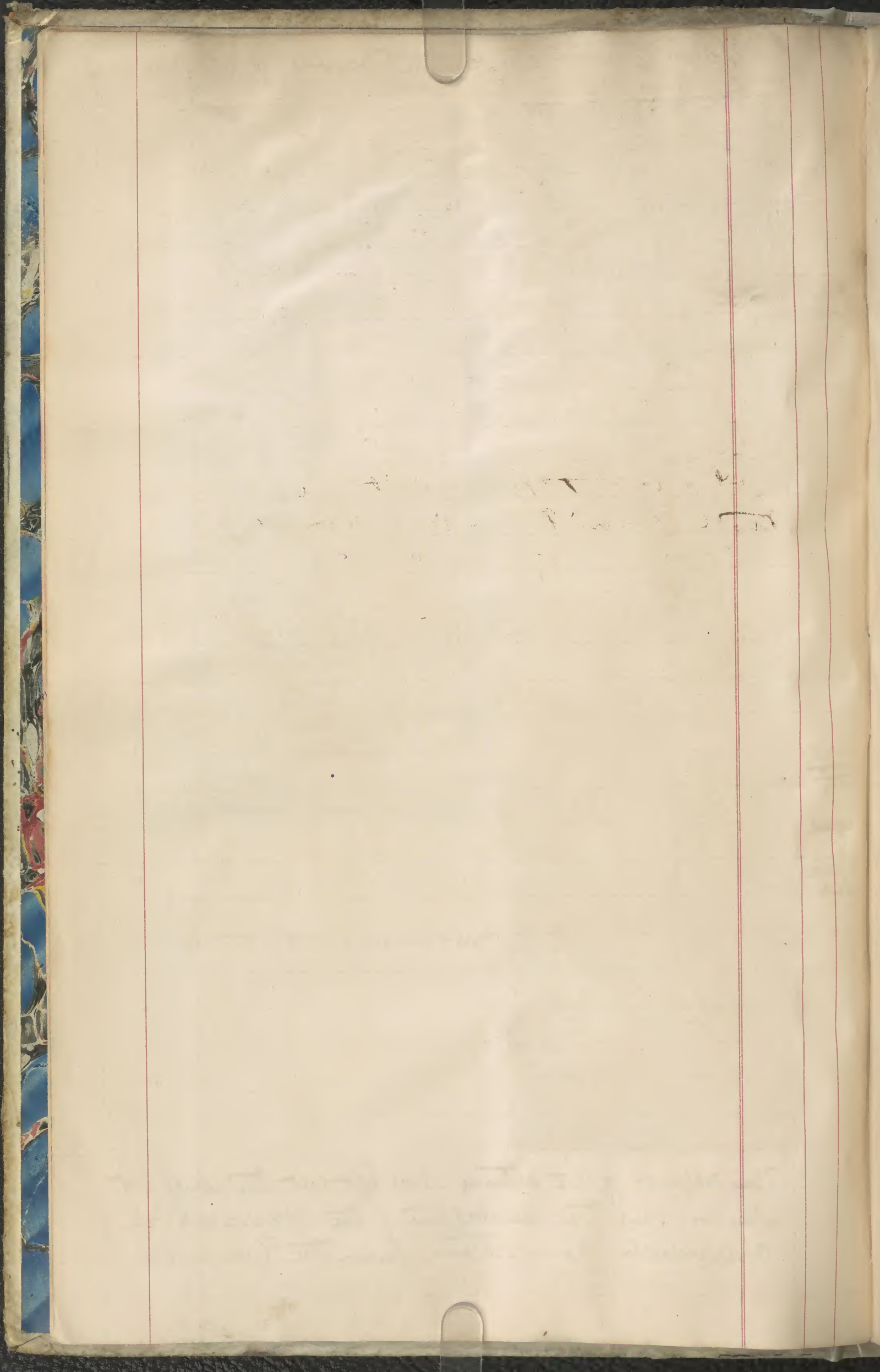
He is a cunning crafty old runner

This report of the lecture has left out the chief bit which was the description of the warriors as Murelloch knows them from the Ossian book and tradition.

John Murelloch
Wales, 1872

agreed
JH

agreed
2 as
in these
papers.



Immeloch on the Heroes of Ossian

There is not much in this that I can add to my own knowledge. It is the result of reading books which I have read, & the book which I wrote and of conversing with men who were well for me and whom I set to work. & with Carmichael Hector Mac Lean and others.

It is good language, and it is well done. The lecturer wrote his lecture and gave it to the Paper, which took what the editor thought likely to interest his public.

It proves that my subject has interest for this class in this region at all events.

J.F. Jan 25. 1872.

Letter-keinn Wales.
Jan 25. 72

The Dean's Names Book.

DAY, JANUARY 2, 1872.

Letters to the Editor.

THE BOOK OF THE DEAN OF LISMORE.

SIR,—In the recent discussions on the Ossianic controversy, to which the publication of Mr Clerk's edition of the poems of Ossian gave rise, frequent reference was made to the book of the Dean of Lismore. It is not, however, generally known that the only edition of that interesting collection of ancient Gaelic poetry hitherto published—that edited and translated a few years ago by Dr MacLachlan—is extremely inaccurate. The introduction, written by Mr Skene, contains, indeed, much valuable information; but the Gaelic editor, who evidently had no acquaintance with Irish Gaelic, and but very imperfect acquaintance with the grammatical structure of modern Scottish Gaelic, frequently misunderstood the Gaelic originals, even as transcribed by himself. This is shown by the following examples:—

Page 22, line 30. In speaking of the beauty of Diarmad O'Duine, the poet says, "Bi gil a wrai no grane" (his breast was whiter than the sun), and this in the editor's modern version appears as, "Bu ghile a bhrù no gréin" (his belly was whiter of the sun), which, to avoid the awkwardness of a literal rendering, is translated, "Whiter his body than the sun's bright light." It is obvious that "a wrai" is not "a bhrù" (his belly), which, in the Dean's orthography, would be "a wrow" (see page 40, line 32), but "a bhràigh" (his breast). The final letters *gh* are silent.

P. 4, l. 39. Ossian asks St Patrick in regard to the hunt on "Slabh nam ban fionn," "A phatrik ni baichill fear, a wakka tow hear no horri," &c. (Patrick of the crooked staff, hast thou seen west or east?) &c. In the editor's version, this appears as—"A Phadruig nam bachull fior, am faca tu shear no shoir," &c. (Patrick of the true croziers, hast thou seen east or east, &c.) "Fear," however, is not "fior" (true), but "fiar" (crooked), frequently applied to the pastoral staff, which was called also the "cam-bhata" (App. to Highl. Soc. Rep., p. 134, and Dr Young's Col., p. 63); and "hear" is "shiar" (west), not "shear" (east), which is the same as "shoir." In the Dean's orthography, *ea* frequently stands for *ia*, as in "shear" and "feaygh" (same page).

P. 30, l. 10. "Derrim rwt a inn, na drillis noon" appears in the editor's version as "Dcirim riut a Phinn, na triallas nunn" (I say to thee, Finn, go not across), an error into which any one possessing a knowledge of the simplest elements of Irish grammar could not have fallen. "Na drillis" is not "na triallas" (go not), but "na drilis" genitive plural of "drilis" (bushy hair, locks); and "noon" is not "nunn" (across), but "ndonn" genitive plural of the adjective "donn" (brown). In the genitive plural in Irish, *t* and *d* are eclipsed by *d* and *n* respectively, and therefore, they become silent in pronunciation. The above, which is correctly given in Miss Brooke's copy, is, when literally translated, "I say to thee, Finn of the brown locks." The mistakes into which the editor has fallen, through want of acquaintance with the rules of eclipse, are very numerous.

P. 30. The 9th line of the ancient version has been omitted in the modern version (the editor's), and the 19th line of the modern version is not in the ancient version, but seems to have been taken from Miss Brooke's copy.

P. 30, l. 34. "Cuiris say layve gych trayn da wayd" is in the editor's version, "Cuirias se leon, gach treun dha mhead," of which it is not easy to make any sense. But "layve" is evidently "lamh" (hand), as in the 3d line above and in l. 38 of p. 20, not "leòn" (hurt), which the editor has apparently taken from Miss Brooke's copy, which has "lean." The ancient version presents no difficulty here.

The mistakes affecting both the sense and rhythm, which occur in the editor's version of this poem, are very numerous.

P. 16, lines 10, 11—
"Hank in leich bi wath tiacht le feich is lay nart no genn
Agas fodeis woy in wen di we gar a zolin inn,"
is in the editor's version—

"Thaing an laoch bu mhaith tiachd, le foch 'us le neart 'n a cheann,
Agas faigheas uainn a bhean, do bha'n goice do ghualainn
Fhinn."
(Lit. The "well-formed" hero came, with rage and strength in his head,
And gets from us the maid, who was near to the shoulder of Finn.)

But "no genn," if not a mistake for "n ar gceann" (against us), is "n a gceann" (against them), not "n a cheann" (in his head); and "fodeis" is "fuadas," from "fuadain" (I snatch away), not "faigheas" from "faigh" (to get, obtain). In the editor's version, the measure also of the ancient version is destroyed by "do bha'n goice do ghualainn Fhinn," for "do bhi 'n gar do ghualainn Fhinn."

P. 54, l. 21. "Noewe a manmsyth phadrik is hard crawe is sochyr" (sanctify my soul, Patrick of highest piety and privilege), is, in the editor's version, "Naomhaich m'anamasa, a Phadruig, is airde cruth 'us sochair (sanctify my soul, Patrick of highest form and privilege.) But "crawe" is not "cruth" (form), which, in the Dean's orthography, is "crow" (pp. 14, 38, 42). It is evidently "crabhadh" (piety.) See pp. 12, 124. "M'anamasa" for "m'anam-sa" is also an error.

P. 22, l. 25. The editor has entirely misunderstood "M'O'Zwne keawe in gleacht," which he makes M'O'Dhuinn caomhan gleachd" (M'O'Duine, gentle in wrestling), instead of M'O'Dhuinn ciabh nan cleachd" (M'O'Duine, of the curled locks; *ciabh*, lock of curls). "Caomh," in the Dean's orthography, is "keive" (p. 14, l. 22), and "gleacht" is "cleachd," with *c* eclipsed in gen. plur. by *g*, as in 7th line below. The editor's translation is, "Brave M'O'Duine, so skilful in the fight," which entirely mistakes the sense.

On the same page I find other mistakes—as "bu gharbh an trod" (who was thick or rough in strife), for "bu gharg an trod" (who was fierce in strife); "mòr bhuaidh nan arm" (the great victory of arms), for "mòr luaidh nan arm" (the great renown of arms); "tan lann" (with the article omitted). This last phrase is translated by the editor, "His thin-leaved sword," to which he adds the following note:—"The Gaelic is 'tan-lann,' the thin sword. Was this steel, or merely bronze? The thinness would seem to indicate steel." But does "an tan lann" signify "the thin-leaved sword?" "Tana," and not "tan," is *thin*, and has the editor ever met with an example of the adjective "tana" preceding its noun, as "tana-lann?" Besides, it deserves to be noticed that Gillies' copy has "an t-seannlann," or "an t-sean lann" (the old lance), which agrees well with the context, and may be represented, in the Dean's orthography, by "an tan lann," as "d'a shean-athair" is by "da hanathir" (p. 23).

P. 58, l. 8. The editor makes "byn in near feddyl nyth lon" to be "bint, a nithear feadail nan lon" (sweet will be made the whistling of the blackbirds.) But "near" is "niar" (from the west), not "nithear" (will be made.) See Highland Society's Report, pp. 258-9, and "a niar" (from the west), in O'Donovan's Grammar and O'Reilly's Dictionary, according to which the above is "Sweet from the west the blackbirds' singing."

P. 18, l. 2. "Deyth bleyin zoolle in arm naye," &c., is not, as supposed by the editor, "Deich bliadhna dhol an arm nimh," &c., of which, whether taken alone or with the context, it is difficult to make any sense. "Zoolle" is "dh' Gholl" (to Gaul), and "naye" is plainly not "nimh," but "n-aidh." The literal rendering, therefore, of the above, with which Miss Brooke's copy agrees, except that the latter has "leith" for "deich," is "Ten years to Gaul of victorious arms," &c., that being the time, if the editor's transcript be correct, the son of Morn was healing with Finn.

P. 122, lines 30, 31—
"Ga beg a chwle chranaych ni in dad one zat zryme
Gin nis di re woraych no rey fa wil a skaye."

The editor entirely misunderstood these lines, which he translated—

"Though little room you'd take, not one of your race,
Unknown to Heaven's King, shall get beneath his roof."
But in the list of errata at the close of the volume, there is a partial correction of this translation, which now reads—

"Though little the humming fly, not even a sunbeam,
Unknown to Heaven's King, shall get beneath his roof."

This alteration, however, does not bring out the meaning of the ancient version, or even make sense of these lines. I have seen three different copies of this poem, which in this place agree very nearly with the Dean's. One of them has:—

"Ge beag a' chuil chrananach, is monaran na gréine,
Gun fíno do'n rígh mhóralach, cha téid fo bhíll a' sgeith,"
which may be rendered as follows:—

"Though small be the humming fly, or the mote in the sunbeam,
Without the knowledge of the Majestic King, it will not go
beneath the border of his shield."

These lines being indeed a literal rendering of the Dean's copy.

In the editor's modern version:—

"Ge beag a' chul chrananach, ní 'n téid aon ghath gréine,
Gun fíno do'n rígh mhóralach, 'n a ré fo bhíll a' sgeith,"
there are several errors. "A chwle" is not "a chul" (his back?), but "a' chuil" (the fly), and "dad" is not "téid" (will go), but "dad" (mote, atom), which agrees with "monaran" in other copies, if, indeed, "dad one" be not a mistake for "dadom" (dadum-dad), as "ni," in the transcript, is for "na," a form of the conjunction "no" (or).

The editor gives an edition of Allan M'Rory's poem ("Bàs Osgair"), which was taken down from the recitation of an old woman in Caithness, and which is interesting as showing how Gaelic poetry may be corrupted by unskilful transcribing and editing. The Gaelic is given without a translation, which the editor did not consider necessary. But a translation by him of the following line would be interesting:—
"Beagan bu bhios thu na sin, an là chab-an-eudainn."

What is meant by "an là chab-an-eudainn?" A little acquaintance, however, with Ossianic poetry, as still recited in the Highlands, even without the aid of written collections, would have enabled the editor to see that "la chab-an-eudainn" is a corruption of "la cath Beinn-Eudain" (the day of the battle of Howth). Ben-Eidair, or, as it is sometimes written in Gaelic, "Beinn-Eudain," is the ancient name of Howth, near Dublin.

These examples, to which it would be easy to add many more, show how little reliance can be placed on the accuracy of the published edition of the Dean's Book, and how much it is to be regretted that Mr Skene did not see proper to subject his colleague's work to careful examination and revision before it was published, that we might have some guarantee, which we have not at present, for the accuracy of at least the Gaelic transcript.—I am, &c.

C.E.R.

Letter-keinn
Wales.
Aug 25. 72

a
Guorse

Dean Lismore's book. The Translators letter

Jan

5th

Jan 5 DEAN OF LISMORE'S BOOK. ^{Sutton}
Viewforth Manse, 4th January 1872.
SIR,—I observe a letter in your paper of the 2d inst.,
commenting with some bitterness on my translation of
the Gaelic fragments in the Dean of Lismore's Book.
That book is now for ten years before the public, and
it strikes me as somewhat strange that these strictures
have been reserved till now. I should certainly never
have thought of replying to them were it not that the
letter of "Celt" gives me an opportunity of reminding
your readers of some things respecting the book. The
Dean of Lismore's Book is an ancient Gaelic MS. of
about the year 1512, now lying in the Advocates'
Library. At the instance of Messrs Edmonston &
Douglas, I undertook, about ten years ago, to translate
and edit this MS., Mr Skene undertaking to write an
introductory chapter. On proceeding to deal with the
MS., which had been for a considerable time in my
hands, I found that it was written in two small, in-
distinct handwritings of the sixteenth century; that
the paper was much stained; that the orthography was
almost entirely unique, and far away from any re-
cognised orthography in modern Gaelic; and that a
large number of the words used in the poetry were
obsolete. In these circumstances, the difficulties en-
compassing the work were immense, and the interpre-
tation depending so often upon the ingenuity of the
editor, a large margin existed for doubtful renderings.
If your correspondent saw the number of lines and words
marked by me in my own copy as doubtful, it might
surprise him. And for any man to make these
a ground of attack such as "Celt" makes on me, is,
to any one acquainted with the work, simply evidence
of a want of scholarship. I refer your correspondent
to a note at page 129 of the second part of the book,
where he will find the following sentence. Speaking of
doubtful renderings—"The Editor has only to say,
regarding these and any other cases of doubtful ren-
dering, which in such a work must be numerous, that
he will be happy to receive through the publishers
any suggestions from Gaelic scholars which may help
to secure greater accuracy." At the same time, I feel
assured that the real meaning of the original is given
throughout the book, with such exceptions as are
referred to. To apply to a work like this the same
rules that would be applied to a piece of ordinary
literary editing, is absurd. I do not meddle with your
correspondent's criticising. If I did, are your readers
either qualified or disposed to judge?
Your correspondent holds me up as unacquainted
with Irish Gaelic. Will it surprise him to learn that
several of the more difficult of the purely Irish pieces
in the book were submitted in proof to the greatest
Irish scholar of his day, the late Professor Eugene
O'Curry of Dublin. The following is an extract from
a letter of Professor O'Curry to me on receiving a copy
of the book when published:—
2 Portland Street North, Dublin, February 24, 1862.
Rev. dear Sir,—I have received your beautiful book and your
kind letter, for both of which I beg of you to accept my most
sincere thanks. . . . I feel it a privilege to be even alive when
a book such as yours has made its appearance, under the thought-
ful and critical revision of yourself and my most learned and long-
esteemed friend W. F. Skene, Esq. . . . You will not, how-
ever, suppose that this will be the last you shall hear from me
about your book. That book is now the property of the world,
and if I can find anything in it that could receive improvement or
correction by a word from me, in case of a second edition, which
I fondly anticipate for it, you shall have it with diffidence, but
great pleasure. You must have received light from the fanes of
Lismore, else you could never have made sense out of their book.
—Believe me, &c. (Signed) EUGENE O'CURRY.
That is the testimony of the man most competent at
the time to judge of such a work; and will you allow
me to add that his authority must be, in the estimation of
any man who can distinguish true scholarship, worth a
score of that of "Celt's." I am not in the habit of
taking notice of anonymous letters, but I should regret
if my worthy friend the Dean should suffer from any
Celtic animosity which I may have, however inno-
cently, provoked.—I am, &c. THOS. M. LAUCHLAN.

O Curry.

Shielded under the broad sheet of the Scotsman and the
name of "Celt" a clergyman of the establishment ^{of watching} ~~prints~~
a table of errata, after ten years, as a criticism
upon the work of a clergyman of the Free Church.
The one attempts to discredit the other. one
constructs, the other destroys. My sympathies are
with the builders, so I write to Mac Lauchlan.

Oceanic Lismore's book

Jan 16. 1862

Saturday

chial schools and their teachers without progressing, while all other countries have been sailing onwards with a brisk, fresh breeze. It is time that we should rouse ourselves. We have been listening lazily to what the ministers and the teachers and the professors have been shouting and reiterating throughout the country till we begin to believe that they are right, and that any interference with them is wrong. If I have been able to contribute in the smallest degree to the process of awakening the people of Scotland to "see themselves as others see them," I shall consider it as some equivalent to your readers for the length to which this letter has extended.—I am, &c.

LAYMAN.

THE BOOK OF THE DEAN OF LISMORE.

January 9, 1862.

SIR,—I regret that my letter on the Dean of Lismore's Book has given so much offence to Dr M'Lauchlan. I can, however, assure him that it was written, not from any "animosity" towards him personally, as he imagines, but entirely on public grounds. Frequent reference was made lately in reviews of Mr Clerk's edition of Ossian's poems to the Dean's Book, and arguments were based upon it in connection with the Ossianic controversy, which, I venture to think, would not have been based upon it had the writers been acquainted with the ancient Gaelic version. The present, therefore, seemed to me a suitable time for calling attention to the extremely inaccurate character of the published edition. I considered that my criticism was fair—it was certainly not too severe; and I supported my statements by several examples which show, beyond doubt, that the editor was not acquainted with Irish Gaelic, and that he frequently misunderstood the ancient version, even as transcribed by himself. Those examples, with scarcely an exception, were not taken from difficult or doubtful places, and they speak for themselves. I cannot agree with Dr M'Lauchlan that your readers, among whom are many educated Highlanders, are not qualified to judge concerning them. Any person acquainted with Gaelic cannot but know—and I am convinced that Dr M'Lauchlan himself, now that it has been pointed out to him, sees—that "a wrai" in my first example, is not "a bhrà" (his belly) but "a bhràigh" (his breast), and that, therefore, it was not "the belly" but "the breast" of Diarmad O'Duine, the progenitor of the Campbells, which the poet said was "whiter than the sun;" and nearly all the other examples are equally plain. I regret, therefore, that since Dr M'Lauchlan has not attempted to reply to my criticism, he has not candidly and good humouredly acknowledged its force.

Dr M'Lauchlan has referred to the difficulties which he encountered in preparing his work, and I have no desire to underrate them; but he should have also, in fairness, referred to the great assistance which he received. The late Mr Ewen M'Lauchlan's transcript of the MS. was in the hands of the editors for some time, and copies of several of the poems had been previously published. A comparison of those copies with Dr M'Lauchlan's modern version of the Dean's Book shows the extent of his obligations to them. Very frequently, indeed, their very words are found in the modern version, instead of the words of the ancient version on the opposite page. I have already given some examples, and I have marked several more.

Instead of showing that the examples of errors which I have produced have not resulted, in several instances, from want of acquaintance with the Irish language, Dr M'Lauchlan has published extracts from a letter which the late Professor O'Curry wrote, "on receiving a copy of the book when published." Although Gaelic scholarship has made considerable progress since Mr O'Curry's death, I certainly would not presume to place my authority on a level with his on any subject connected with Irish learning or literature. But perhaps it is not too much to think that, in reference to the present subject—the accuracy of the published edition of the Dean's Book—my opinion, formed after a careful examination of the work, and supported by examples of editorial mistakes, and by the evidence furnished by other copies of some of the poems, may not be unworthy of being put against Mr O'Curry's, expressed on receiving the book, and before, as his letter shows, he had read it. His letter contains, indeed, no expression of opinion in regard to the accuracy of the work or the editor's acquaintance with the Irish language; but it does contain a sentence fitted, if it was not intended, to prepare the editor for unfavourable criticism. At any rate, Mr O'Curry claimed for himself full liberty to freely criticise a work which he rightly said had become the property of the world; and why should Dr M'Lauchlan be angry at me, and attribute to me unworthy motives, because, in using the same liberty, I have published my criticism in your columns instead of sending it to the publishers, to be kept beside them until, perhaps some ten or twenty years hence, a second edition is called for? The statement that "several of the purely Irish pieces in the book were submitted in proof" to Mr O'Curry is too indefinite to deserve notice. The name of Mr Eugene O'Curry, who cannot defend himself, must not be connected, on the strength of such a statement, with a work which contains in abundance errors such as those of which I have given examples.

There was nothing surprising in Dr M'Lauchlan not having been acquainted with Irish Gaelic, a knowledge of which, however, was essential in order to understand aright the Dean's ancient version; but the

modern version furnishes evidence on every page that the editor was but imperfectly acquainted with the grammatical structure of modern Scottish Gaelic. On the first page of it (p. 3) are several errors; but I will notice only two:—

Ossian speaks (l. 19) of wooing and the chase as his former occupations—"in da cherd rey in royth me;" but, in the modern version, "da cherd" (lit. two trades) appears as "da cheard" (two tinkers), instead of "da cheird" with the noun in the dative after the numeral "da." In modern Scottish Gaelic "ceird" has become also the nominative. The ancient version is correct, for, in the Dean's orthography e frequently represents ci. I have elsewhere in the modern version met with "da lunk" for "da lunkh" (two hands.) In the preceding line (18), I find "gbeire" instead of "ghéir," in the genitive singular masculine.

On the next page of the modern version I find, among other errors, "guth gadhar" for "guth gadhair" (voice of hound.) "Gadhar" should be in the genitive after "guth." The ancient version has "gow gyir," which is strictly grammatical. This error, which indicates the very lowest degree of grammatical knowledge, I would have looked upon as typographical were it not that it occurs very frequently in the editor's version. In l. 33 (same page), "se mile feidh" occurs instead of "se mile fiadh." The use of "feidh" after "mile" shows want of acquaintance with Gaelic idiom as well as with Gaelic grammar. The ancient version has "feyg," which, in the Dean's orthography, frequently stands for fiadh." (See l. 11, and p. 2, l. 21.) P. 15, l. 30.—"Do radh Osgar le glóir mhear" should be "do radh Osgar le glóir mhir." The dative feminine of the adjective "mear" is "mhir." The ancient version has "mir," but it frequently omits the mark of aspiration. P. 17, l. 9.—"Nan seasamh an goire do'n t-sloigh," has the genitive after a simple preposition. The measure also has been destroyed unnecessarily. P. 9, l. 26.—"Do b'iomadh o fhráoch ar n' arm, laoch a bha marbh air an lár" should be, "Do b'iomadh o fhráoch ar n-arm, laoch a bha marbh air an lár." "Fráoch" is a masculine noun, and, therefore, "o fhráoch" should be "o fhráoch," with the dative like the nominative. After "iomadh," "laoich" should be "laoch" (sing.) In the third line below, "iomadh laoch" occurs again. The ancient version has ci, which frequently stands for ae=ao. P. 25, l. 13.—"Cuimhnich na geasan chruaidh" should be, "Cuimhnich na geasan cruaidh." The adjective is not aspirated after the plural termination a or an. The ancient version is "chrove," with the aspiration, but then the noun is "gessith" (geasaidh), a common Irish form of the plural. P. 11, l. 24.—"ma'n d'theid thu" should be, "... mu'n t'aid thu." "Do" is the sign of the preterite, not of the future. P. 27, l. 20.—"... a dh'fhaicinn Osgar" should be, "... a dh'fhaicinn Osgair," with the genitive after the infinitive or verbal noun. For the same reason, "Ri faicsinn mo mhacsa" (l. 43) should be, "Ri faicsinn mo mhic-sa." In l. 29 (same page), "Osgar" occurs in the vocative for "Osgair." The ancient version has "Oskir." P. 33, line 29.—"... mór chosgar chalma" should be, "... mór chosgar calma," with the adjective unaspirated, because "cosgar" is masculine. In the ancient version, the adjective is not aspirated.

With similar examples, showing great want of acquaintance with the grammatical structure of modern Scottish Gaelic, it would be easy to fill columns.

To the examples already given of mistakes in understanding the meaning of the ancient version, I shall add a few more, also taken from places that are neither difficult nor doubtful. The four following examples are from pages 40, 41. The editor translates "lanni cholk na clar zi long" (l. 9), "In size he (Fracoch) like a ship did look," instead of "Broader his sword or blade (lit. pointed weapon) than the plank of a ship." There are mistakes in the modern version also, for "leathainn" should be "leithne," the comparative, and "no" should be "na." In l. 17, "in ness" should be "a n-deas" (southwards or, as it also signifies, from the south), not "an nios," a mistake, I presume, for "a nios" (up, upwards.) A little knowledge of Irish would have prevented this mistake. In l. 23, "alda no each crwth a kinn" is not, as the editor supposed, "alide no gach cruth a cheann" (fairer or every form his or its head—that is, the head's head), but "alide na each crutha' chinn" (fairer than the rest of the form of the head.) In l. 18, the modern version has "donn" (brown) instead of "dubh" (black), and "mullach" (top) instead of "molach" (hairy.) On this page (41) are also several grammatical mistakes.

P. 35, l. 39.—The following line, in the modern version, makes no sense:—

"Ni'n reidh dol an eangnamh a lann 's a ta le'r cheangladh Conull."

But the same line, in the ancient version, is perfectly plain to any person possessing some knowledge of Irish, for "taa" is not "ta," but "tá," the Irish form of "ti" (person.) In this poem, aa stands at least five other times for e. A little knowledge of Irish would have also enabled the editor to see that "tee" (p. 33, l. 20) is not "ti," which has no meaning here, but "tigh" (house), in Irish still pronounced "tee." The editor has also changed unnecessarily both the construction and measure of this line, by the insertion of the preposition "do," which is not in the ancient version, but which he has apparently taken from Gillies' copy.

These examples, to which it would be easy to add many more, may, perhaps, enable such of your readers as take an interest in these matters to judge for themselves of the accuracy of the published edition of the Dean's Book.—I am, &c.

P.S.—Since Dr M'Lauchlan objects, to anonymous correspondence, you may furnish him with my name should he apply for it.

Letter-keim
Wales.
Jan 25. 72

Yp 8
any signature

Scotsman

Thursday June 25

1872

THE BOOK OF THE DEAN OF LISMORE.

Viewforth Manse, January 23, 1872.

SIR,—As a rule, I do not take notice of anonymous correspondence, and therefore wrote through you to ask the name of the individual who recently sent you some strictures upon the above book. He had not the manliness openly to reply to my letter, but sent me a private communication signed by him *in propria persona*. I find that it is the same assailant who has been pertinaciously carping at me on the same subject for a series of years through various newspapers. For this reason, I shall take no further notice of him. At considerable sacrifice of time and labour I have endeavoured to do something for the literature of my Highland countrymen, and many of my fellow-workers in the same field, some of them men of European reputation, say not without success. I value their opinion so much that I hold the criticisms of "Celt" very lightly. No doubt, I have committed mistakes which I am quite prepared to acknowledge; but would it not be better that "Celt" should distinguish himself by some contribution of his own rather than by censuring the efforts of other men, involving, as in my case, unfounded statements, and readings which at best are doubtful. But every man has his own congenial hobby, and must be allowed to ride it. In withdrawing from this correspondence, I have pleasure in sending you the following letter which has reached me this morning, and which I have full liberty to use, from one of the best Gaelic scholars we have, and a man who has already made large contributions to our literature:—

Niddry Lodge, Kensington, January 22, 1872.

MY DEAR SIR,—A person unknown has sent me the *Scotsman* of the 2d and 16th, with ~~the~~ gratuitous attacks upon you marked for my perusal. As your reply to the first of these has not been sent, I suppose that the sender is the writer, or an admirer of his.

When you have made the distinguished acquaintance which he offers, you may compliment him on the purity of his pugnacious breed as shown in his choice of a foe, near at hand, in one of the best friends of that literature which this "Celt" professes to admire and to adorn.

As a student myself, I should like to have a list of the works which enable him to place himself above O'Curry.

As author of a Gaelic book, and much interested in Gaelic verse, I owe you much for good service; and all the best Irish scholars with whom I have lately conversed in Dublin hold your assaulted work and yourself in high esteem.

We have this "Celt's" estimate of himself and of you in his letters on the "Book of the Dean of Lismore." We had till now, in the book of Alasdair Mac Dhonnai, "*Moladh agus Diomoladh Mhòraig*," models of Gaelic praise and dispraise.

You need not care for such blame, but you may as well know that I think so.—I am, yours very truly,

J. F. CAMPBELL.

Besides the above, the following extract of a letter from an excellent Irish scholar may be of interest, as a mode of putting the case by an intelligent onlooker. This letter I have been also made free to use:—

20 North St George's Street, Dublin,
5th January 1872.

MY DEAR SIR,—Some one has sent me a *Scotsman* containing a critique on your transvocalisation of the phonetic text of the Book of Lismore. So novel and difficult a task could not be expected to be performed without some oversights; and I daresay your critic has hit upon some points missed by you. But you showed the way, and achieved the surprising feat of restoring to their original grammatical forms and verbal equivalents the disguised sounds of a whole volume of antique song. I think your critic much wanting in modesty not to say, at least, so much, and to offer his emendations as aids in a small way towards making perfect a very noble and grand piece of literary restoration.

(Signed) SAM'L FERGUSON.

I am not much concerned about the publication of these letters as testimonies; but I think it due to myself and my publishers, who have done so much for literature of the kind, not to allow the book to be depreciated by such unworthy attacks as the present.—I am, &c.

THOS. M'LAUCHLAN.

very

two

frivolous

low

Alastair Mac-Dhonnai

Moladh Mòraig

Mio - mhòlaadh Mòraig

in the book of 1757

Keeper of the Records. Dublin

Jan 24. 1872. Somelove has improved my letter by altering the spelling of Mac Mhaghstain Alastair which I quoted from his book of 1757

Occur of the same Book.

Jan 22. 1872. Somebody having taken the trouble to send me an attack upon the Minister I wrote him a letter with leave to use it.

Jan 25. He says that he has sent it to the Scotsman.

Some date. Write to Douglas the publisher telling him and suggesting that the Publisher's ought to combine and give us a dinner all round for advertising their books.

The Minister is publishing a new edition of Canswell. Through Pelanarstone & Douglas. The rival who attacks him is found to be Cameron, a minister, and as I believe the man who has helped in the translation of the Queen's Book into Gaelic - also to be published by Pelanarstone & Douglas.

The leaders in Gaelic are all savage as a pack of wolves. Because of their ^{Gaelic} nature & because of their cloth which gives each man a right to be dictator in his pulpit, & a tyrant, and chiefly because it is supposed that a Gaelic professor will be chosen and each wants to rule. —

Celtic history has reproduced itself from the earliest days of it down to this fight amongst men who ought to be friends.

Jan 26th comes the letter. attorney. Write to challenge the Minister. quoting Mac Donald's book of 1751. Daniel as-crygk Lodge. Met Guthrie who thanked me for defending Mac Donald & seemed to be entirely ignorant of the existence of the Dean's book, and the nature of it.

Letter-Keim Wales.
Jan 25. 72

Jan 27. Comes this. So the publishers or
the minister or somebody in Liverpool has seen
the use of the abstract in the Scotsman.

Wrote to the minister advising him to send
a copy of the paper to Argyll and ask his leave
to go to Inveraray to compare his copy with
the original of Carnwell. Quoting Dr. Burns
who suggested that course to me when
I met him in Dublin in December 1871 &
Guthrie who thought me far depending. Mrs. Lumsden

Sent Douglas. His note.

x Popular Tales of the West Highlands.

(Vol. IV. Page 3 last line Page 4. to the end of the paragraph.)

x King's House's book.

x Carnwell's book.

x Queen's book.

Edinburgh. Palmerston & Douglas.

Scotsman. Jan 2. 5. 16. 25.

Jan 27. Proposals for reprinting Carnwell sent to
J. H. Campbell

Jan 27. 1872

8 10

Proposals for Reprinting
CARSUEL'S GAELIC TRANSLATION
OF KNOX'S PRAYER-BOOK.

EDITED BY THE REV. THOMAS M'LAUCHLAN, M.A., LL.D.

THIS Book was originally published in 1567. The English Version of the Prayer-Book was printed at Edinburgh in 1565, so that the Gaelic Version appeared within two years after it. It is the first Gaelic Book that ever was printed either in Scotland or Ireland. There are at present only three copies known to exist; one perfect copy in possession of His Grace the Duke of Argyll, and two imperfect copies, one of them in the Library of the Edinburgh University, and the other in the British Museum. The Senatus of the Edinburgh University have very handsomely put their copy at the disposal of the Editor for transcription; His Grace the Duke of Argyll has kindly transcribed such pages as could only be found in his unique copy, and the rest was supplied by a visit to the British Museum, where the authorities very readily gave the use of their copy. The Editor is now in possession of a complete transcript of the Book, page for page and line for line with the original. As an indication of the interest taken in the work, the following extract of a letter to the Editor, from the Rev. Dr. REEVES, of Armagh, is given :—

"THE RECTORY, TYNAN, July 6th, 1871.

"DEAR DR. M'LAUCHLAN,

"Ever since the publication of Dr. O'Donovan's Irish Grammar in 1846, I have regarded Bishop Carsuel's Gaelic Liturgy with extreme interest, as perhaps the most important literary relic of the Gaelic of Scotland; but my admiration was not coupled with anxiety till two

years ago, when, meeting Dr. Hill Burton in London, I learned from him that the known copies of this precious book were reduced to almost a minimum. I have ever since felt a certain amount of literary nervousness about the continued existence of this Gaelic gem, and I have urged on Dr. Burton the duty which lies on Scotchmen of rescuing this precarious existence, by republication, from the possibility of extinction. Having lately learned that of the only three known copies of the work, but one is perfect, and that that one is in private possession, namely, in the library of His Grace the Duke of Argyll, and subject to all the contingencies in the many degrees which occupy the space between the four cardinal points of mischief,—fire, damp, worms, and thieves,—my anxiety has become more intense, and I have resolved on appealing to you to take active steps for the perpetuation of this literary treasure. Here is a chapter in the history of Scotland, and much more, a mine of philological treasure in one important branch of the most interesting language in existence—combining all the charms of living excellence, and all the prestige of unfathomable antiquity, and this on the very verge of extinction—one life in a lease of incalculable value! Oh, do try and convert that terminable lease into one of lives renewable for ever."

This appeal of the learned Editor of the Life of St. Columba was so entirely in accordance with a desire long cherished by the Editor himself, that he lost no time in taking steps for obtaining the transcript, which is now finished, with a view to publication.

It is proposed that only a limited impression of the work—about 250 copies—be printed, and that in order to cover the expense of publication, the price be fixed at Twenty Shillings. It is proposed that the English Prayer-Book be printed along with the Gaelic, together with English translations of a large amount of original matter from the pen of Bishop Carsuel himself. A specimen page is annexed.

The printing of the work will be begun so soon as one hundred names are sent to THE EDITOR, at Viewforth Manse, Edinburgh.

Ebistil.

ndendaois an toilsin dé do theagasg da gclandaibh, agas da sleachtaibh in a ndi aidh. Agas ge do rindeadh meid eigin do dhealughadh eidir òifig mhaoise a-gas oifig aróin, anuair tugadh an ladh do chlandaibhisraheil sgribhtha : gid-headh dearbhthar dhuinn le ambraith-reas, agas leis an gcurum do ghabh ma-aosi air, nach amhain tug se aire dona neithibh saoghalta, acht gurab mó ana-ire do bhi aige aran Ladh dhiadha do chongbail gan truailleadh am easg an phobail, iná arna neithibh saoghalta.

Agas foillsighthear sin dúinn go maith leis an achmhusan tug sé daró, agas don phobal vile, ag faigsin na honara tuga-dar don laodh órdha do rindeadar an-adhaidh thoile dé, anuair do bhris seise an an da thabhaill ina rabhadar na deich naitheãta sgribhtha o mher de na nuile chumhacht, agas do rinde maoise dio-ghaltas ro throm orrtha as sin Do thui-geadar na breitheamhain, agas na righ-the deaghchreidmheacha do bhi ar chloind Israhel annise do labhramar romhainn,

Epistle.

they might teach this will of God to their children and to their race after them. And although some difference was made between the office of Moses and the office of Aaron when the written law was given to the children of Israel : nevertheless we learn from their brotherhood, and from the care which Moses took of it, that he not only cared for the worldly things, but that he concerned him-self more about the divine law being kept purely among the people than about worldly matters.

And this appears clearly in the rebuke which he gave to Aaron and to the whole people, when he saw the honour they gave to the golden calf which they made against the will of God, at the time when he broke the two tables on which were written the ten com-mandments by the finger of the Almighty, and Moses inflicted very sore punishment on them on that account. The judges and believ-ing kings of Israel understood that which we now say.

Times. Jan 27. 1872.

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GIPSY PARLIAMENT.—The great Parliament of the gipsies, which is held once every seven years, will be held this year on the 2d of February, at Canstatt, in Germany, out of deference for King Joseph Reinhard, who is 98 years of age, and not able to undertake any long journey. Delegates of all gipsy tribes will attend the Parliament to deliberate on common interests.

Letten-keinn Wales.
Aug 25. 72

Wednesday Feb 7. 1872 —

Some body unknown sends me the
Glasgow Herald with the article on the
of private property signed. H. M. L. — in
Ink.

This then is the defence ^{by} Hector Mac Lean
of Dr. Mac Lean and himself, and of
Mr. John O Farrel; against a writer
in the Standard's News Letter who is
unknown. But may be that persevering
"Celt". Wrote to Hector & to Dr. Mac Lean,

From the Glasgow Herald.
Feb. 6. 1872. Sent. 7. 10. 6. J.H.

AN OLD GAELIC CHARTER.

(FROM A CORRESPONDENT.)

GAELIC literature has for some years back been attracting considerable attention in Scotland. In 1860 appeared two volumes of the "Popular Tales of the West Highlands," collected and translated by Mr J. F. Campbell. In 1862 appeared two other volumes of the tales by the same collector, and in the same year was also published "The Dean of Lismore's Book," a collection of ancient Gaelic poetry—edited and translated by the Rev. Thomas M'Lauchlan. Not long thereafter appeared "The Book of Deer," much of which was written in Gaelic in the ninth century in the monastery of Deer in Aberdeenshire. The language of "The Book of Deer" differs not much from the Irish of the same period—the fact being that the written Gaelic of both Ireland and Scotland, excepting a few peculiarities, were till recently very much the same. The written Gaelic of any period is not to be assumed as the language of the people; for from the earliest times cultivated Irish is spoken of by Irish writers as distinct from the common language. The language of the "Book of Deer" was, at the time that book was written, the speech of the learned and of the higher classes of both Scotland and Ireland; but even at that time there are sufficient grounds for inferring that not only were there differences between the spoken language of Scotland and Ireland, but that such differences existed respectively between the various districts of each country.

Many of the tales collected by Mr Campbell warn us against assuming that the written Gaelic of any period is identical with that spoken by the mass of the people. Not only does the written language differ, but the oral language of traditional story and poetry differs very widely in numerous instances. A large portion of the language of some of the fore-mentioned tales is unintelligible to most of the people among whom they are found, and sometimes even to the persons who recite those curious old stories. On this account the language of the poems in the Dean of Lismore's book may be safely inferred to have differed considerably from the common language of the people at the time those poems were collected, and that the spoken language of that period did not nearly deviate so much from that of the present day as that of those poems in the Dean's book which differs least from it does.

A Gaelic charter to some lands in Islay, granted by Macdonald of the Isles to Brian Vicar Mackay, although written 104 years before Dean Macgregor made his collection of Gaelic poems, approaches the Gaelic spoken in the Highlands at the present day nearer than the language of the Dean's book; especially the language of Islay and other parts of Argyllshire, even when pieces composed by Highland bards long after the date of the charter is taken into consideration. This charter, granted by that Lord of the Isles who fought the battle of Harlaw with the Duke of Albany, was written in the year 1408, and Dean Macgregor's collection of poems was made in the year 1512. Only two words in this charter—namely, "bronnagh" and "brontanas," meaning respectively "granting" and "grant"—are obsolete at the present day in Islay; while in the 1st verse of the 15th chapter of the Gospel of St John, in the Irish Testament, "criadhaire," meaning husbandman, is unintelligible to any person in the island not knowing Irish. This charter has been photographed, and is now printed in the collection of Scotch national records now in course of publication under the superintendence of the Lord Clerk Register. It was felt desirable that a translation of it should be made, as correct and literal as was consistent with a clear rendering of the original; and in order that this might be done, the services of those who were understood to be superior Celtic scholars were obtained, with the view of effecting the desired end. A translation had already been made by Dr Reeves, a highly eminent Irish scholar; but although this translation is pretty good upon the whole, some expressions are incorrectly rendered. These have been corrected, and the amended translation, which is as follows, may now be considered as rigidly accurate:—

In the name of God, Amen.—I, MacDonalld am granting and giving eleven marks and a half of land from myself, and from my heirs, to Brian Vicar Mackay, and to his heirs after him for ever and ever, for . . . services to myself and to my father before me; and this on covenant and on condition that he himself and they shall give to me, and to my heirs after me, yearly four cows fit for killing, for my house. And in case that these cows shall not be found, the above Brian and his heirs shall give to me and to my heirs after me two marks and forty forty for the same above cows. And for the same causes, I am binding myself, and binding my heirs after me, to the end of the world, these lands, together with their fruits of sea and land, to defend and maintain to the above Brian Vicar Mackay, and to his heirs for ever after him in like manner. And these are the lands I have given him and his heirs for ever, namely, Baile Bhicare, Machaire Learga-riabhoighe, Giontragha, Graftol, Tocamol, Ugasgog, the two Gleannastol, Cracobus, Cornubus, and Baile Neaghtoin. And in order that there may be meaning, force, and effect in this grant I give from me, I again bind myself and my heirs for ever, under covenant, this to uphold and fulfil to the foresaid Brian, and to his heirs after him to the end of the world, by putting my hand and my seal down here, in the presence of these witnesses here below, and on the sixth day of the month of the Beltane, and in the year of the birth of Christ one thousand four hundred and eight.

McDONALD.

John + MacDonald.

Mark.

Pat. + McA. Brian.

Mark.

Fergus MacBeth.

Mark.

Hugh + McCe.

Mark.

Of this charter, and of those who have lent their assistance to him, the editor of the collection of national Scottish manuscripts speaks in the following manner:—

"No pains have been spared, however, to supply an accurate transcript and translation of this curious document, which is very little more readable than in our fac-simile. Along with this charter I received an ancient transcript, which, though itself defective, has enabled me to supply nearly all the illegible parts. Original words thus supplied are distinguished by being printed within brackets. Ignorant as I am of the language of the charter, I have used such help as I could obtain. I should be much to blame if I failed to record my obligation to Mr John O'Farrell, of the staff of the Ordnance Survey at Southampton, to whom I owe an elaborate, judicious, and careful study of this charter; and I am no less indebted to the Rev. Dr Thomas M'Lauchlan, of Edinburgh, well known as an accomplished Gaelic scholar, and to Mr Hector MacLean, schoolmaster, Kilmeny, Islay."

The amended translation, however, seems to have given great offence to a correspondent of the *Belfast News-Letter* of the 1st December, 1871, who says regarding it:—

"The Scotch authorities probably felt that they could not adopt exactly the text and rendering of Irish scholars, however eminent, and so we perceive they have actually ventured to make a few slight changes in the Dublin version; but these changes cannot certainly claim to be improvements."

Notwithstanding that the writer in question has ventured to make such bold assertions, he has adduced no evidence to show that the alterations made in the translation are not improvements; but if accuracy be improvement, it is easily shown, by examining some of the expressions in the original, that the emendations which appear to move the ire of the thin-skinned Hibernian were doubtless required—unless, indeed, bulls, of which our cousins across the Channel are so fond, be improvements. "Deiriogh an bheatha" is translated by Dr Reeves "end of existence," which is decidedly wrong. "An bheatha" here is the genitive of "an bith," the world. This cannot be gainsaid by any Hibernian scholar, who must be content, like "the men of modern Allba," to be taught by the Bavarian Zeuss, the chief "olar" of Celtic philology, whose book, the "Grammatica Celtica," is the greatest work on the Celtic languages that has appeared since the Welshman Edward Lhuyd's "Archæologia Britannica," in the reign of Queen Anne. To these two great authorities Scotchmen and Irishmen who would wish to have a thorough knowledge of the language of their forefathers must bow. Let the correspondent of the *Belfast News-Letter* turn up the "Grammatica Celtica," liber secundus, caput secundum, and he will find "bith" (mundus) declined. The gen. "betho," modified is the "bheatha" of the charter. But probably "our conviction" may be his way of settling the most of arguments, as is the case with all those whose prejudices are stronger than their reasoning powers.

In the sketch which he has given of the Mac-kays, to whose ancestor the charter was granted, he informs us of "the fact" that "Donald of Harlaw" had defeated the Duke of Albany at Harlaw. This certainly may surprise persons well versed in Scottish history, who know it to be a fact that the battle of Harlaw was lost by the Lord of the Isles, although he

10

13

Letten-keim
Wales.
Aug. 25. 72

Mark
9 in Car
of
Gaelic

The attacked

The repulse

I think that
the Irishman
who used the
word for the
world, used
it in the sense
of the life of
the world
the being

1408

This is his "Celt"

Bus.

Bol or Boel a

small farm.

Bolsan the ditto

Bolsa y =

Bols-ö-eie-öde

and his followers claimed the victory. We are also informed by this rare chronicler that the whole Kingdom of the Isles was surrendered to James IV., although there never was a Kingdom of the Isles subsequent to the battle of Largs, in the reign of Alexander III. The Lords of the Isles, as is well known, were frequently in rebellion against the Crown of Scotland; and it is sad enough to think that some of them were traitors to their country; for the sake of aggrandisement joining her enemies when opportunity offered. Usurpers and rebels they were often; kings they never were since the forementioned period. No Kingdom of the Isles was surrendered to James IV., but a rebel made submission, and some of his estates were, in consequence of treasonable conduct, justly forfeited. But what signifies historical evidence in case of one with whom "our conviction" is all-sufficient, and settles every question? With regard to the lauds mentioned in the charter he says:—

"It is curious to remark the changes which the names of the several sub-divisions have undergone in the interval between the years 1408 and 1562, the dates of the two grants. At the latter date Ciontragha had become Kentrahaye, Graftol had become Gramstill; Tocam-ol, Takomal; Weeagare, Ugasgog; Glenapstols, Glenawstill; Cracobus, Craigabolsay; and Baile-biorra, Dunborrereig."

These latter names are not changes on those in the charter; they are written in a different orthography—an orthography according to which Gaelic names are found written in Latin and Anglo-Scottish charters both older and more recent than this Gaelic charter. In this orthography "The Book of the Dean of Lismore" is written, and very probably numerous manuscripts now lost. Ken, in Kentrahaye, is the equivalent of the Irish *céad* or *ceann*, of which *cion* is a modification. The "t" in Graftol we believe to be a mistake. Glenapstol is a mistake, and has been corrected. "Bolsay," in Craigabolsay, is an older form than "bus," and from this charter it appears that the "b," which is retained in English and Latin documents, was lost in Gaelic pronunciation as early as the date of this Gaelic charter. All the names in the island ending in "bus" are of Norse origin. "Bus" is a contraction of *bol-staer*, which means dwelling-place. Recent spellings are in some instances older forms, of which "Inver" is an example, the Gaelic pronunciation of that name at the present day being as old as the time of Robert Bruce, as can be easily seen from Barbour's "Bruce," where it is spelt Inner. Baile-biorra is a wrong rendering, which is now corrected into the proper form—Baile-Bhicare. This place is not the same with Dun-borrereig. Dun-borrereig, or Dun-bhoraraig, is an old fort in the north-east of the island, fully more than twelve miles distant from Baile-Bhicare. The forms of the names in the more modern charter of the reign of Queen Mary are, in the only two cases in which the writer is not in error, older forms; and his estimation of the acreage is truly ridiculous. Six hundred acres! Three times that, and more.

With regard to those who have amended Dr Reeves' translation, we know for a certainty that the author of this blundering article is egregiously wrong. Irish, ancient and modern, those persons read and understand as well as Welsh, Cornish, and Breton. We dispute entirely the assertion of the chief "ollar" of Erinn, that the peculiarities which now characterise the Scotch dialect of the Gaelic did not exist when the charter was written. At a time when Ireland had her kings and her courts, her well-paid bards and orators, it was likely enough that the cultivated language should be the language of written documents, supposing peculiarities had existed in every province and district; and at the same time there is every reason to think that the fashionable speech was undergoing fully as many changes as the more homely was. In this very charter the name of the person to whom it is granted, Mag Aodh, is an example of change which had taken place with regard to Irish, but which has not affected the Scotch Gaelic even to this day; for in Scotland both the old spelling, Mac Aoidh, and the old pronunciation are still retained. In this instance it is the Irish, and not the Scotch Gaelic, that has changed, and it is clear enough that Scotch writers adopted Irish peculiarities in order to assimilate their written language to that of Ireland. When modern Scotch Gaelic and modern Irish are compared with ancient Irish, one thing becomes at once perfectly obvious—that modern Irish has deviated from the ancient fully as much in one direction, as modern Scotch Gaelic has in another.

Arms. Feb 17. 1872.

H

THE CHEVALIER STUART.—There has just passed away from among us, at the age of 73 or 74, a gentleman who has for many years been known in certain literary circles as the Chevalier, or Count, John Sobieski Stuart. It is asserted by his friends that he was the eldest grandson of the "Young Pretender;" and if this really were the case, if the Revolution of 1688 had never occurred, and if the strict Jacobite theory of Divine right were part and parcel of our Constitution, the nation at this moment would have been in public mourning for the loss of its lawful Sovereign. It may possibly be remembered that the real Stuart descent of this gentleman was questioned and examined at considerable length in an article which appeared in the *Quarterly Review* for June, 1847, and which was known to have been written by Mr. John Wilson Croker, who held him to be not a Stuart, but a Hay-Allan. Those who are curious in such subjects will find the story of the modern Stuarts fully discussed in the article above referred to, and further information as to the antecedents of the Chevalier now deceased may be seen in the *Edinburgh Review* of July, 1861, and in the *St. James's Magazine* of last month, from which we may be pardoned for quoting the following extract:—"Among the most constant frequenters of the Reading-room at the British Museum may be noticed almost daily two gentlemen, if not old, yet advancing rapidly into years, and dressed in an unmistakably foreign costume. A glance at their faces will at once remind you of the marked type of the Stuarts, especially about the forehead and eyebrows; and, indeed, they might sit for portraits of Charles I. and James II. respectively. The friends of these gentlemen say that they are John Sobieski Stuart and Charles Edward Stuart, and that they have proofs of their descent as grandsons of 'The Young Pretender,' and we believe we are not wrong in asserting that both of the brothers when young held commissions in the French army, and served against us at Waterloo, where one of them was instrumental in saving the life of Napoleon as he fled from the field. It is said that the elder brother is busily engaged upon a work on military science." It is this elder brother who is now deceased.

This looks as if the publishers of the forthcoming work were about

to make it known to the world.

Letter-keim Wales.
Aug 25. 72

Feb 23. asked to preside 15th March. declined

TIR NAM BEANN, NAN GLEANN 'S NAN GAISGEACH.

Clanna nan Gàidheal ri guailibh a chèile.

SECOND ANNUAL
HIGHLAND GATHERING.

Town Hall, Tuesday Evening, 21st March.

Tea on the Table at Half-past Seven o'clock.

Five Pipers will Play during the Assembling of the Audience.

BAILIE CAMPBELL IN THE CHAIR.

MR GILLIES WILL PRESIDE AT THE PIANOFORTE.

PROGRAMME.

BLESSING.

CHAIRMAN'S ADDRESS.

TEA.

Gaelic Song,—“Air Fàilinn Uillinn ò,”	...	...	...	AMATEUR.
SONG,—“Tam Glen,”	...	...	...	MISS DUNSMORE.
SONG,—“The Macgregor's Gathering,”	...	...	...	MR CORBETT.
COMIC SONG,—“The Marquis of Lorne's Wedding,”	...	...	...	MR HOUSTON.
SONG,—“The Auld Hiellan' Couple,”	...	...	...	MR M'PHAIL.

SERVICE OF FRUIT,

during which the Pipers will play a Selection of Piobaireachd.

ADDRESS,	...	...	...	Rev. JOHN M'PHERSON.
Gaelic Song,—“Cabar-Féidh,”	...	...	...	AMATEUR.
SONG,—“The Cameron Men,”	...	...	...	MISS DUNSMORE.
SONG,—“Mary of Argyll,”	...	...	...	MR CORBETT.
COMIC SONG,—“Peter Carmichael,”	...	...	...	MR HOUSTON.
SONG,—“The Death of Nelson,”	...	...	...	AMATEUR.
Gaelic Song,—“Màiri Bhoidh,”	...	...	...	MR SINCLAIR.

SERVICE OF FRUIT,

During which the Pipers will play a Selection of Music on the Grand Highland Bagpipes.

ADDRESS,	...	...	...	Sheriff CLARK.
Gaelic Song,—“Nighean donn Thorra-Chaisteil,”	...	...	...	AMATEUR.
SONG,—“The Standard on the Braes o' Mar,”	...	...	...	MISS DUNSMORE.
SONG,—“Scotland Yet,”	...	...	...	MR CORBETT.
Gaelic Song,—“Màiri Bhàn òg,”	...	...	...	AMATEUR.
COMIC SONG,—“The Greenock Carter,”	MR HOUSTON.

CHAIRMAN'S CLOSING REMARKS.

FINALE,—“Auld Langsyne,”	By the COMPANY.
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A GRAND ASSEMBLY WILL TAKE PLACE IMMEDIATELY THEREAFTER.

MR ARCHIBALD M'KELLAR, Master of Ceremonies.

Tickets for Soiree and Concert—Boxes & Platform, 2s.; Area & Gallery, 1s. 6d.

For Assembly (admitting Lady and Gentleman), 2s.

No Gentleman admitted to the Assembly unless accompanied by a Lady.

(ORB, POLLOCK & CO., PRINTERS.)

Circular.

Lord Chamberlain's Office,

St. James's Palace,

15th February, 1872.

Sir,

I am desired by The Lord Chamberlain
to inform you that he will have the pleasure to
place at your ——— disposal a Ticket
for yourself for the Thanksgiving
Service at St. Paul's Cathedral, on the 27th Instant,
if you should intimate your wish to be present.

The Tickets will not be transferable.

I am,

Sir

Your obedient Servant,

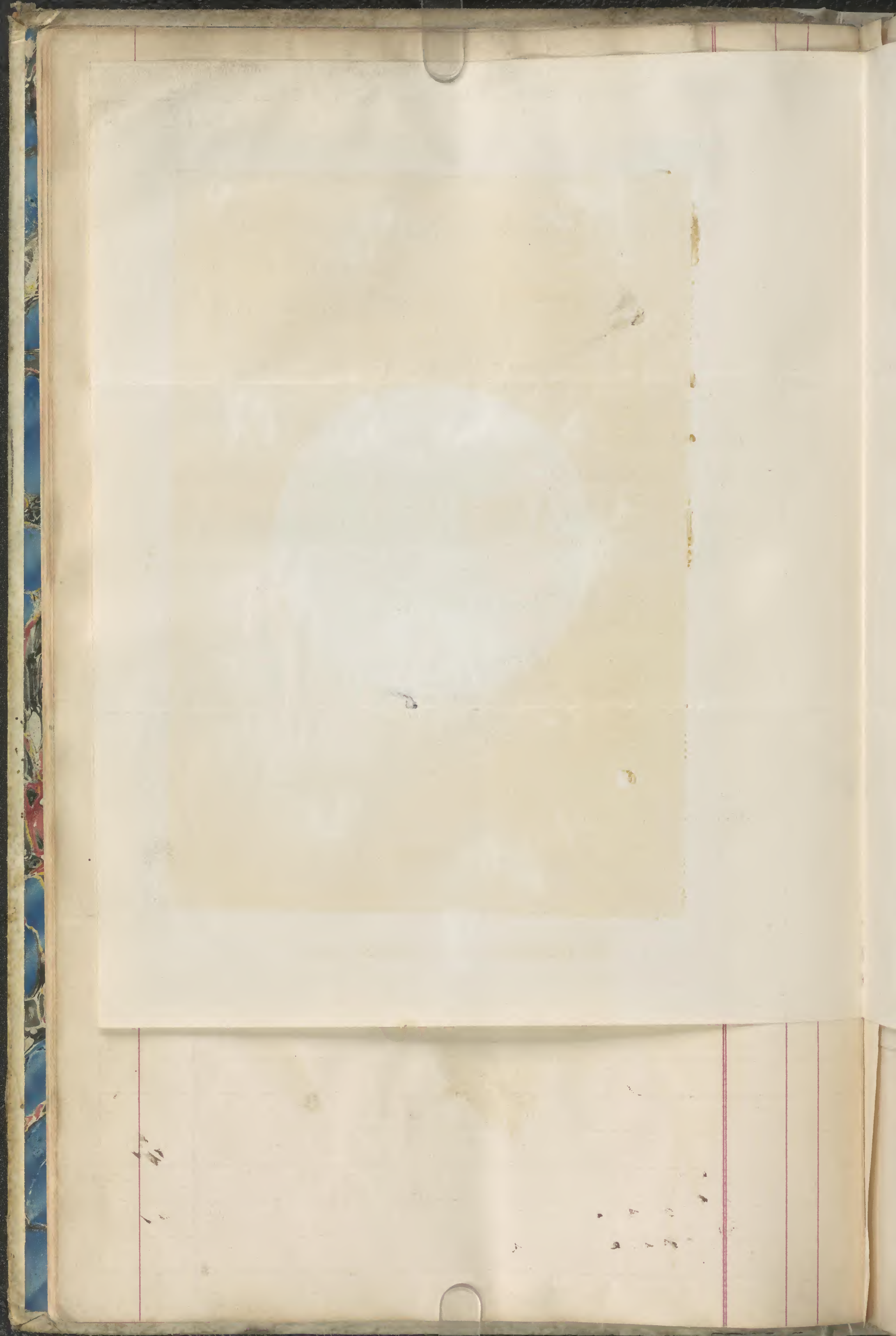
Spencer Ponsonby.

Levee Dress.

Ladies in Morning Dress.

A. F. Campbell Esq^r

Letter-kevin Wales.



ENTER BY SOUTH WEST DOOR

8

NAVE GALLERY, SOUTH.

TT



St. Paul's

Cathedral

THANKSGIVING SERVICE,

TUESDAY, 27TH FEBRUARY, 1872.

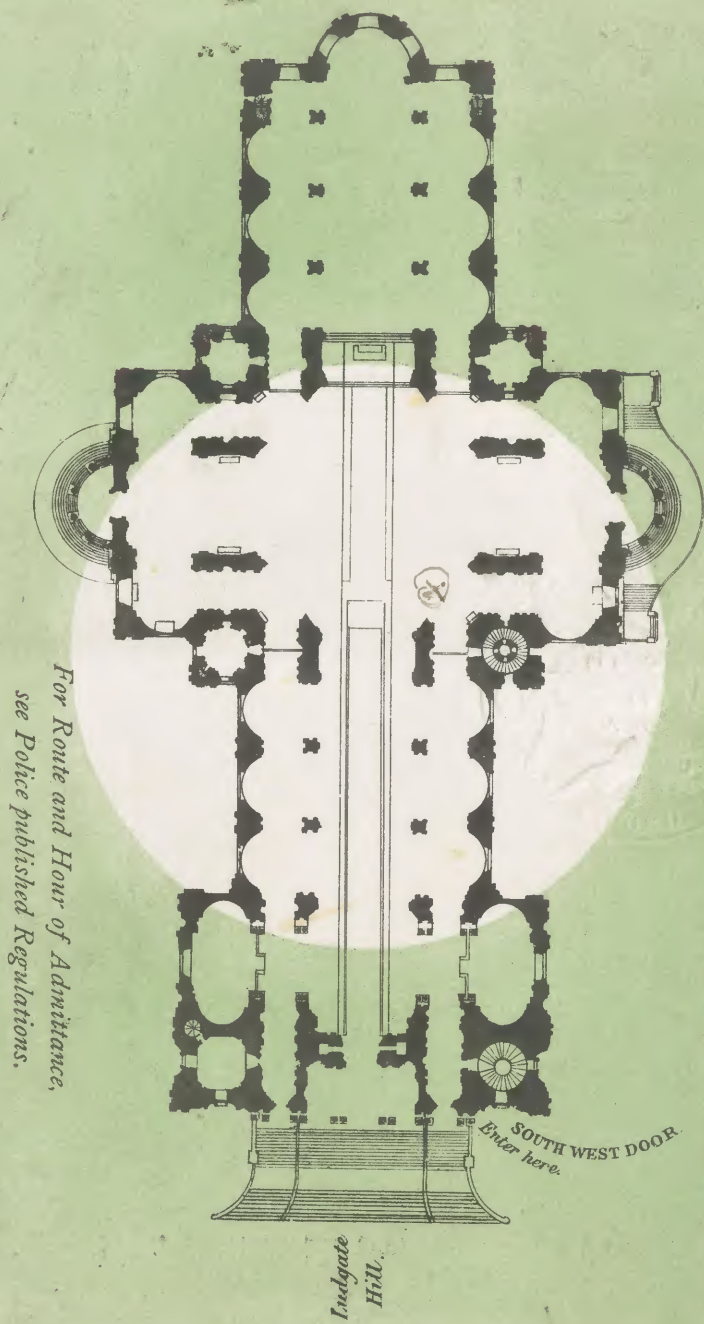
Admit Mr. J. J. Campbell
Lydney.

Lord Chamberlain.

[OVER.]

Derrell House.
Compliment of

Letitia-Kennel Wales.



asked to subscribe & become a member
by the Secy. at the British Museum - Gave them
a line to say Let THE me hear how you get on

Celtic Society of London.

"Comhíde an an rean amhrm."

"Forget not your Antiquities."

Remember
the old
times.

Committee.

MR. JOHN BLAKE.

„ J. CALLANAN.

„ TIMOTHY P. CARMODY.

„ P. COWELL.

„ J. M. O'FALLON.

„ D. LANE.

„ P. D. LEHAIN.

„ LYNCH.

„ THOS. MASON.

„ HENRY L. M'KINSTRY.

MR. J. D. NELSON.

„ ALFRED O'BYRNE.

„ J. EUGENE O'CAVANAGH

„ J. T. O'CONNOR.

„ A. O'CURRY.

„ P. O'LEARY.

„ O'MALLEY.

„ O'SHEA.

„ J. RIDGE.

„ M. TORPEY.

WITH POWER TO ADD.

Treasurer

-

-

-

MR. P. COWELL.

Secretary

-

-

-

MR. A. O'CURRY.

THE CELTIC SOCIETY has been established to afford a meeting place, where Irishmen can come together on a common ground of nationality, irrespective of religious or political distinctions. The leading objects shall be the formation of an Irish Library, classes for instruction in the Irish language, the delivery of periodical lectures on Irish history, literature, archæology, and kindred subjects, and the promotion of social intercourse among Irishmen.

The Subscription, entitling Members to the use of Reading-room, Library, and admission to the periodical lectures, will be 10s. per annum, payable quarterly in advance.

OFFICES-14, BEDFORD ROW, LONDON, W.C.

[Faint, illegible handwritten notes]

March 21. 1872.

Gaelic Society of Inverness.

THE EXCHANGE,
INVERNESS, 15th March 1872.

SIR,

You are probably aware that a Gaelic Society has been successfully started here during last winter. One of the objects of the Society is to start a Celtic Periodical. A special committee has been appointed to make the necessary preliminary inquiries as to the probable cost and success of the paper, the mode of publication; and particularly to obtain promises of contributions from gentlemen eminent in Celtic literature, or who take an interest in the Highlands, its people, or its language. We intend going to work very carefully, and we shall be exceedingly glad to receive any suggestions from you. It is proposed that the paper be partly English and partly Gaelic, and to consist at first say of 12 pages (about the size of *Chambers's Journal*), published monthly. Will you let me know, at your earliest convenience, if you would kindly help us by *contributing an ARTICLE* occasionally, or by *becoming a SUBSCRIBER*? Will you, at the same time, give us your opinion as to the best way of publishing: whether by a local bookseller or local newspaper publisher, or whether it would be advisable to have it published in the South, by some well-known house, "for the Gaelic Society of Inverness?" I shall be glad of any information or suggestions you may favour me with, and will answer any inquiries you may deem proper to address to me.

I am, SIR,

Your obedient Servant,

JOHN MACDONALD,
Convener, Special Committee.

Promised to subscribe, & possibly to contribute.

In July 1872 got a letter from Campbell
Convener of the Committee saying that
in consequence of the publication of the
Gael they do not mean to publish.
I thought they would end in smoke.
Single handed I have done something
They have held one convivial meeting.

Gaelic Society of Inverness—CELTIC
LANGUAGES AND THEIR AFFINITIES.

We noticed lately a lecture delivered in connection with the Gaelic Society by the Rev. William Ross, of Rothesay, entitled, "A survey of the Celtic languages, with notes of their affinities to the other Indo-European tongues." Cluny Macpherson, Chief of the Society, presided, and on the platform were the Revs. Alexander Macgregor, D. Sutherland, Peter Robertson, and D. Colvin, Inverness; the Revs. Mr Mackenzie, Kirkhill; F. Macrae, Knockbain; D. S. Sage, Nairn; and Mr Macdonald, Canada; Major Macpherson of Cluny, Bailie Simpson, ex-Sheriff Macdonald, Alex. Dallas, Esq., Town-Clerk, &c.

Mr Ross divided his subject into four parts—1st, The place of the Celtic languages; 2d, Celtic scholarship; 3d, the Celtic languages; and 4th, Celtic relationships. In treating of the place of the Celtic languages, the lecturer stated that there were three great families of languages, the Aryan, Semitic, and Turanian. It was possible there might yet be discovered affinities between these families, and, if so, the Celtic was destined to perform important services in the inquiry; but, as yet, the efforts of our native scholars in this direction were labour in vain. The event that helped to place the Celtic in its right place was the discovery of the Sanscrit in the year 1808. Previous to that year it was generally supposed that there was an absolute distinction in race and language between the inhabitants of Hindostan and the East, and those of Europe. To Sir William Jones, the great Oriental scholar, we are indebted for the first hints as to the relationship of the Celtic to the other Aryan tongues. This was followed up by Dr Pritchard in his "Eastern origin of the Celtic nations," published in 1831. The forty years that have since elapsed have only helped to confirm the discoveries he made, and largely to add to the evidence submitted by him. After enumerating and illustrating the various languages that go to form the Aryan family, the lecturer proceeded to consider the historical development of the Celtic, as the language of the numerous and courageous tribes that formed the van and centre of the migrations of the European races—infringed upon by the Teutonic on the north, the Hellenic on the south, and the Lower Teutonic, Windic, and Illyric, that took up the rear. The Celtic possessed for us a special and deep patriotic interest. It was the first to part company with its kindred, and to remove from the ancient fatherland. It was the first to give names to the mountains, glens, and rivers, and thriving homesteads of Europe—names which might be regarded as the fossilised footprints of the Celt in his march over Europe, and which might yet be distinguished as underlying the superficial deposits of Teutonic and Romanic designations. Thus, some of the oldest roots of our language have been preserved to us by Greek and Latin writers, and in the old Teutonic records. Having described the six Celtic dialects, the lecturer dwelt at length on the second head—Celtic scholarship—detailing the various efforts at Lexicography, from the Rev. Robert Kirk's Glossary, to the lexicons of Armstrong, and the Highland Society's Dictionary. He then described the various grammars, and gave short memoirs of Le Gonidic, the author of the Celto-Breton grammar, and of J. Caspar Leuss, the author of the Grammatica Celtica, who reared from isolated and broken fragments—portions of one design—the magnificent column, which was at once his own undying monument, and the admiration of the world. To Leuss belonged the merit of having put the top-stone on the noble building, whose foundations other men had laid, but whose fair proportions and vast extent he only set out to advantage after a labour of thirteen years.

In regard to native scholarship, Mr Ross dwelt on the labours of the Rev. Dr Macdonald, Dr W. F. Skene, the Rev. Mr Clark, Mr R. Garnett, Mr John F. Campbell of Islay, Professor Blackie, &c. Among Welsh, Irish, and Breton scholars, he referred to Owen Jones, Silvan Evans, Robt. Williams, Archdeacon Williams, O'Donovan, O'Curry, Whately Stokes, and Villemargué. He then entered on a review of Celtic Literature, oral and traditional, manuscripts and early printed books, and to the modern literature existing in the various dialects.

In treating of the third head—the Celtic languages—their internal structure and relationships were minutely entered into, and the foreign elements, reviewed from classical and ecclesiastical Latin, and from the Scandinavian tongues, pointed out. He next showed the value of a comparative grammar, and the influence of the digamma, in producing some of the special characteristics of the Gaelic as distinct from the Cymric branch of the language. In the fourth and last portion of the lecture, the affinities between the Celtic and Hellenic, Teutonic, and Slavonic, in vocabulary and grammar, were shown and illustrated; and the lecturer concluded by pointing out several of the many bearings of the subject on the progress of the Gospel and the welfare of mankind.

On the motion of the Chairman, who spoke in Gaelic, a

most cordial vote of thanks was awarded to Mr Ross for his interesting and learned treatment of a subject in which all present could not fail to be interested. He hoped Mr Ross would soon appear among them again. He might safely say they would all give him the heartiest reception. He hoped the Society would soon see their way to starting a Gaelic periodical.

Mr Ross moved a hearty vote of thanks to Cluny for presiding, which was enthusiastically responded to.

The lecture was illustrated by specimens of Gaelic literature in its various stages, from the ninth century downwards, and by photographs of a Gaelic charter, of date 1408, conveying lands in Islay, from Macdonald of the Isles to Brian, Vicar Mackay, and the MSS. of the Dean of Lismore, written in the 15th century.

COMMISSIONS OF THE GENERAL ASSEMBLY

From the Inverness Capital
March 14. 1872. - Sent
to the March 27. 1872.
By Carmichael from
his L. as I learn
from his letter recd
March 29. 1872. -

Derriceil House.
Confluence of
Glaucers. -

214

Letter-keinn Wales.
Aug 25. 72

19

CLANN NAN GAIDHEAL RI GUAILLEAN A CHEILE.

Gaelic Society of Inverness.

CHIEF-CLUNY MACPHERSON.

MUSIC HALL.

FIRST ANNUAL ASSEMBLY,

ON

THURSDAY Evening, 11th July 1872.

Sir KENNETH S. MACKENZIE of Gairloch, Bart., Honorary
Chieftain of the Society, in the Chair.

Mr MORINE will preside at the Piano.

FRONT SEATS, 2s; SECOND SEATS, 1s; MEMBERS FREE.

DOORS OPEN AT 7.30, TO COMMENCE AT 8.

With the compliments of

GAELIC SOCIETY OF INVERNESS—CELTIC
LANGUAGES AND THEIR AFFINITIES

We noticed lately a lecture delivered in the Gaelic Society by the Rev. William Ross entitled, "A survey of the Celtic language their affinities to the other Indo-European languages." The platform were the Revs. Alexander Sutherland, Peter Robertson, and D. C. the Revs. Mr Mackenzie, Kirkhill; F. Mac D. S. Sage, Nairn; and Mr Macdonald, Macpherson of Cluny, Bailie Simpson, Donald, Alex. Dallas, Esq., Town-Clerk, &

Mr Ross divided his subject into four place of the Celtic languages; 2d, Celtic the Celtic languages; and 4th, Celtic treating of the place of the Celtic language stated that there were three great families the Aryan, Semitic, and Turanian. It might yet be discovered affinities between and, if so, the Celtic was destined to pre-eminence in the inquiry; but, as yet, the native scholars in this direction were laboring under the discovery of the Sanscrit in the year 1816 that year it was generally supposed that the Celtic distinction in race and language of the Celtic nations, published in 1854, by Sir William Jones, the great Orientalist, are indebted for the first hints as to the place of the Celtic to the other Aryan to followed up by Dr Pritchard in his of the Celtic nations," published in 1854, years that have since elapsed have only the discoveries he made, and largely to a submitted by him. After enumerating a various languages that go to form the Celtic, the lecturer proceeded to consider the history of the Celtic, as the language of the numerous tribes that formed the van and centre of the European races—infringed upon by the north, the Hellenic on the south, and the Celtic, Windic, and Illyric, that took Celtic possessed for us a special and deep interest. It was the first to part company with it remove from the ancient fatherland. Celtic gave names to the mountains, glens, and ing homesteads of Europe—names which as the fossilised footprints of the Celtic Europe, and which might yet be distinguishing the superficial deposits of Teutonic nations. Thus, some of the oldest records have been preserved to us by Greek and in the old Teutonic records. Having Celtic dialects, the lecturer dwelt at length on Celtic scholarship—detailing the Lexicography, from the Rev. Robert Kirk's lexicons of Armstrong, and the Highland ary. He then described the various short memoirs of Le Gonidic, the author of Breton grammar, and of J. Caspar Leus Grammatica Celtica, who reared from fragments—portions of one design—the which was at once his own undying monument to the world. To Leuss being having put the top-stone on the noble foundations other men had laid, but whose vast extent he only set out to advantage in thirteen years.

In regard to native scholarship, Mr Ross laboured of the Rev. Dr Macdonald, I. Rev. Mr Clark, Mr R. Garnett, Mr J. Islay, Professor Blackie, &c. Among Breton scholars, he referred to Owen J. Robt. Williams, Archdeacon Williams, C. Whately Stokes, and Villemargue. He review of Celtic Literature, oral and scripts and early printed books, and to ture existing in the various dialects.

In treating of the third head—their internal structure and relations entered into, and the foreign elements classical and ecclesiastical Latin, and from tongues, pointed out. He next showed the value of a comparative grammar, and the influence of the digamma, in producing some of the special characteristics of the Gaelic as distinct from the Goidelic branch of the language. In the fourth and last portion of the lecture, the affinities between the Celtic and Hellenic, Teutonic, and Slavonic, in vocabulary and grammar, were shown and illustrated; and the lecturer concluded by pointing out several of the many bearings of the subject on the progress of the Gospel and the welfare of mankind.

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COMMISSIONS OF THE GENERAL ASSEMBLY

PROGRAMME.

PART I.

- | | | | | |
|---------------------------------------|---|---|---|---|
| ADDRESS | - | - | - | CHAIRMAN. |
| GAELIC SONG,—Clan Gathering | - | - | - | MR H. FRASER. |
| ENGLISH SONG,—Hurrah for the Hielan's | - | - | - | MR JAMES FRASER. |
| DANCE,—Ruidhle Thullachan | - | - | - | MESSES MACKENZIE, MACKINTOSH, GORDON, & GRANT. |
| RECITATION, IN GAELIC | - | - | - | THE BARD OF THE SOCIETY. |
| VIOLIN,—Selection of Scotch Airs | - | - | - | MR C. S. GRANT. |
| ADDRESS | - | - | - | REV. MR STEWART, Nether-Lochaber. |
| SONG, Gaelic & English | - | - | - | HO! MO MHAIRI LAGHACH MISSES MACKINTOSH. |
| ENGLISH SONG, | - | - | - | PRINCE CHARLES' FAREWELL TO FLORA MACDONALD MR D. TAYLOR. |
| DANCE,—Gille Calum | - | - | - | MR A. MACKINTOSH. |
| GAELIC SONG,—Nighneag a Chuil duinn | - | - | - | MR D. MACRAE. |

INTERVAL OF 20 MINUTES.

SERVICE OF FRUIT.

BAGPIPE MUSIC.

PROGRAMME.

PART II.

- ADDRESS - - - - Professor BLACKIE.
- PIANOFORTE,—Selections - - - Miss MACKINTOSH.
- Gaelic SONG, { Cead Deireannach nam }
Beann, } Mr A. STEWART.
- DANCE,—Highland Fling - - - { Messrs MACKENZIE, MAC-
KINTOSH, &c.
- ENGLISH SONG, { March of the Cameron }
Men } Mr JAMES FRASER.
- GAELIC ADDRESS - - - Rev. Mr MACGREGOR.
- VIOLIN,—Selections - - - - Mr C. S. GRANT.
- Gaelic SONG, { An Ribhinn, Aluinn, }
Eibhinn Og } Messrs D. & W. MACKAY.
- ENGLISH SONG,—My Nannie's Awa' - Mr R. MUNRO.
- RECITATION,—Turas Eachainn gu Paisley Mr W. G. STEWART.
- ENGLISH SONG—Flora M'Donald's Lament Mr D. TAYLOR.
- GAELIC SONG,—Fear Ghlinne Garaidh - Mr H. FRASER.
- DANCE,—Scotch Reels - Messrs MACKENZIE, MACKINTOSH, &c.

Professor BLACKIE will deliver a LECTURE *on the Evening of*
Saturday, 13th July. Subject: "Nationality."

GAELIC SOCIETY OF INVERNESS—CELTIC
LANGUAGES AND THEIR AFFINITIES.

From the Inverness Courier

We noticed lately a lecture delivered in the Gaelic Society by the Rev. William Ross, entitled, "A survey of the Celtic languages and their affinities to the other Indo-European languages." The platform were the Revs. Alexander Sutherland, Peter Robertson, and D. C. the Revs. Mr Mackenzie, Kirkhill; F. Macdonald, D. S. Sage, Nairn; and Mr Macdonald, Macpherson of Cluny, Bailie Simpson, Donald, Alex. Dallas, Esq., Town-Clerk, &

Mr Ross divided his subject into four places of the Celtic languages; 1st, Celtic the Celtic languages; and 4th, Celtic treating of the place of the Celtic languages. He stated that there were three great families, the Aryan, Semitic, and Turanian. It was not yet discovered affinities between them, and, if so, the Celtic was destined to participate in the inquiry; but, as yet, the native scholars in this direction were labouring. The event that helped to place the Celtic in the discovery of the Sanscrit in the year 1800, that year it was generally supposed that there was a distinct distinction in race and language between the inhabitants of Hindostan and the East, and the Aryans. To Sir William Jones, the great Orientalist, are indebted for the first hints as to the affinity of the Celtic to the other Aryan languages. This was followed up by Dr Pritchard in his "Researches into the History of the Celtic Nations," published in 1837. The years that have since elapsed have only confirmed the discoveries he made, and largely to a large extent submitted by him. After enumerating the various languages that go to form the Celtic, the lecturer proceeded to consider the history of the Celtic, as the language of the numerous tribes that formed the van and centre of the European races—infringed upon by the north, the Hellenic on the south, the Aryan, the Windic, and Illyric, that took the Celtic possessed for us a special and deep interest. It was the first to part company with its kindred, to remove from the ancient fatherland. It gave names to the mountains, glens, and valleys, the homesteads of Europe—names which are the fossilised footprints of the Celtic in Europe, and which might yet be distinguished from the superficial deposits of Teutonic and Slavonic nations. Thus, some of the oldest roots have been preserved to us by Greek and Latin in the old Teutonic records. Having treated of Celtic dialects, the lecturer dwelt at length on the Celtic scholarship—detailing the history of Celtic scholarship, from the Rev. Robert Kirk's "Lexicon of Armstrong, and the Highland Gaelic." He then described the various grammars, short memoirs of Le Gonidec, the author of the Breton grammar, and of J. Caspar Leuss's "Grammatica Celtica," who reared from fragments—portions of one design—the Celtic, which was at once his own undying monument to the admiration of the world. To Leuss belongs the credit of having put the top-stone on the noble foundation other men had laid, but whose vast extent he only set out to advantage in thirteen years.

In regard to native scholarship, Mr Ross mentioned the labours of the Rev. Dr Macdonald, I. Rev. Mr Clark, Mr R. Garnett, Mr John Islay, Professor Blackie, &c. Among Breton scholars, he referred to Owen Jones, Robt. Williams, Archdeacon Williams, C. Whately Stokes, and Villemargue. He then reviewed Celtic literature, oral and written, and the early printed books, and the literature existing in the various dialects.

In treating of the third head—the Celtic literature, the lecturer dealt with their internal structure and relations, and the foreign elements entered into, and the foreign elements, classical and ecclesiastical Latin, and from the various tongues, pointed out. He next showed the influence of the ligamma, in producing some of the special characteristics of the Gaelic as distinct from the Celtic branch of the language. In the fourth and last portion of the lecture, the affinities between the Celtic and Hellenic, Teutonic, and Slavonic, in vocabulary and grammar, were shown and illustrated; and the lecturer concluded by pointing out several of the many bearings of the subject on the progress of the Gospel and the welfare of mankind.

On the motion of the Chairman, who spoke in Gaelic, a

most cordial vote of thanks was awarded to Mr Ross for his interesting and learned treatment of a subject in which all present could not fail to be interested. He hoped Mr Ross would soon appear among them again. He might safely say they would all give him the heartiest reception. He hoped the Society would soon see their way to starting a Gaelic periodical.

Mr Ross moved a hearty vote of thanks to Cluny for presiding, which was enthusiastically responded to.

The lecture was illustrated by specimens of Gaelic literature in its various stages, from the ninth century downwards, and by photographs of a Gaelic charter, of date 1408, conveying lands in Islay, from Macdonald of the Isles to Brian, Vicar Mackay, and the MSS. of the Dean of Lismore, written in the 15th century.

Derrice House.
Confluence of
glaciers. -

21 14

Letten-Keim Wales.
Aug 25. 72

Times March 29 1872. Times.
This is the pit described 3 December 28
1867 -

COLLIERY EXPLOSION.

(BY TELEGRAPH.)

BOLTON, MARCH 28.

A frightful colliery explosion occurred at noon this day at Atherton, a village about six miles from Bolton, by which 23 men and boys were killed, and 11 men injured more or less seriously. The pit, where the accident occurred is the Lovers' Lane, or Old Chain Pit, and is the property of Messrs. John Fletcher and Co.

For some time past there has been a great deal of gas in the mine, but every precaution had been taken to prevent any accident. The Davy lamp was used, and the key was kept by the underlooker, who was among those killed.

Shortly before 12 o'clock an explosion of gas occurred, and in the surrounding districts the alarm was given, and hundreds rushed to the pit's mouth. Immediately on the alarm being given, Messrs. R. and H. Fletcher, accompanied by a large party of miners and volunteers, descended into the mine, and carried on their heroic work until all those who were injured were brought out, and they did not cease from their dangerous task until the last man was brought out of the pit. The surveyor was on the pit's mouth at the time of the accident, and Mr. James Pooley gave all the directions necessary. Four medical men were in attendance, and did their best to alleviate the sufferings of the injured. There were also present four clergymen, ready to administer the last rites to the dying and injured.

As the poor men were brought up in the cage, one by one, they were laid in the out offices, the engine-room, and all available places. As the dead bodies were brought up they were covered with wrappers, their faces being carefully concealed, and borne along tenderly until they were deposited on the floor and covered with straw. Many poor boys were scorched to cinders. Several men had the skin of their faces and hands curled almost in ribands. Many others, including the underlooker, Ralph Howcroft, wore a placid smile.

The names of those dead are,—Simon Hulton, boy; James Farrington, boy; William Cronk, boy; George and Thomas Hunt, boys, brothers; Thomas Partington, married; Paul Greno, married, and three children; John Leigh, married; Thomas Schofield, single; Peter Halliwell, married; Robert Shaw, married, and three children; Jacob Worthington, Jos. Hodson, Thomas Prescott, and Thomas Whittle; the other men had not been identified when our telegram left.

The explosion has caused great excitement in the neighbourhood.

at least
I think it
is the same
which I
went down
with
Dickinson
December
1867.

INVERNESS GAELIC SOCIETY--ASSEMBLY AND CONCERT.

This re-union of Celts took place on Thursday evening in the Music Hall, of the Highland Capital, amid sounds of *piobaireachd* and other educts of Gaelic genius. That there was something unusually, if not intensely, racy of the land of the heather about to be celebrated in the Music Hall, the most casual passer-by would gather from the fact that three elegantly decked pipers were to be seen, as well as heard, playing backward and forward in the main entrance, and there can be little doubt that a goodly number of those who occupied the hall must have been attracted and persuaded thereto by the commanding strains of the premier piper of Inverness and his pupils, whose joint services, we understand, were loyally given to the Society for the occasion.

It may be as well, ere we enter the place of assembly, to mention for the edification of those who require to be so informed, that the objects of the Society, briefly stated, are "to promote the study of Gaelic literature and antiquities; generally, to forward the interests of Highlanders; and to form a bond of union among the sons of the Gael at home and abroad." But, as may be seen from the programme of last evening's proceedings, this Celtic union neither opposes nor ignores Saxon claims, interests, or sentiments. There may have been present in the minds of those who framed the constitution of the Society a feeling of impatience, if not of resentment, at the tendency even in the chief town of the Highlands to place the Saxon element above the Celtic, as if the former were the rising, and the latter inevitably the setting sun, in the firmament of races, but most certainly there was no attempt at retaliation in getting up the first assembly, for if we are greeted (or if the fastidious will it, scared) by the sounds of the pipes as we enter, we are addressed from the chair—which was occupied by Provost Mackenzie—in perfectly unexceptionable English. The Chairman was supported by Professor Blackie; R. Carruthers, LL.D.; Colonel Macpherson, Cluny; Sheriff Macdonald, late of Stornoway; Bailie Simpson, Inverness; Alex. Dallas, Esq., Town-Clerk, do.; Rev. Mr Macgregor, Inverness; Rev. Mr Stewart, Nether-Lochaber; F. Macdonald, Esq., Druid; Mr Cumming, Allanfean, &c. The Provost, in opening the proceedings, expressed regret at the unavoidable absence of his nephew, Sir Kenneth S. Mackenzie, of Gairloch, who had agreed to preside. There were a good many "*cia ma tha sibh 'nochd*" and "*faillte dhuibh*," among the convivialists, but on the other hand, it is to be regretted that the picturesque garb of Old Gaul was anything but in the ascendant. The Saxon in Saxon broad-cloth and the Celt in pantaloons went abundantly to show that no successful attempt had been made to restore the costume so graphically described and pathetically lamented by *Domnachadh Ban*. Some who ambitioned to join the society were relieved to find that wearing the kilt had not been imposed as a condition of membership. So far the Saxon had his own way. Then, the first song of the evening was commenced and excellently rendered by Mr D. Macrae, "*Nighneag a Chuil duinn*," in the purest Gaelic. This was followed by one in good broad Scotch, preserving the spirit and key note of the proceedings, by being in praise of "*The Stern Scottish Hielans*." Mr James Fraser, who sung the song so well, received an encore, to which he responded in fine taste with "*When the Kye come hame*." The next item was the well-known reel of Tulloch—danced by four practised "hands," we were about to say—danced, however, in good taste and spirit. This was an admirable arrangement on the part of the society, at this season—having the dancing done by proxy, and done, no doubt, all the more perfectly, the performers having been selected with an eye to their fitness for their task. This was followed by a recitation in Gaelic by Mr Macdonald, a well-known adept in Gaelic prose and verse, original or select. It should be noted that Mr Macdonald occupies the position of bard to the society. After this appeal in the vernacular, came a selection of Scotch airs by Mr C. S. Grant, who, without any of the apparently dexterous execution of crack violinists, discoursed most touching strains of genuine Scottish music, to which Celt and Saxon could with equal right lay claim. Then came the racy correspondent of our local contemporary, the *Courier*, all the way from Nether-Lochaber, to cast in his contribution of ancient lore, and Gaelic philology. Mr Stewart, though himself a master of the tongue in which O-sian sang, was content to conform to the programme, by making his speech in English. It is scarcely necessary to say that our Nether-Lochaber friend was greeted with a hearty cheer on rising to speak, and on resuming his seat. This was followed by a Gaelic song from the Misses Mackintosh and Mr W. Mackay. This was quite a striking feature in the proceedings. We have any number of female songsters in English, in French, in Italian, and even in German; but we do not know if any one present had ever before listened to a Gaelic songstress on a public platform. The Misses Mackintosh deserved well the thanks which they received for coming forward as they did. We are aware that they laboured under the very great disadvantage of

this being their very first essay of the kind, and of not having had adequate time for practice. Even to English ears the strains were sweet, and the words themselves musical in a high degree. No doubt, it is contended by the Gael that his language is more amenable to the behests of song than the more sibilant tongue of the Saxon; but the Saxon required the auricular proof afforded last evening to enable him to regard the Celtic "contention" as anything more than a very excusable conceit. "Ho, my lovely Mary!" the song in question, was given in English as well, affording some idea no doubt of the correctness or

otherwise of what we have just been referring to, as well as of the poetry and sentiment of the original composition. Mr D. C. Taylor followed, with "Prince Charlie's Farewell to Flora Macdonald," of the execution of which it is enough to say that the vocalist sustained his well-earned reputation. Perhaps the transition from a royal lament for the heroic Flora Macdonald to a dance over naked swords was rather sudden. It almost looks as if an intermediate part, bringing the mind more gradually from the mournful to the boisterous, had dropped out of the programme. But it was not so. However, the incongruity, if felt, was soon forgotten, under the influence of the "poetry of motion," discoursed over the shining Ferraras by Mr A. Mackintosh, champion dancer of "our own town," which brought the first part of the proceedings to a close.

The next part, which consisted of a service of fruit, was of course participated in by the whole assembly. Stewards were told off for the work of distribution, and the noise incident thereto was drowned by the loud strains of the pipes, the pipers marching to and fro on the platform of the hall.

To Highland hearts there are few living public men more dear than the brilliant and versatile Professor of Greek in the Edinburgh University; and loud and cordial were the plaudits with which, accordingly, the learned and eloquent friend of the Gael, Professor Blackie, was greeted on presenting himself. His speech was short, pithy, discursive, and eloquent, and we only regret that the late hour at which the concert concluded prevents our giving even an indication of the subjects he touched upon.

We must hurry over the remainder of the proceedings, by simply mentioning that the Professor's address was followed by a selection of airs on the pianoforte, by Miss Mackintosh, then by a choice specimen of Duncan Ban Macintyre's songs—his last farewell to the hills—given by Mr Stewart; the Highland fling, by four full dressed Highlanders; "The March of the Cameron Men," by Mr James Fraser. These were followed by what is universally regarded as a speciality, a Gaelic address, by the genuine Celt, Mr Macgregor of the West Church. It is unnecessary to say that the rev. gentleman entered heartily into the spirit, as well as words of his discourse, and that he was warmly applauded. A song in Gaelic was sung by Miss Mackay, Mr W. Mackay, and Mr Mackintosh, whose execution was both admirable and acceptable; "My Nannie's Awa," by Mr R. Munro; "Hector's Journey to Paisley," in Gaelic, by Mr W. G. Stewart; and "Come o'er the Stream Charlie," by Mr David Taylor. The next, the National Anthem in Gaelic, deserves more than mere mention. It was only at a late hour on a recent evening that Mr Macdonald, the Bard of the Society, undertook to render the anthem in Gaelic, but ere the morning's sun had dispelled the mists of the night from the surrounding hills, the National Anthem was ready, translated and harmonised in Gaelic, as it was sung last night, with such thorough success. It may be said that the translator steeped himself in all the benign and sublime influences which may be said to haunt the banks of the Ness and the vicinity of the Highland hills, and under the consequent inspiration, produced a translation in every respect worthy of the great original. It only remains to add that as accompanist to the vocalists, Mr C. H. Morine, discharged the duty with his wonted acceptance and ability.

At the conclusion of the proceedings, Mr Dallas proposed a vote of thanks to the singers and musicians, which was heartily awarded; and Dr Carruthers proposed a similar compliment to the gentlemen who had favoured them with addresses. Professor Blackie acknowledged the compliment in a few words, and proposed a special vote of thanks to the Chairman, which was cordially responded to. The National Anthem in Gaelic, as already stated, having been sung, the pleasant company broke up.

We may be allowed to congratulate the members of the Gaelic Society of Inverness on the great success which has attended this, their first annual gathering. It is pleasant to think of the rapid progress and success of the society, in the face of much discouragement and difficulties, especially at the outset. When the society itself was first mooted at a meeting of the Inverness Literary Institute, the suggestion received anything but favourable approval or sympathy. Happily, however, the parties who moved in the matter determined to persevere, and we have good reason to congratulate ourselves that their views were first publicly ventilated in the columns of the *Advertiser*. The results have thoroughly realised the most sanguine expectations of all concerned, and we trust the society and its annual re-unions will continue more successful year after year.

July 11
1872.
Meeting
Letter from
Inverness
17th -
much
pleased
with
this
result

ARGYLLSHIRE GATHERING.

October 1. 1872

at Oban. -

OBAN, N.B.,

10th April 1872

SIR,

I have the honor to inform you that a Meeting of the Members
of the "Argyllshire Gathering" will be held at The Argyll Arms Hotel, Inveraray
on Tuesday 30th April next at 5 o'clock P.M.

I have the honor to remain,

SIR,

Your obedient Servant,

M. J. MacLaine

Hon. Secretary.

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AND CONCERT.

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July 11

at James Home coming in August 1871. Mac Leenach Loch Buidhe got up a meeting and asked me to join subscription £1 — I said yes. They advertised for members and the Inkeepers & others subscribed. The County Gentlemen fought off and they had to return the money and say it was all a mistake.

Thereupon they determined to go on and have a ballot for admission as I am one of the first 30 I believe I get this. Some is to be present. Gavelyne whom I met at the play is taking charge also I am staying, & Sir's Biddle. Nothing will come of it. JH

was followed by a Gaelic song from the Misses Mackintosh and Mr W. Mackay. This was quite a striking feature in the proceedings. We have any number of female songsters in English, in French, in Italian, and even in German; but we do not know if any one present had ever before listened to a Gaelic songstress on a public platform. The Misses Mackintosh deserved well the thanks which they received for coming forward as they did. We are aware that they laboured under the very great disadvantage of

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Derwent House.
Confluence of
glaciers. -

13 23

Zetter-keim Wales.
Aug 25. 72



St Alban's head Wednesday morning July 24 1872. Gash & Julia.

July 23. 1872. Tuesday.

16²⁴

Printers stuff pouring in early Revised and sent off all that came down at the end of the Galie except Pikes collection sent off to be printed yesterday. At 11.30 met Mr. Dore and went from Waterloo to Chews. Sent Sato on to Rockside to look after the letting and to see if the work was well done. Embarked and stowed luggage on board the Julia. Froude came with his son who went off in a shore boat and we sailed. Anchored off Harwich when the tide turned.

Wednesday 24th At one weighed and off to sea at 6. turned out and got drenched with buckets of salt water on deck. at 7 Coffee. Sketched St-Alban's head. at 9.15. Breakfast. Rigged out the Meteorological table and began taking Barometer Thermometer in air and water every morning. Talked Ireland and matters Galie with Froude. Coloured the names of the Flugs for the Julia. L.D.T.W. in duplicate wrote Log. Bealmed. Bealmed all day drifting with the tide slight breeze at night off Portland Look, at Lyell about Dulworth Cove.

Thursday 25th about four Squall & Thunder Cook rolled out of bed. table forward upset down topsails general scurmage Slept through it all but the topsail. after that slept till 11. Then turned out and read history.

Derrell House.
Confluence of
Glaciers. -



Portland Evening July 24 1872. yacht Julia.

Drawn and colored by hand at 1/2 price
but the price is not to be paid until the
picture has been shown to the artist by hand
Selling
9.
Frid

Thursday July 25. 1872. R Y S. India

17.

9. Running up the coast about twenty or thirty miles west of Portland. Fine weather smooth sea wind about N. Thermometer shows air 60° water 59°. The water is getting cooler but it is still very warm. The buckets over the body in the morning feel quite warm: Calm & light winds and fog off the coast. A hawk's ark in the sky at night with vivid calls. Rain and fine fair breeze in adventures.

Friday July 26 1872. off the Longships & Lanes head fine fair breeze water 62° air 64. Lots of ships about. The water has been getting gradually cooler as we get out off the coast where the fog was it was cooler than out here. Smooth sea and following wind sun bright & generally prosperous. Rain free all day and went to roost with a following wind and rising sea.

Saturday July 27. Kicking about off the Irish coast but quite like it as it was thick. Paved out to sea again and got a good deal knocked about carried away some of the planking about the head. at last set trysail and ran in to Bere Haven & anchored about one. Fine bold rocky coast with glaciated cut lines lots of ships steamers and craft of sorts behind Bere Island. The channel fleet. an Irish boat came alongside with milk I spoke to an old fellow in Galley

Dance 28/3/73
Duke was as bad as I was but that he has not remained friends was more & the calm boy about

Letten-kenin Wales.
July 25. 72

Sat.

Berehaven Ireland

20 18

Sat July 27. He was puzzled at first but presently
he began in Kerry Gaelic. I did not
quite make him out but he understood
each other, and a month or two would
teach me this dialect. I made him repeat
and the words were identical. He says
that he knows all about Finn Mac Cool
and the battle of Ventry. He has read
that in the history of Ireland. He
can read Irish a little. I spouted
some verses which he listened to with
great attention. He thought he understood
all. I said. I began upon a Gaelic
story that he understood. I then
tried the names of Irish Miss Tales
which I know. He did not know them.
He says that the people were told telling
tales in the long nights. His name is
Sullivan. I gave him a shilling &
some baccy to post my letter &
bring me a Shamrock to sing
Irish songs. He volunteered & sang
one himself. I never heard it or
anything quite like it. This man's
accent struck me as Celtic &
familiar. O Mahony's accent in Dublin
struck me as strange and peculiar
English. Kennedy's accent struck me
as Celtic but strange. About Cork
according to this man their accent
is different and they say "Katter"
for four. I heard them at Waterford.
Spent the evening in reading & writing.
Heavy gale in squalls, rain & bad weather.

Ketter-Kenn
Wales.
Aug 25. 72

[Faint, illegible handwritten text, likely bleed-through from the reverse side of the page.]

Sunday July 28th 1872. Bere Haven.

19.

Bathed over the side water in harbour 60°
air 59°. Blowing hard. Barometer steadily
raining a little now and then. Generally
we are better here than at sea. Nothing
worthy of note till breakfast time.

Dawdled till noon. Then Duncie, Rachel & Pragers
after lunch landed and walked about
two miles and a half out & in in a park
of ruin. Castletown is a place with the look of
of Celtic town. Smerrow Campbelltown & Tallow
the Isle of Man towns and this one all
have the same general look. They were
all built about the same time. I believe &
the same race of people live in them.
Consequently they are alike in architecture
and intricacy. The peculiar feature here
was horse riding. The people were in church
or refreshing after it and boys were
riding nags up and down at a sharp
pace. Men passed as riding part &
carelessly with odd seats but at home
in their saddles at one place two lads
were racing as hard as their steeds could
gallop. The women wore blue cloaks over
their heads and walked bare foot
careless of rain. There was nothing peculiar
in the look of this race. They men were little
with Irish faces. Shrewd and clever &
sharp: the women gray eyes & dark
haired. If there be the fair blood they are
of the same tribe. Spoke Gaelic to
several people & made myself understood.
Pretty well. Two old farmers seemed

Ketter-Keim Wales.
July 25. 72



An Admired Song Called
The LOYAL LOVERS
Of Fermoy

One day on a fine summer's morning
 I walked out to take the fresh air
 The birds were melodiously singing
 And the lambs were sporting and playing;
 I chanced for to meet a young female
 Whose beauty did me so annoy
 And she driving her cows to the farm
 Bonvenient to the town of Fermoy

I stood for awhile in amazement
 In order to view this fair maid
 She sang for her cow so melodious
 While they were approaching the stream
 I thought she was Juno or Helen
 That caused the great wars of Troy
 My heart was so captivated
 By the beautiful maid of Fermoy.

I gently accosted this fair one
 Though sunk between hope and despair
 Saying, if you have a heart that is feeling;
 You will pity a love-sick, young swain;
 For Cupid my heart captivated
 And surely he did me destroy
 And if I do not get you in wedlock
 I will perish in the town of Fermoy

She answered, with a smile on her features
 Saying, young man you must be in pain,
 To think for to marry a female
 That's only sixteen against may
 You will have to consult with my parents
 In hopes they may with you comply
 And if they agree to your wishes
 I will join you in the town of Fermoy

There is many a man that has no farm
 And still he can nature sustain
 The butcher, the brewer, the baker
 And others too tedious to name
 The trade that I lately adopted
 Is dealing through market and fair
 And the stock that I buy in the province
 Is ten pounds per cent to my share

Those roving dealers are wasteful
 Their mines can ne'er be at ease
 They are covetous, haughty and cheating
 In every bargain they make
 I would rather be yoked to a farmer
 That would handle his plough and his spade
 That would till and manure a fine garden
 And would rouse up the cows for to graze

Now, dear, I can purchase a farm
 My future is already made
 We can get what we want in the market
 The milk, bread, butter and meat;
 I will do what I can for my darling
 In order to cause you great joy
 A fine shop at the end of the square
 In the beautiful town of Fermoy

She brought me at once to her parents
 Who consent to the proposal in haste
 We went for our friends and relations
 Who joyfully came to the feast
 When at night, when our marriage completed
 And both our hearts full of joy
 To live with my love I consented
 For ever in the town of Fermoy



IA NEW SONG FOR
VALENTINE SEASON.

You sporting fads and lasses pay attention to my song
 If you keep yourself from laughing I won't detain you
 long,
 Shrove-tide is coming on, so make up your mind,
 For every one both old and young are sending Valen-
 tines.

CHORUS—

See every one both old and young
 Are sending Valentines.

I know an old maid of 95, it's true upon my life,
 She says unto her Grand-da'ma, I like to be a wife;
 Bare, our Coachman, John, he's handsome, young, and
 fine,
 I'd bestow on him my portion if he'd send me a Valen-
 tine.

I know a young man a Baker that works in Main-st.
 He is courting a Boot-binder, so modest and discreet
 The other night he took her out to see the Pantomime
 But she sent him home with his watch to buy a Valen-
 tine.

There is a smart young Butcher lives in Prince's-street
 mind that,
 And with a dashing Barr's-maid he cuts it rather fat;
 he says, we will get married, love, and surely you'll
 be mine,
 But he'll give her lamb and sallid if she be his Valen-
 tine.

Another chump, a Grocer's clerk, I hear the people say
 And with the nate young Parlour-maid he's seen both
 night and day,
 I'm told behind the tea-chests they gaster very fine,
 But, I'd have her beware, or, he'll send her a Valentine

There is a great big Bobby, and you all know him
 right well,
 He courts a cook in every nook, where ever she may
 dwell;
 He gets mutton, ham, and chicken, every night at half
 past nine,
 And when she sells her dripping, she'll send him a Valen-
 tine.

There's a smart young Sailor lad, I mean to let you
 know,
 And with a lass on Merchant's-quay, he lately got in
 toe,
 This charming lass, she loves aglass but that he will
 not mine,
 He'll flad a lass in every port to be his Valentine.

As Valentines are all the go, before I'll end my rhyme
 All you that have the notion I'd have you be in time
 On the fourteenth day of Feb. before the sun do shine
 Keep your eyes up for the Postman, and you'll get
 your Valentine.

Sunday July 29. 1872) to think me a suspicious
character. Belonging to the fleet and would
not rise or answer. Generally if I were here
a month I could change my Goli into
Kerry Irish & that I am pretty sure.

The country is glaciated. The low
ground is made of Boulder clay &
moraine stuff. Near the sea cliffs
of boulder clay are breaking down with
a face of less or twelve feet high &
a beach of boulders & gravel.



The little Island in front of Castle is so small.
The general shape of the country tells the
tale. The hills are rounded where the rocks



and been, down to a certain level.
There the curve becomes hollow, and
there begins cultivation upon the
glacial debris. The fields are walled small
and numerous. In Bere Island before the
famine the country was like a warren. Here
the most conspicuous building is a great
work house. "The unsex". Changed clothes
dined on I will & smoked and read
and went to bed. The Times of Saturday
was on board by 8. at the port
by four. That makes about 36 hours
from London which is rapid.

Letter-Keim Wales.
Aug 25. 72

E



Bantry Bay

→ rising over
Bear
Island

Harpy Hill.

→ strid.

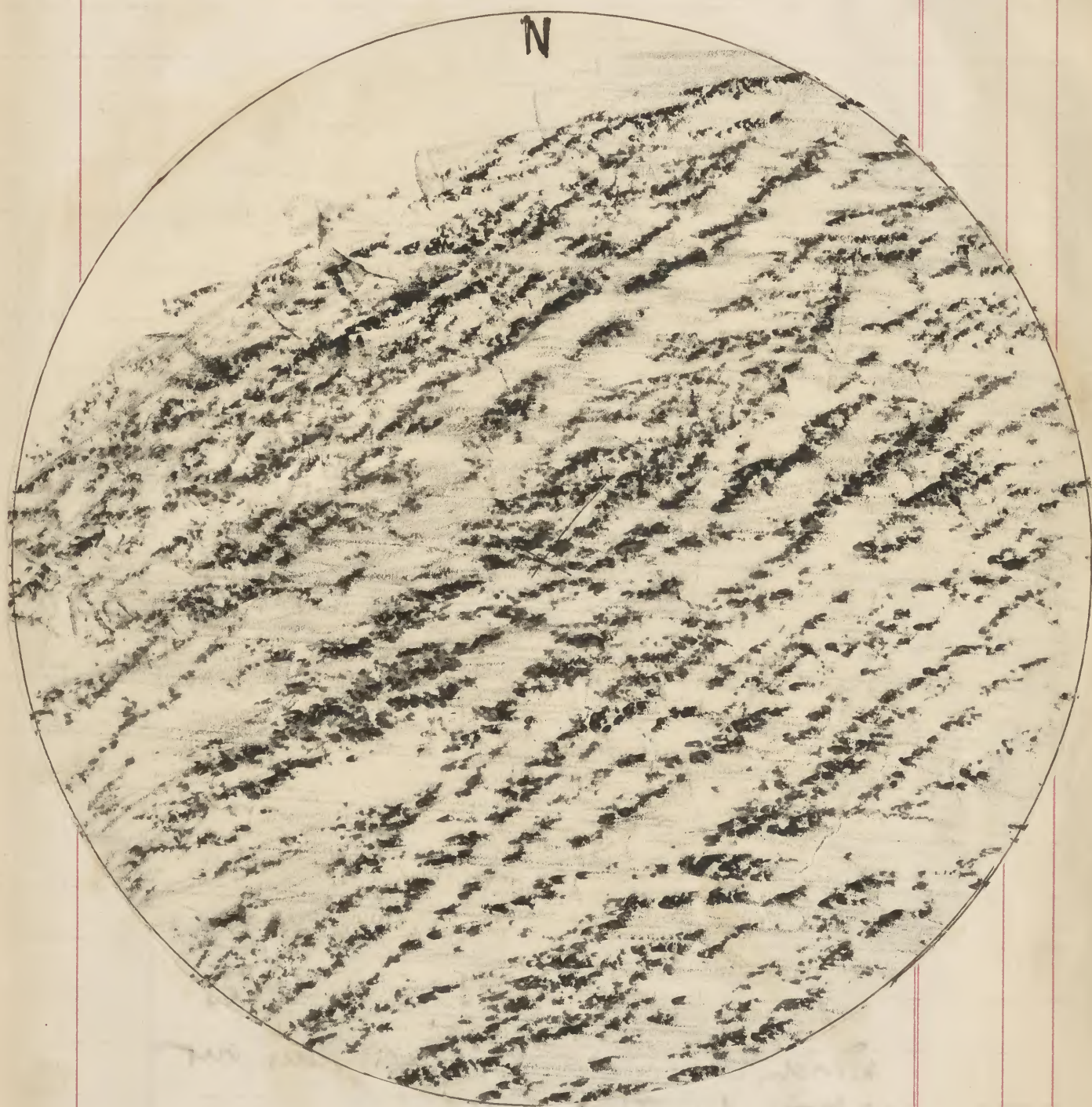
The Fleet in Bear Haven. July 29. 1872. R.Y.S. Julian.

Monday July 29. 1872 :- Rain taking off and
wind dies. Clearing up & sprucey sails
making ready for travelling. Sounded on
deck by a big sailor as it is no easy job
to scramble out of the sea. Mr
Sullivan bum bout man on board. Talked
to him for a while and found that I
get to understand him rapidly. His
words are in his glee as in the
north. He uses the old forms "him
mor". But I have not much; instead
of chee neel Moran again. It seems to
me that the scotch form is older, & the
Irish more contracted like the English
shant, want, cant, = I shall not be
Tried and set shoring pots and lobster pots
caught little. After lunch trawled again and
caught a lot of flat fish Brill Pluice, dabbs
and smelties. Spun for Pollock in the mouth of the
harbour and caught none. Set trammel
lifted pots with crabs & dogfish and smelties
Wind to the north weather clearing. In the
evening came two more ships round by the
inner end at Rindha na Cairnig. About
sunset or later the Fleet seemed to be obscured
by a black smoke, on looking through the
glass it turned out to be thousands of
blankets or something else hung up to dry
Sat on deck till late listening to the Harms &
Curlies - to the barking of dogs far up in the
hills, and to the singing of the crew of the cutter.
Made a sketch which is on the other side.

John Keir Wiles.
July 29. 72

Tuesday July 30 1872. Bear Haven.

Fine sunny morning. The Trommel was full of all sorts of queer creatures. Anick crabs Dogfish, Clams, hawks, shrimps and strange swimming crabs. all the curios went over board. yesterday the admiral Hornby called. So Ducie has to return the visit. Frade wants to visit a smuggler's den. I went to find ice marks. So we are to scatter.



Deer-Head House
July 30 1872

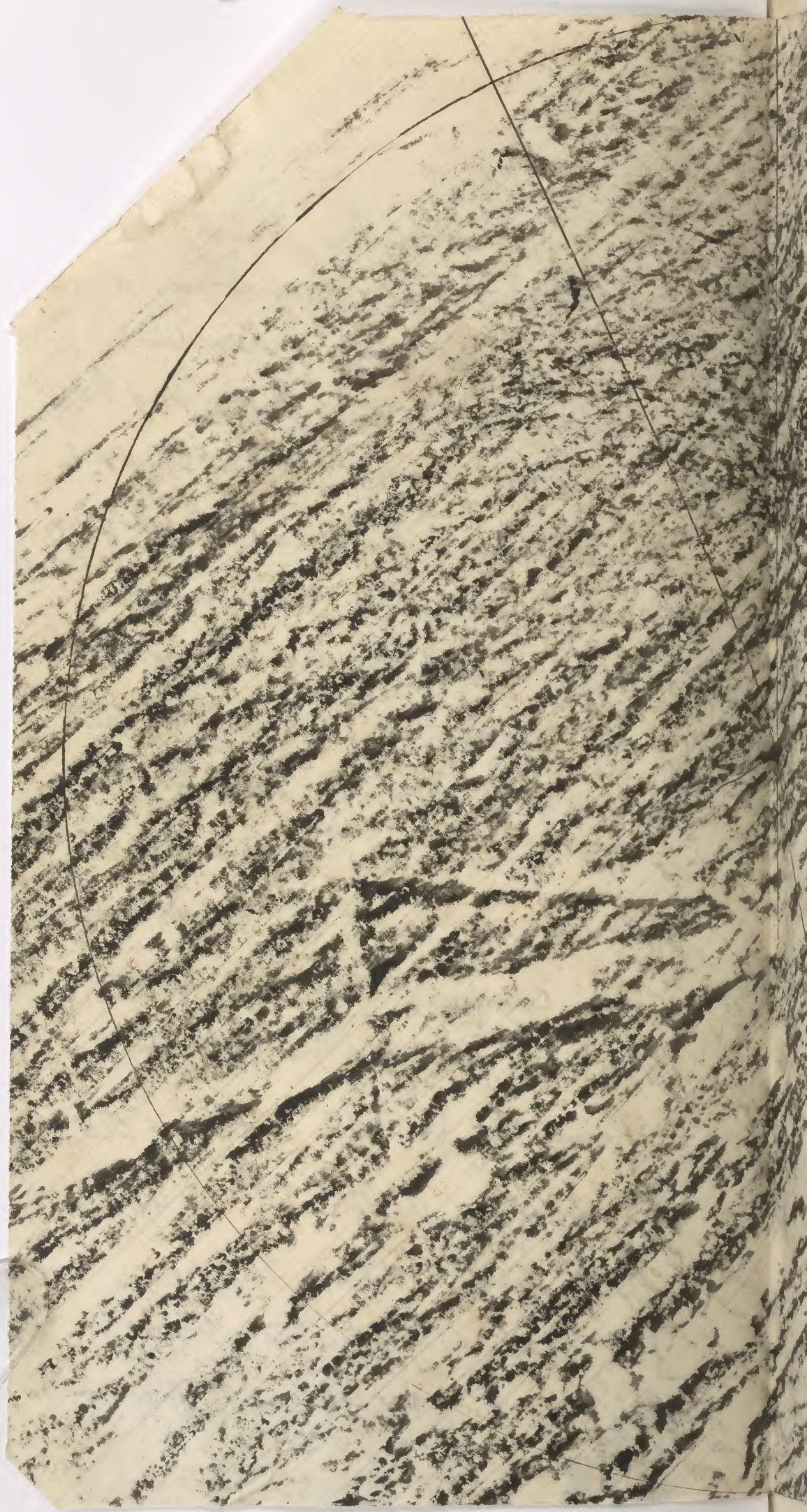


North ascertained by the
 Sun at noon by my watch
 which is nearly half an hour out
 in this Longitude.

31

First Rubbing near
the shore at the foot of
a small cliff of Boulder
clay where the Rock has been
washed and newly exposed
Surface. Polish like glass.
Very heavy ice has come
down from the mainland in
the direction of a hollow to the
North of Hungry Hill crossing
the Sound of Bear haven &
running over Bear Island
The compass left on board
I had to get the bearings
from the yacht. The old
Barraek on the top is about
800 feet above the sea.
The rock is glaucous but
too much weathered for

etc



Derrcell House.
Confluence of
glaciers. -

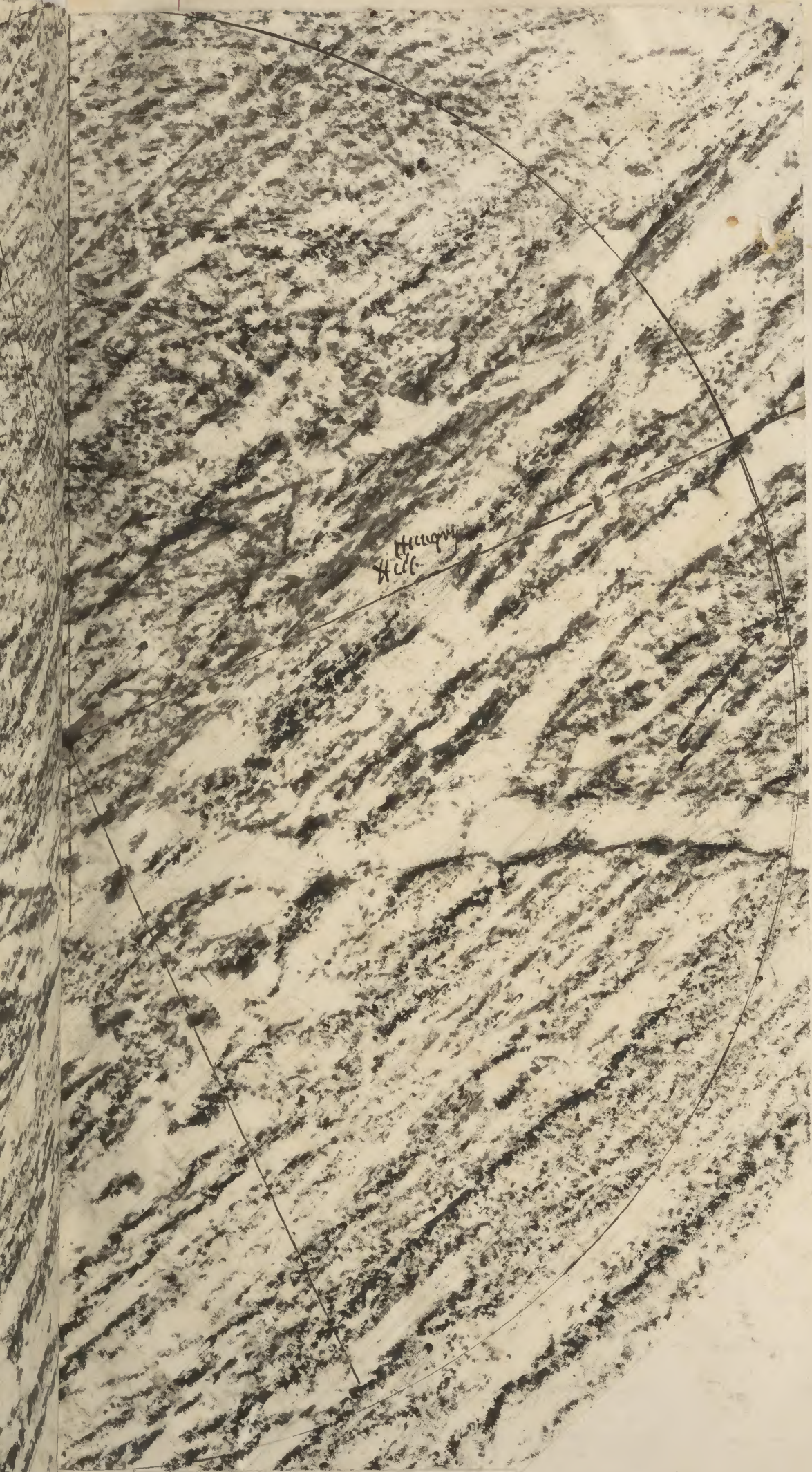
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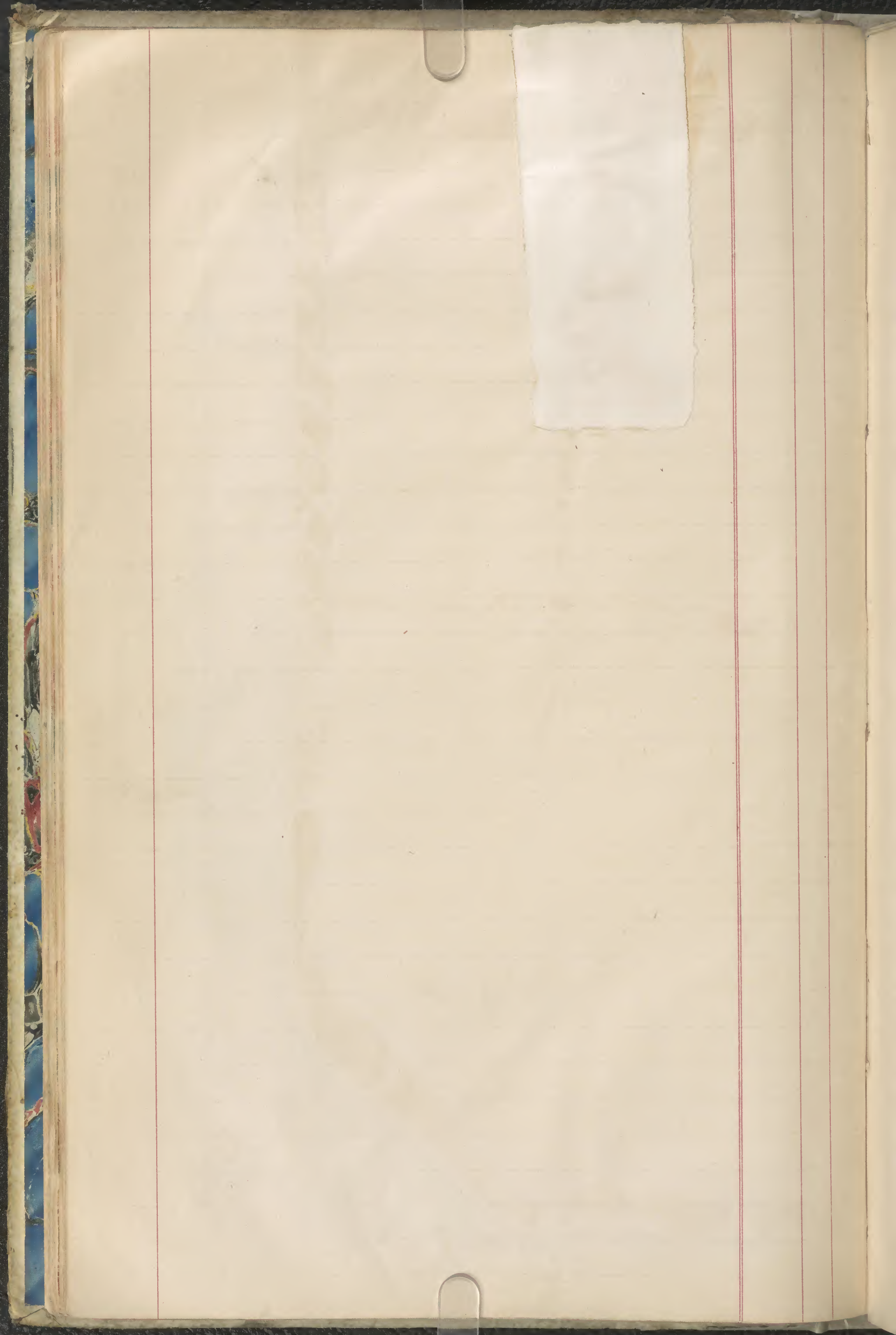
23

Settle-Keilm
Wales.
Aug 25. 72



Hungry
Hill.





24.³³

Tuesday July 30 1972. Landed in the Dargy and after making rubbing near the shore, found myself upon an Island with a muddy Journal cutting me from land. Signalled and got the boat ashore. & got to main land of Bear Island. Got a boy to carry a bag & walked up keeping into houses, and trying to make the people understand my Golic. I understood them better than they understood me, but English is the language spoken. I noticed that it was not easy to understand the English. Two boys joined and after a very hot walk I managed to get to the hills top about 800 feet. It is no easy work out of condition & getting old but I got up & looked down upon the fleet. The striation on this place seems to mean very heavy ice falling off these headlands. Not simply running in the grooves which now make Bantay Bay and Kenmare river. But falling diagonally into these grooves from the ridges. Here the ice came from the North shoulder of Murgay Hill. Crossed the scum and ran over Bear Island which is about a thousand feet high at the highest point. It was so where I went.

When I got down we crossed to see some Salvage work done by the fleet, then dived and rowed out to the Piper Rocks fishing. I caught one Lythe about two pounds weight.

Letter-Keim Wales.
Aug 25. 72

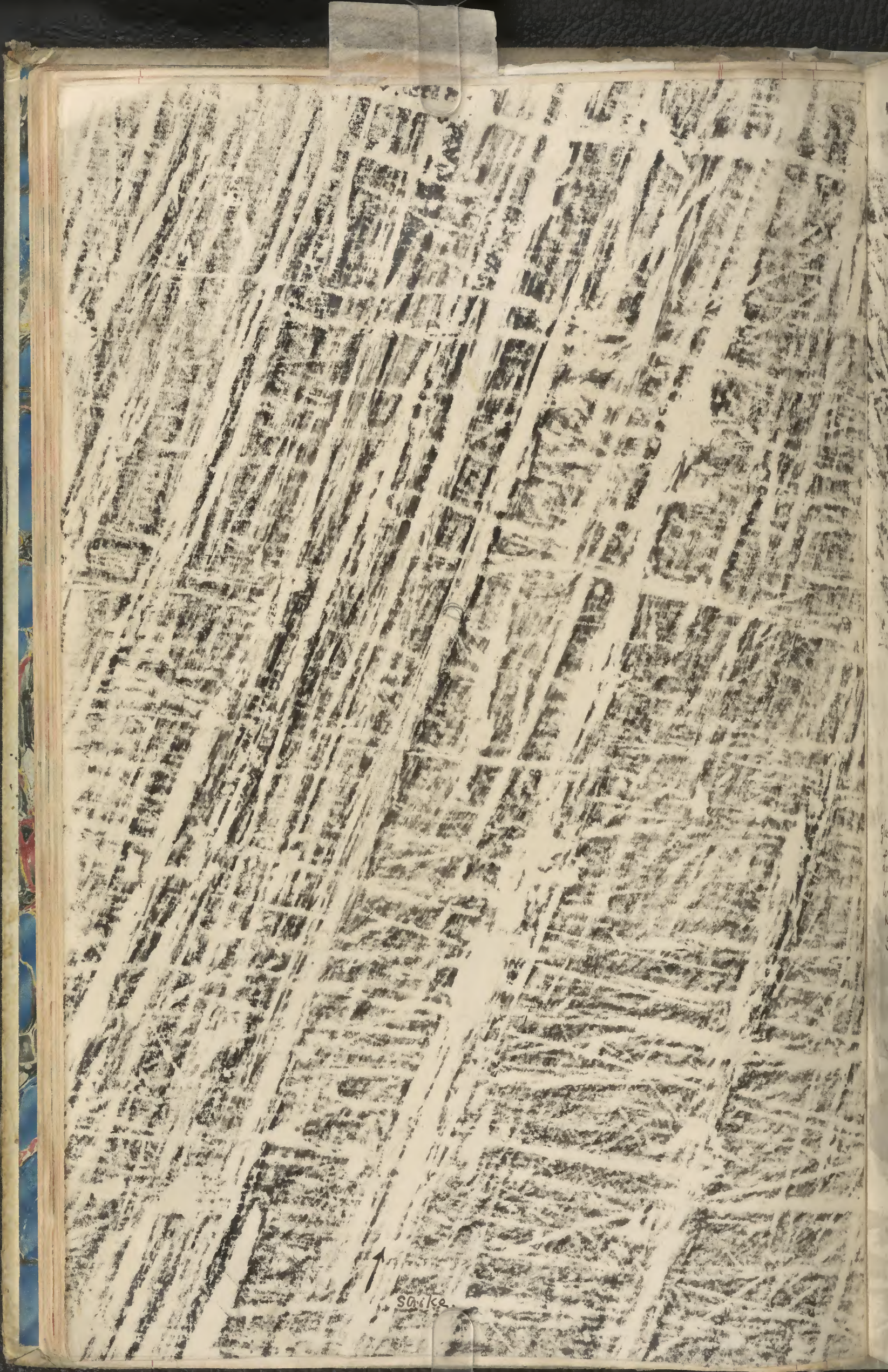
Wednesday July 31. 4572 At Daylight about 4 up
Sails and anchor. & off to sea. Ran out through
the narrows and down the northern Horn of the
bay past Duvsey Island and the Caly light
The Cow and Bull outside. Rounded the
Cape & ran up Kenmare river to Kilmucklagh
where anchored. went out fishing & caught a
lot of Gray Gurnard, and after dinner fished
handlines and caught nothing worthy of
mention. Sometimes calm sometimes light
winds sometimes strong breeze. smooth sea. Fishing
at all moments when there was a chance.

The coast is a fine sample of marine work.
The rounded hills and suddenly in cliffs
amongst which the ^{and} fallen stuff can be
seen here & there. The detached Islands.

The Cow & Bull are mere ribs of stunted
harder than the rest pointing sea ward.
The light shines through them.



as we run up the river the hills kept their forms but
the curves ran down into the sea, and at
the anchorage the debris of glaciers remain
upon the rocks in great mounds of clay &
stones.



Sucke

Confluence of two Local glaciers
meeting in Killmakillogue harbour
and going out with Kenmare River.

N magnetic. Var. 26.30

Rock at the door of Derreen House
August 1 1872.

35

Kelley-kenmare
Wales.
Aug 25. 72.

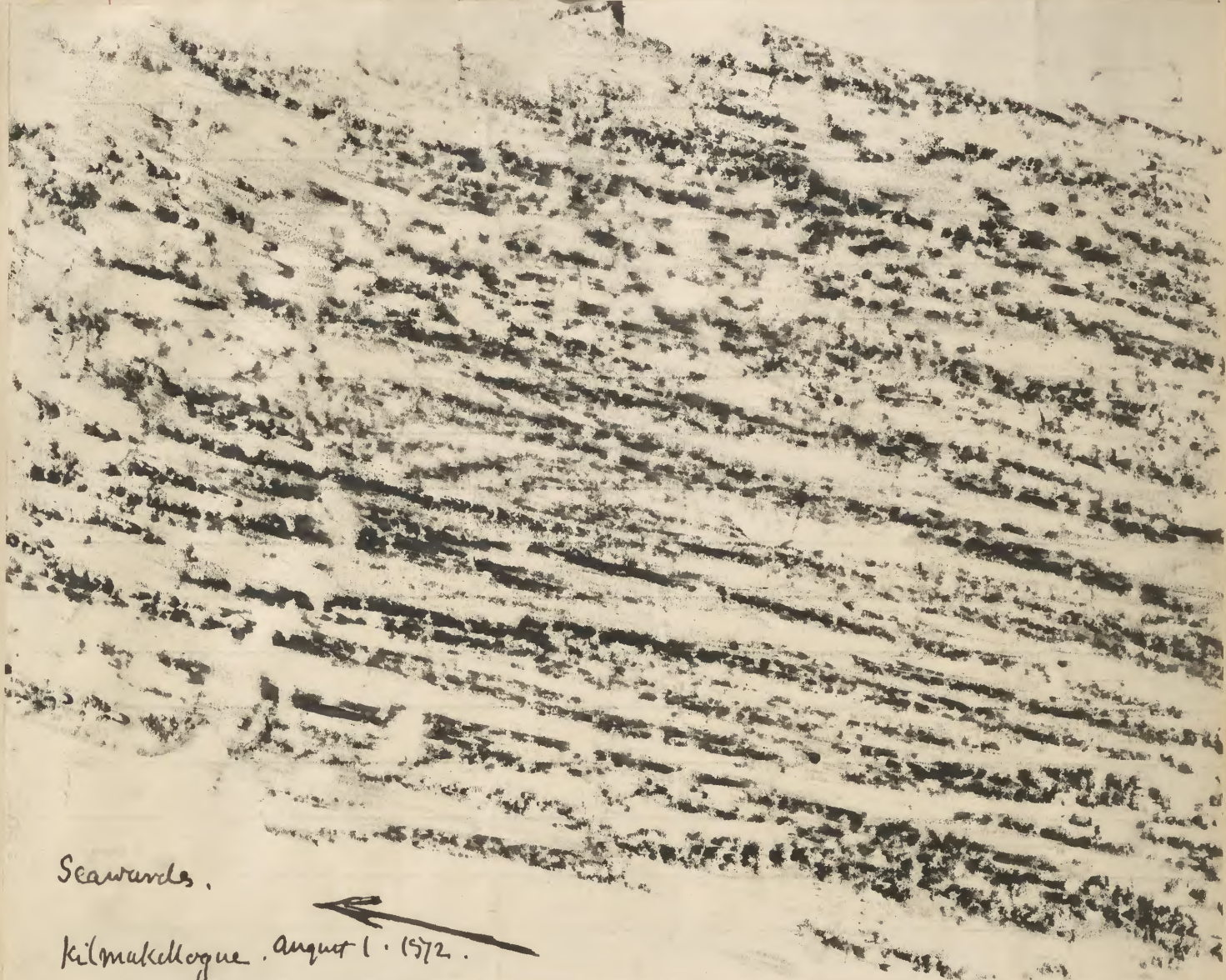
Glanmor

Long glen about six miles
long. amongst high hills.
with a river in it &
Salmon.

Shorter glen
coming from
the high mountain
plateau.

Knock Stump

N magnetic.

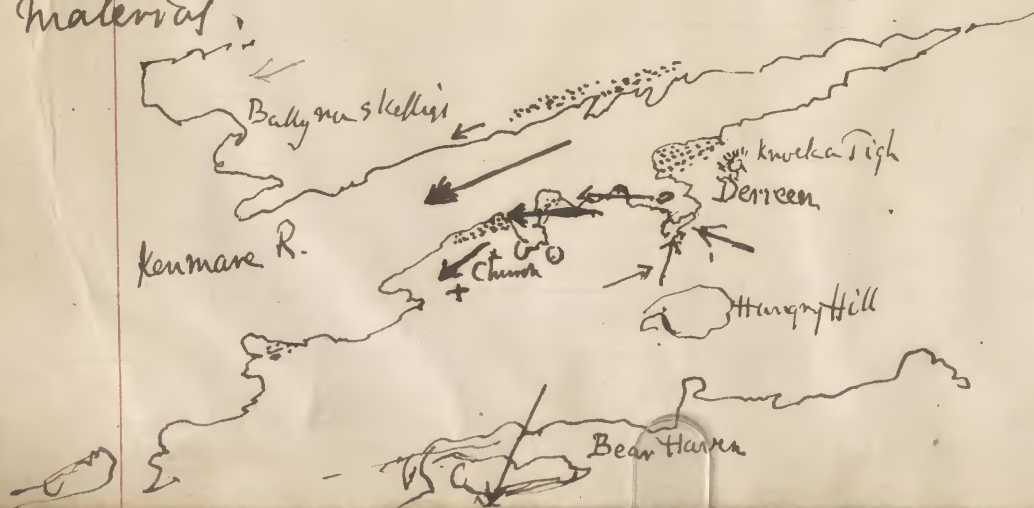


Seawards.

Kilmakellogue. August 1. 1972.

The same glacier on the Southern side of Kilmakellogue harbour, turning towards the sea nearer Kenmare River opposite to the anchorage.

at this spot near the road the glacier moved along the strike and made grooves in which a large boat might rest. Patches of Boulder clay with striated stones are left hereabouts, ~~at~~ Spanish Island, and on the Eastern side of the harbour is a great hill of the same material.



Thursday.

26

August 1 1872. Landed on Spanish Island where is a curious patch of boulder clay about the side of a small cottage. The stones in the clay are striated. The stones of which the Island is made are rolled and sorted by the waves. The large ones form a bar parallel to the shores of the main gulf. ~~The~~ crossing the side bay, on the N E side of the bay is a large hill of boulder clay. On the opposite side is a continuation of the same hill and further down Kenmare R. are several parallel ridges of the same material. On the opposite side of Kenmare R. is another green hill of gray clay with large stones in it, breaking away and washing down into grooved cliffs. These being the general features took rubbings at Dervreen house and along the shore. with the result shown on the opposite page.

Kenmare R. was the bed of a very large glacier. moving seawards which left great lateral moraines. The hills and glens furnished smaller local glaciers which broke through the lateral moraines.

Got on board & fished.

The people about Dervreen and the children at the National school did not look like Celts. The people in the boats and farmers about the points did and all speak Gaelic. We do not easily understand each other but when the fact is established that I am speaking Gaelic to them, the usual outburst of glad intelligence shines out of eyes and grins out of great mouths.

Letter-kenmare Wales.
Aug 25. 72



Friday August 2. 1872.

Got under weigh & crossed to Dromore Castle Mahony's place where we got letters and luncheon & looked at new concrete houses and good gardens. It is a beautiful place entirely.

Trench and his sister Mrs Bolander & lots of people came, and lunched and we took a lot on board & sailed up to Sneem.

There we anchored and visited Gearr Imis, and Lord Dunraven's place, and the Bishop of Limericks boat house where we saw Mrs Graves. after that fished. -

The moraine at Sneem is the counterpart of the moraine at Dromore. Up at Kenmare ascending to Trench are large perched blocks of limestone where no limestone rocks are anywhere near, and large trains of trap blocks striated. There ought to give the direction of the large glacier.

I begin to think that the Polar glacier is the only engine large enough to account for all that I see hereabouts.

Saturday August 3. 1872

Visited the Bishop who explained his theory of Rath and circle inscriptions. Curiously enough the same idea on something like it struck me with Sir W Armstrong at Craigside.

The circles on a rock in a circular fort suggested idle people carving pictures of their work. The Bishop thinks that the inscriptions are maps of the forts, & shows on the Ordnance map how the raths lie in three lines to be visible along lines of sight.

Letter-keim Wales.
Aug 25. 72

Fourth the Bishop insisted upon giving me a set of ogham charms. They are Irish charms which a man wrote in ogham to keep them secret and make them more mysterious. I cannot read but I had to accept. An ogham stone is in the garden it reads a man's name & he is supposed to be an "Ab".

Got on board & sailed for Denver. corrected proofs, wrote letters, whittled & French fished. Dined. & fished observed a Hawks ark in the sky.

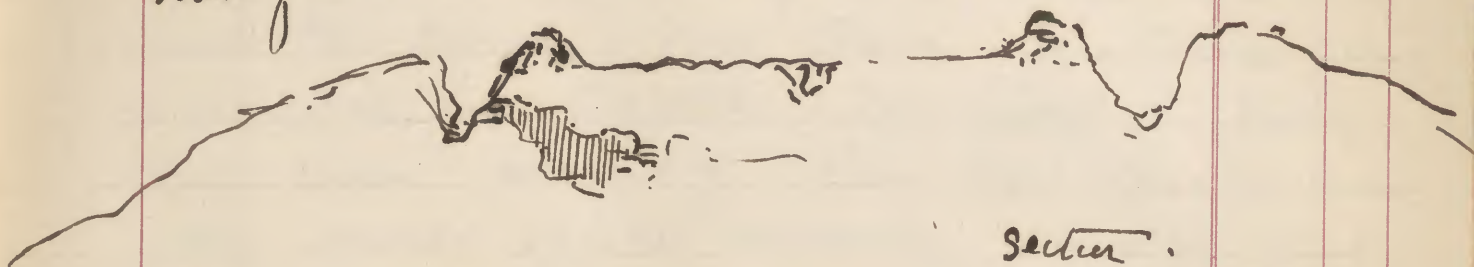
Sunday August 4 1872. Heavy rain at night. The sea water is one degree warmer in consequence. Walked 5 miles to church. S.W. Round the point the strike in a quarry were E & W magnetic. and further down near the church the marks were parallel to the line of hills and nearly coincident with the strike. These last are more weathered and belong to the older and larger system of glaciation to which these large lateral moraines also belong.

Discoursed a lot of natives and learned that there was a "Phorth" upon a hill top. After church walked up to it. Ard groom in the townland of Dromard. apparently Ard. drom. The hill is about 250 feet above the sea. Scarped and a good position for defence. A foss is made round it, and a wall of loose stones now fallen and become a circular mound overgrown with bushes & brambles is over round it. The hill is all burrowed in to with underground chambers but having no light we did not creep in.

[Faint, illegible handwriting visible through the paper.]

39 29.

Sunday Aug 4. 1872. The boys said that the chambers were large and high and built like the wall of a house.



Section.

In the middle of the enclosure is a hole now nearly filled up with clay and stones. This the men supposed to be the chimney for the underground dwellings. This I suppose to have been the way into the cellars. Their idea is that the Danes made the "Phorth". There is nothing of the kind in the north so far as I know, so I suppose that the Celts made it against the Danes & other foes. Similar constructions of smaller size are all round about this which is said to be the second best in Ireland. Numerous groups of standing stones are in the neighbourhood and some with ogham inscriptions which we did not visit.

As for stories a man here called Murphy has a collection written which includes the Amadan men. The battle of Ventlog Harbour, in English, is in a tract which book hawkers commonly sell. The lads knew the names of stories but they did not open early. The name of Fin Mac Cul seemed to shut them up tight. This I attribute to the Fenian movement which was strong and active hereabouts a few years ago.

Lettre-keinn Wales.
Aug 25. 72.

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[illegible]

Aug 4 72.

The Church is called Teampul.

Pagles's they did not know. They were charmed to find that I knew Gaelic. Single words were the same, but their sentences were otherwise put together. "Ni ~~theit~~ ta mile theit ann." instead of "Cha neil mile ann" other words of like meaning were in use and generally we could not converse. A very short time would enable me to change my language, but I do not get much of a chance at shore folk. They all clustered about me like bees when we got together on the Fort.

The Congregation at the Roman chapel was so large that they were all scattered about outside listening to the sound of the mass. The congregation in Mr. Murphy's church was composed of his own family, our party and not a three Souph-ers. i.e. converts in famine times. The clerk walked up to the church door smoking his pipe.

Then he put out his pipe and came in & sang. In the midst of the service a little girl brought something in paper which she gave to the minister. Generally I was carried back to service in Lifford and walked back went on board dined & went to bed in tendency to start early.

Heavy rain at night.

The Noah's Ark. was a true sign this time.

Letter-Keim Wales.
Aug 25. 72.

Monday August 5. 1872. Calm & mist. So staid
quietly in harbour. A young water bill or
guillemot came under the stern and
hunted for. We could see all his proceedings
and he paid no attention to us. He
flew under water turning and twisting
rising and falling, and sending the
flying spray leaping out of water in
showers. When he had caught a fish
he rose and swallowed it, then
he took a long breath and down
again. A Swallow catching flies
in the air moved as did this
little bird under water. He cared
no more for the yacht than for a
rock. Sailed up to Tromsø Traveled and
anchored. Letters came on board.

Tuesday Aug 6. Heavy rain at night and
showers in the morning. Davie & Frond went
ashore to fish trout & killed 70 & 4 to a pound.
I staid on board sketched fish from the
Trawl and sent off the Introduction to
the 1st Vol of *Recherches sur la Peche*.
Machury and two children came on board
from Tromsø also Capt Colvill from
his house in a steam launch. Fine
at night stars twinkling weather clearing
bar. low. -

Wednesday Aug 7. Fine East wind Barometer
low. It seems that the relative temperature
of air and water affects the weather. When
the air is warm the water at 60 condenses
vapour. Here the water is steady at 60°.
This morning the air is 59. & the sky is hard

anchor & Wexford. . . Got provisions and
 sailed down the bay about 10.30. Got a
 breeze and ran through shoals of kites and
 with little we saw the Skelligs. Then turned and
 found Skerrif and just before head & beat
 into Ballyna Skelligs bay. This is a
 fine sweep of sand.

backed by an
 in cliffs.
 with the
 and is a large
 at.
 shape of the
 it is such that

[REPRINTED FROM "LAND AND WATER" OF OCT. 12, 1872.]

Fishing in Ballinskelligs Bay.

THE south-west of Ireland is a country of inlets which have existed
 ever since the last glacier ploughed in the Devonian rocks those deep
 furrows, which now partially submerged, form the havens of a stormy
 coast, where even in the stillest days of summer the pulsation of the
 Atlantic warns the seaman of distant tempests gathering far away in
 the regions of the west wind.

From the extreme S.W. point to Cape Clear, where the Fastnet Rock
 with its light is often the first landfall made on crossing the Atlantic,
 many isolated rocks mark the approach to land. The Bull, Cow, and
 Calf, worn into fantastic arches by the sea, lead on the one side into
 Bantry Bay, and on the other into the long fiord of the Kenmare River.
 Westward again, Tearaght warns of the dangers of the Blasquets, where
 long ago was wrecked the last Armada ship cast away upon our shores.
 To seaward of all, the towering Skelligs stand out the farthest sentinels
 of this rocky coast; all beyond is deep sea, but inside, the submarine
 cliffs and valleys, with their rapidly varying depths, afford a home to
 almost every sort of fish known in our seas.

Kenmare River and Bantry Bay afford secure anchorages; beyond them
 Ballinskelligs Bay, with one small sheltered spot is open to the Atlantic
 from S.S.E. to W.N.W. Open as it is, it may yet be entered in summer
 if a careful watch be kept upon the barometer, and if northerly winds
 have somewhat quieted the prevailing swell from seaward.

To the amateur fisherman there is no more attractive spot than this:
 the sandy bottom invites great quantities of fish of all sorts from the deep
 sea outside, but the difficulties of the coast, and the absence of a market,
 render it unsuitable to those who must look for a remunerative harvest
 from the sea.

It is *par excellence* the place for a yachtsman who studies sea-fishing,
 who seeks only sport and variety, and whose well-found vessel can beat
 out against any sea that is likely to be met with in summer, if ordinary
 vigilance be maintained.

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 and no stone

but the general direction of glaciation is
 seen from the shape of the rocks

Letter-kenne
 Wexford.

Fish abound in all the neighbouring bays, but in none of them is there such a combination of favourable circumstances as in Ballinskelligs. There are in it rocky points where the trammel may be set, for trawling there are long reaches of sandy bottom, with from three to ten fathoms water, where in calm clear days, the natives spear flat fish in the shallower parts. The handline may be used almost everywhere, the fisherman choosing his ground at will; midday, evening, and night, each yield species peculiar to the hour; each locality too has its own inhabitants, all occasionally transgressing their respective boundaries, thus affording a variety which lends interest to the sport.

Beating into the bay one August evening in 1872 against a fresh north wind, which, after a long period of south-east gales, seemed to be the harbinger of fine weather, we anchored inside Horse Island in a schooner yacht of 140 tons. Having made all secure we sent out our trammel to be set for the night at the nearest rocky point. Later in the evening we were visited by natives, who assured us that there was plenty of fish in the bay, and that we should be able—as a boat was out fishing for pilchards—to secure next morning a supply of bait for our handlines.

Gradually the north wind fell, and a quiet night was succeeded by a fine summer morning. At an early hour everyone was astir, two of the men overhauling the trammel, and bringing the results on board. Chief of all four large sea crayfish had rolled themselves up in the mesher; a dogfish—the white hound—weighing some twenty-five pounds was mixed with a number of pollack, a few plaice, a red mullet, two or three stray mackerel, numerous wrasses (amongst them a specimen of Baillon's Wrasse), and a few whiting pout, which, with some other fish of ordinary sorts, completed the catch.

After an early breakfast, and with a long day before us, we got under weigh for the purpose of using our otter trawl. As we quietly crept up the bay, we worked our mackerel lines, speedily catching two or three mackerel, which were reserved as bait for the evening's fishing. A large pollack breaking one of the lines, we substituted stronger tackle and larger spinners, with so much success that we were induced to cruise about for a time, catching several large pollack, with an occasional grey gurnard or mackerel.

Before noon we got our otter trawl down in five fathoms water, and trawled for an hour, catching about twenty soles, plaice, dabs, and one small turbot. Returning to the ground we again worked the trawl—which was but a small one—with about the same result. Some of the soles weighed as much as two pounds, some of the plaice four pounds. There was nothing remarkable either in the quantity or the size of the fish we caught; in fact the trawling was not a success, owing probably to defects in the construction of the net; nice adjustments of weigh and speed are necessary with the otter trawl, and unless these conditions be in unison indifferent results may be expected. Others have met with much success trawling over the same ground, their nets being larger and better fitted.

Returning to our anchorage with a good supply of flatfish, we proceeded about four p.m. to prepare for handline fishing. Taking two hands in our cutter with all necessary tackle, a light anchor and cable, and a large basket for the fish, we rowed out into the bay, picking up a mackerel or two as we went, and let go our anchor in about fifteen fathoms water. Half-an-hour passed without a bite, and with some misgiving we shifted our berth, anchoring again in deeper water. Still no result, and a valuable hour had passed by. Again we weighed anchor, but instead of hauling it up we lifted it well clear of the ground, and drifted gently

anchor & W. compass. Got provisions and
 sailed down the bay about 10.30. Got a
 breeze and ran through shoals of kites and
 with till we saw the skellings. Then turned and
 found skellings and hark. Hog head & beat
 into Mullyna Skellings bay. This is a
 fine. Sweet & smooth.

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with the tide. In a few minutes two out of our three lines announced a
 bite, and the anchor was immediately dropped again. Soon another bite,
 and a large bream was being hauled up; next a whiting, then a whiting
 pout or red gurnard, and so on until we had some thirty or forty fish in
 the basket, our men becoming actively employed in preparing bait. It
 was approaching sunset when F— exclaimed that his hook had fouled
 a rock, but as the fishing leads had invariably indicated a sandy bottom
 this seemed incredible. After a steady haul intended to disengage or
 break the hook, the rock seemed to give way, and stranger still to be en-
 dowed with a certain motion, which was converted into violent gyrations,
 gradually increasing as the object reached the surface. The difficulty
 was eventually settled by the gaff, which dragged in a long-nosed skate,
 weighing 35lb. A ling of six or seven pounds, and a hake of the same size,
 were next added to our captures, and then for another half-hour we rang
 the changes upon bream, whiting, whiting-pout, gurnard, hake, and ling,
 the basket filling up rapidly.

The sun had now gone down, when C— declared that he had hold of
 something entirely beyond his power, which was soon practically demon-
 strated by the line breaking. Again a heavy fish was hooked, and this
 time with more effect; as after a series of violent struggles, a conger of
 more than 20lb. was hauled in. Three more of the same size, one of
 them avenging himself by biting one of the men, completely filled our
 basket; and we gave up a sport that had become laborious, about 9.30 p.m.
 Returning to the yacht, we found that, although she was anchored near
 the shore, many fish had been caught by the men on board, including a
 fair-sized cod, and several congers of 12lb. and 15lb. weight.

By eleven o'clock we had all had enough of fishing, and we turned in
 with the expectation of more sport the next day. Before dawn, however,
 an ominous sighing of the wind roused us, and a falling barometer warned
 us that it was no longer prudent to remain in Ballinskelligs Bay. A
 south-east wind set in, increasing rapidly in strength, and by eight a.m.
 we had run before it to the mouth of Valentia Harbour; where, after an
 anxious half-hour of beating through the narrow entrance, we were
 detained by a gale which lasted for three days. At the end of that period
 we got out, and spent two more days in Ballinskelligs, with much the
 same result as that which I have described.

Having visited this bay several times previously, I can recommend it
 to those who, owning a yacht, care for sea-fishing. Kilmakillige harbour,
 in the Kenmare river, or Bearhaven, in Bantry Bay, are excellent places
 in which to wait for suitable weather, and the sail from either of them is
 highly interesting.

Excellent anchorages, long and wide bays sufficiently protected, moder-
 ate tides, and not too frequent calms, offer many attractions to the
 yachtsman, and ought to render this station more popular than it seems
 to be.

A certain difficulty in procuring the merest necessities of life, and the
 impossibility of procuring anything more, are drawbacks, which can how-
 ever be obviated to some extent by the resources of a well-supplied yacht.

A careful study of the sailing directions for the coast, and of the charts,
 especially those on a large scale, should render the services of a pilot
 unnecessary. Great care however should be taken in approaching the
 land in thick weather which often accompanies south-westerly winds.

As to the variety of fish to be met with, I have caught upon this coast
 by various means, more than forty species; from a sunfish of seven or
 eight hundredweight, slain with a harpoon in Ballinskelligs Bay, to the
 small blennies and gobies caught marauding in the prawn pots.

but the general direction of glaciation is
 seen from the shape of the rocks

Letter-kenne
 Aug 25. 72

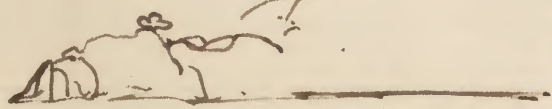
Of the rays, which are very abundant, there are three or four species commonly met with, often of a large size; I have caught them of fifty-pounds weight and have heard of lines being broken by skate, which must have been greatly larger.

The *Gadidae* are well represented, pollack abounding everywhere, whiting and whiting-pout are plentiful in places, the latter fish being often of an unusually large size; I have measured many of fourteen inches in length. Hake, ling, and cod, are always present, and at certain seasons in great abundance. I have never yet met with the haddock, although it was formerly a common fish on this coast.

The *Pleuronectidae* are found wherever there is a soft or sandy bottom. The plaice are of a considerable size, the largest which I have met with were in Bearhaven, caught by trawling near the Harbour Buoy. Six pounds is a common size, and I have caught a few which weighed seven pounds. In the same place the brill are large, and are caught both by the trawl and trammel. A turbot is occasionally caught in the trawl. I could not learn that halibut were ever found on this coast. Large shoals of mackerel come into the bays towards the end of summer, and are easily caught by the usual methods. In short, if one be well equipped for fishing, there is hardly a place which will not yield fish of some sort. There are trawling grounds in Bearhaven, round the Harbour Buoy, and in Collorus Bay in Kilmakilloge Harbour; these two places can best be fished with a small trawl worked by a yacht's gig or cutter, twenty or twenty-two feet in length. Opposite Dromore Castle in the Kenmare River, and in Ballinskelligs Bay, there is ground more suitable for a large trawl worked from the yacht herself. Travellers visiting the district by land have often wondered why the harvest of the sea should be so comparatively neglected by the natives. I will end by quoting from the report of the Sea Fisheries Commission, 1866:—"We cannot doubt that with greater enterprise, skill, and the application of capital, a greatly increased supply of fish might be produced from the seas round Ireland. Whether, however, the 'mine of wealth' which has so often been referred to by witnesses before us, as existing in an undeveloped state, off the west and south coasts, is a reality or a myth, can be decided only by experience. Looking to the nature of the coast; the frequent severity of the weather; the great depth of water; and the total want of shelter outside a few bays and inlets; and the opposition of the local fishermen to the introduction of improved methods of fishing, we are inclined to think that such anticipations are not likely soon to be realised."

D. u. u.

August 7 Wednesday. Got provisions and
 sailed down the bay about 10.30. Got a
 weed and ran through shoals of kelp and
 with till we saw the shells. Then turned and
 found skiff and put Hog head & beat
 into Ballyna Skelligs bay. This is a
 fine sweep of sandy beach backed by an
 amphitheatre of boulder clay in cliffs.
 and by low hills beyond which the
 Rocks are seen. An Hog head is a large
 pebbled block on a rocky point.



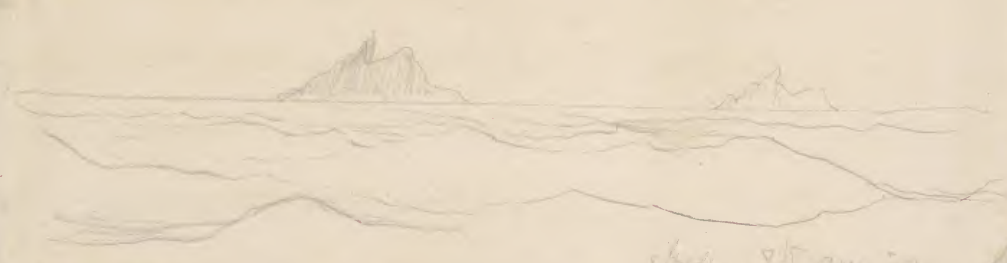
The shape of the
 ground is such that

the old glaciers can be reproduced:
 Capt General Officer came on board and
 a Pilot who spoke Irish, and understood
 me. Anchored behind Horse Island
 set the trammel & went to bed.

August 8. Thursday Landed with friends &
 looked at an old Monastery in which there
 were no sculptured stones, and at a square castle
 upon a peninsula about which I could see nothing
 very remarkable. The sea is encroaching on
 the coast. It has undermined the walls of the
 monastery, and according to tradition it
 has widened the strait between Horse
 Island and the main. It looks as if the
 tradition were true. Two banks of
 Boulder clay on opposite sides correspond
 in level and the rocks below are washed
 clean by the sea. Found no stone
 but the general direction of glaciation is
 seen from the shape of the rocks

Letter-keine Wades.
 Aug 25. 72

The first of the islands is a small, low, sandy islet, about 100 yards long and 50 yards wide. It is situated in the middle of the lagoon, and is the only one of its kind. The second is a larger, more irregularly shaped island, about 200 yards long and 100 yards wide. It is situated on the eastern side of the lagoon, and is the only one of its kind. The third is a small, low, sandy islet, about 100 yards long and 50 yards wide. It is situated in the middle of the lagoon, and is the only one of its kind. The fourth is a larger, more irregularly shaped island, about 200 yards long and 100 yards wide. It is situated on the eastern side of the lagoon, and is the only one of its kind.



The fifth is a small, low, sandy islet, about 100 yards long and 50 yards wide. It is situated in the middle of the lagoon, and is the only one of its kind. The sixth is a larger, more irregularly shaped island, about 200 yards long and 100 yards wide. It is situated on the eastern side of the lagoon, and is the only one of its kind. The seventh is a small, low, sandy islet, about 100 yards long and 50 yards wide. It is situated in the middle of the lagoon, and is the only one of its kind. The eighth is a larger, more irregularly shaped island, about 200 yards long and 100 yards wide. It is situated on the eastern side of the lagoon, and is the only one of its kind.

Aug 8. Thurs.) It corresponds to the shape of the County island and indicates large local glaciers. Moving from the Kallavey mountains which are visible.

Got on board and trawled without much success. Anchored and fished hand lines with great success just off Horse Island. Caught more fish than I could well lift in the big bucket. 1 Bream, 2 ditto, 3 Whiting, 4 Red Gurnard & Skate & Ling, 1 Wake Spray Gurnard &c. The trammel in the morning produced a very large king fish. which we called a shark. Beautiful night stars bright sky and island went to bed intending to stay for several days & stay fish.

Aug 9. Friday. At three the men were roused by Lucie & sent off to raise nets. Got under weigh and sailed out nearly to the Skelligs. The Barometer had fallen and the wind had shifted. Ran in before a very strong breeze & beat up to the anchorage in Valentia through a narrow rocky entrance which was very neat sailing well done. Went on shore and called on the Knight of Kerry, a courteous white haired gentleman with pretty daughter and a garden full of beautiful flowers and shrubs in Glanacree. Walked back in haste and got on board & dined. & dandled & went to bed. Barometer falling wind rising

Letter-Keir Wakes.
Aug 25. 72

[Faint, mirrored handwriting, likely bleed-through from the reverse side of the page. The text is illegible due to fading and orientation.]

[Small handwritten mark or signature in the top right margin.]

Aug 10. Saturday. The trimmer involved
a lot of beautiful waves. Sketched one
and meant to sketch another. But
the 2d. Drowned it to be cut overboard
so did not. It was reticulated &
striped with the colours in my hat. I
never saw anything like it before.

Landled and went to the Telegraph
but as we had to wait for leave to see
it the captain would not wait. I
went on board. I marched off to
see the country. Near the Telegraph
Station is a very curious bit of glacial
work. The rock in Valentia Island
is slaty and easily broken. A section
above the beach shows the slate crushed
and moved and the fragments driven
up into the boulder clay in a very
remarkable fashion.



Walked on towards Port Magee looking for
glacial rocks. Saw that the country
ahead was all white Boulder clay with
fields and farms so struck up the
hill and over it. On the top about 500 feet
up are a few points of Rock but

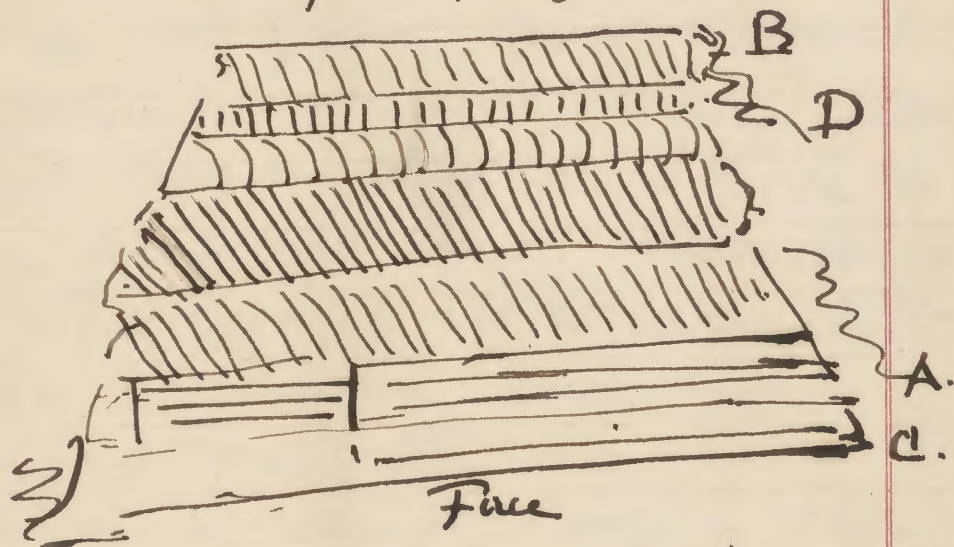
Letter-keine Wales.
Aug 25. 72

A sepia-toned photograph of a large, dense crowd of people, likely soldiers or laborers, gathered in an open field. The crowd is composed of many small figures, some standing and some sitting, filling the middle ground. The background shows a flat, open landscape under a pale sky. The photograph is mounted on a light-colored page with a vertical red line on the left and a horizontal red line at the bottom.

1. The first part of the book is devoted to a general survey of the history of the world, from the beginning of time to the present day. It is written in a clear and concise style, and is well illustrated with maps and diagrams.

47 35

Aug 10. Sunday. More sufficiently well preserved
to show marks. crossed a road and
went on to the slate quarry. It is a
large work but the good stone is in
narrow beds which they have obtained
in a kind of mine: got hold of the
manager a Welshman. gave him a
cigar and had a long jaw. I could not
make out the geology of this slate at all



The "cleavage" of the stone is as shown above.
at A. They raise great blocks. B C are
regular roof and floor, rising and falling
"like the waves of the sea" and D the
"cleavage" is bent. In all the beds. The
angle of "cleavage" varies. I could not
make it out at all and suspect strongly that
"cleavage" is false bedding in this case.
My Welshman spoke with a strong Irish
Brogue talked Politics and asked
questions. He seemed rather to suspect
me of being a Fenian or something
queer and unusual because my
accent was not such. Left him
and walked on over the stones
till I got to the hill side.

Dette's Keir's Wales.
Aug 25. 72

The first thing I noticed when I stepped
 out of the boat, I was struck by the
 warm sun on my face. The air was
 thick with the scent of the sea and
 the distant shore. I had heard that
 the island was beautiful, but I had
 never seen it before. The view was
 indeed something to behold. The
 water was a deep blue, and the
 sky was a clear, bright blue. I
 felt like I had entered a new world.



The second thing I noticed was the
 sound of the waves crashing against
 the shore. It was a rhythmic, soothing
 sound that seemed to fill the air. I
 had heard that the island was quiet,
 but I had never heard the sound of
 the sea before. The waves were
 breaking in a way that I had never
 seen before. It was a beautiful sight
 and a wonderful sound. I felt like
 I had found a hidden gem. The
 island was indeed a beautiful place.

Aug 10 Sat. Tried to find stone on the
Slates but failed signally. Sat at one
place was a row of stones clustered in
a kind of Zig Zag; and ending in a
stone about the size of a grave. with some
old slabs set on edge. It crossed my mind
that there were like the serpent
mounds described. but I thought no more
about it. When the shower was over
went on ten yards and found a
rock basin, cut artificially exactly like
the bait basins which I have seen
but far from the sea. Remembered
that there are said to belong to serpent
worship. Turned and there was the
stone I had been sitting on looking very like
the head of a giant Conger eel.



This probably is an old potato garden
wall with a basin for making meal with
a pestle & mortar near the site of an
old turf hut, but it would be
easy to make a better serpent if it
than any thing that I have seen
drawn or described as yet



Aug 10. Sat. Walked on to a point where
I had seen stones on smooth sliding rock
and found that they were cast up
by the sea from a deep gca. with a
cairn below and a cliff of slate on the
opposite side. Got under the lee of a
big stone & smoked & cogitated &
went far back while the wind
raved and the birds made music.
Then rose & marched back the way I
came to present life. Met the knight
and his family out for a walk.
asked about a curious stone but
where I've been down and the Boss
described, but the knight & Kerry said
there was nothing near but an old
cross. Down to the pier. where the
Court Guard squatted. The boat came
with a note to say that we are not
to dine at Glen Leman. Got off in
a jumping sea & showers of spray
against a very strong wind. Dined
bathed dandled, wrote up Log Sketched
and to bed. Walked about twelve
miles up and down about a thousand
feet and did not find a scrap of
stratified rock even upon the very edge
of the boulder clay at the top of the sea
cliffs. This stone would not wait to
be scratched but crushed and
ran away under the glaciers. This is
the strongest N Wester that has come

The first thing I noticed when I stepped
 out of the car was the cold. It was a
 sharp contrast to the warm blanket of
 the car. I shivered slightly, but I
 didn't mind. I was here, in the heart
 of the city, and I was ready to take
 on whatever came my way. I looked
 around at the tall buildings and the
 busy streets, and I felt a sense of
 adventure. This was my chance to
 see the world from a different perspective.
 I took a deep breath and walked
 towards the city center. The air was
 crisp and clean, and the sun was
 shining brightly. I felt like I was
 starting a new journey, and I was
 excited to see what the future held
 for me.

This year. Spoke to many people & found that I understood them but they did not understand me till I had hammered at them. Gradually it dawned upon them that I was really talking Irish exceedingly ill and then they broke out in a torrent of Irish & a shower of smiles & grins.

Ridire Kerrach. is the knight's Gaelic title. There is a White knight & a knight of Glynn. The Campbells were Black knights and there is mention of a "Red knight". who is extinct.

Probably these "knights" are the characters in the legend of the Red shield & other popular tales such as Doireann na h-athair. Good night is the best of them all & the best move to Bed.

Sunday August 11. 1872. Landed near to church at noon. Sought out an old cross which marked the glacial levels. The Slate works man. said that it was hammered with stones and I suppose that it was by the look of it. The clergyman who is the meteorologist preached that frequent translation was proof of inspiration. Thought of Mrs. Pheasant's Ossian. Lunched with the knighting party and after lunch walked round by the Dyer's house. There under a cliff of boulder clay found some very well marked cinnabar at the Blackthorn

Sunday 11. Aug. 72. This accords with the rest
 of the observations. Local glaciers of large size
 split on Valentia Island and went off
 by the harbour mouth one to join the
 Single Bay Glacier. The other cut a sea.
 Near the town found more marks of the
 same kind coming further in towards
 Venthy Harbour.

the walk

a cave with a



one party
 was to see
 hole in the

roof and the sea in the bottom. A blower
 from which they hoist sea weirs with
 a crane & chain. A stem of a palm
 tree is in the conservatory and the usual
 tropical beans are in the drawing room.
 The eat-slate & carrageen & Cormorant soup
 and generally they are very like West Highlanders.
 An old man Lynne by name. Knew all
 about the battle of Venthy & recognized sketches
 of Manus and the Murelcartach. He
 said that his cousin knew a great deal
 about old stories. Got on board and
 dined at 7. Even singing hymns rather
 well to "Purcell's Dream" & other such
 farfane tunes. The barometer persists in
 rising though the sky threatens, and
 we are uncertain what to do next.

A Gentleman unknown showed me a
 history of Kerry by a Kerry man in which

90

Dingle
Bay.



Ventury Harbour

Mount Eagle

Letter-Keim Wales.
Aug 25. 72

The air then from wider knowledge comes to the same conclusion at which I have arrived by looking at four or five points. The hills about Killybeg were the receding points of great local glaciers. But these are the points at general glaciation and speaks of marks at great heights in the Killybeg mountains which seem to me to belong to the system which I have been hunting. To make my ground good I ought to go to Killybeg & climb the highest hills. I may perhaps.

Monday August 12. 1872.

After Breakfast got under weigh & sailed out against the wind by the light-house. Fine weather. Heard some men speaking Gaelic on board a schooner in the harbour hailed them & found that they were Fair Isle men. Sketched Ventry because of the old story. Got out to near the Skelligs just inside the Leman rock. distant about five miles from the big rock which is between 7 & 800 feet high. Wished to land but no chance.

Ran in to Ballynaskelligs anchored & fished. Found & one haul in the Dingle. went seeking mackerel for bait. the yacht trawled and did not catch much. After a five o'clock dinner hand lines till bed time caught a lot of fish including great lagers a Noahs ark in the sky foretold a gale in two days.



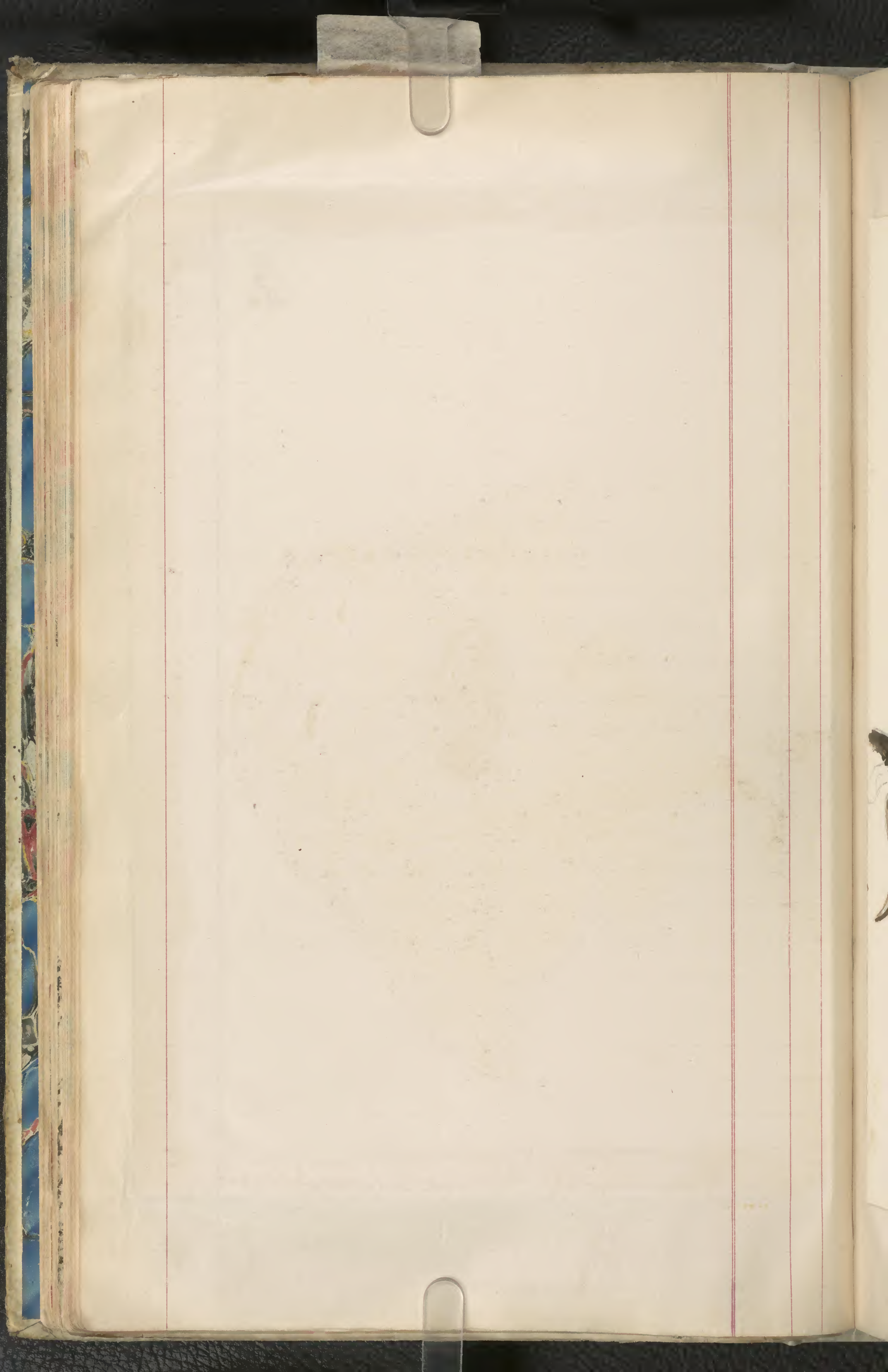
Skelligs. View by North about 5 miles from the Big rock which is over 700 feet high.

Thursday August 13. 1872. The Trammel caught a beautiful spotted rock fish which drew while F & I went hand line fishing. After dinner up anchor and trawled without a pilot. Consequently tore the trawl to bits. Caught an Octopus which was put into a basin and studied. He got his arms over the edge and got his sack over but finding no water there he climbed back. This he did twice. Then giving it up as a bad job. He changed color from lake to pale brown and coiled up his arms and sat still glaring out of his blue eyes. A green sea cucumber in the same basin stretched himself out like a leech and did nothing. The Octopus having made himself as like a woodcock as he could sat still and was drawn. After dinner poured him into the sea and off he darted like an arrow perfectly well. Worked the boat trawl from the yacht & caught some flat fish spun over the side & caught some little anchored. Dined. Fished hand lines by the bay rock and caught Breem, pout, and three large Cogen. One bit a sailor's finger which was very sore. Moreover the Cogen made a noise which was construed into barking. Got to bed at about 10. - The Trammel also caught an "angel".

Wednesday Aug 14. The Pout ate well. The Trammel caught Red mullet and Cray fish. I worked and pulled jowls and sandwiches. After breakfast set sail & out to trawl & fish jowls & mackerel.

Delto-keim Wales.
Aug 25. 72





Letten-keim Wales.
Aug 25. 72

The angel of the school 1512

aug 13/72 The angel of Ballyhaskeeligs



2 feet 7 1/2

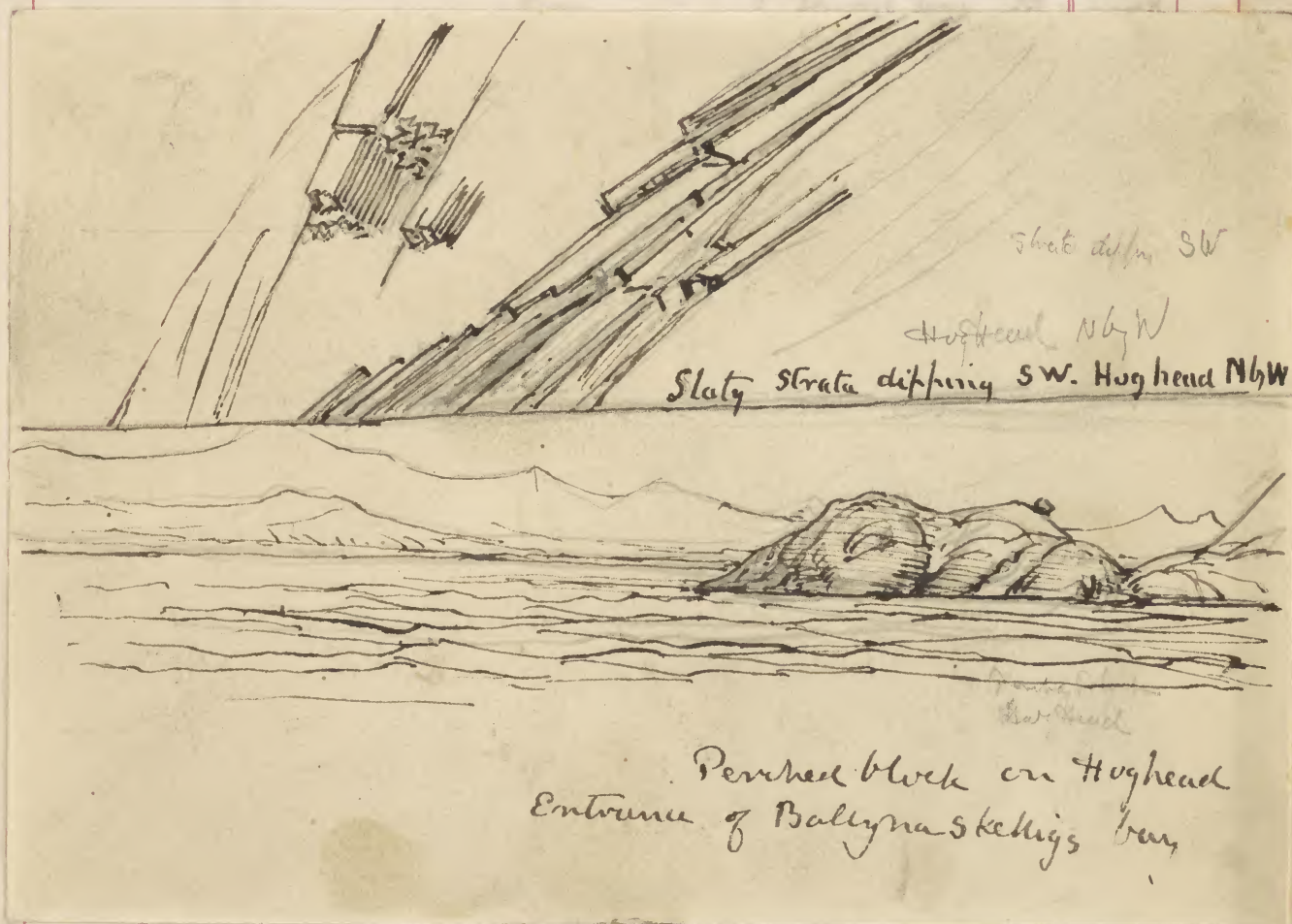
2 feet 7. 4 feet 1 1/2.

Handwritten text in the left margin, possibly a date or page number.

Handwritten text in the left margin, possibly a date or page number.

56 47
 Wednesday Aug 14. Traveled 4 then beat out of the
 Boy name Hog Head inside Scarriff and ran up
 Kinnam river to Kilmakelogue. Strong breeze
 and dirty weather threatening heavy rain at night
 Fished and got nothing.

Made a few pencil sketches of the strata which
 the sea is quarrying into fantastic shapes. -
 Close inside of this point is a glaciated rock some
 fifty or sixty feet high or more upon which is
 a large perched block left by the great glacier.
 which came down from the Reeks.



Jetta-Keim Wales.
 Aug 25. 72

glaciated rock

old moraine

spanish island →

shoulder
col.

between



Knock a Tigh and spanish Island from the Road to church. sketched
august 4 1872. about 1150 feet.

Shells
Col.

Deer

57

Cushendal

N magnetic
Top about 1100 feet

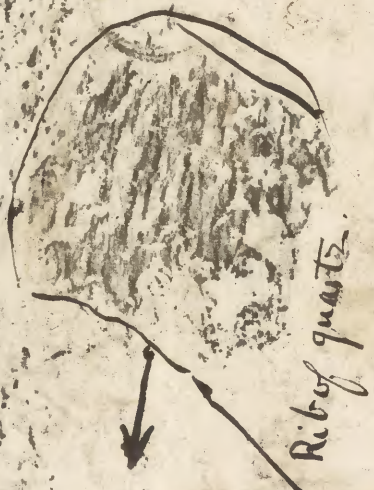


No. 101 1100 feet



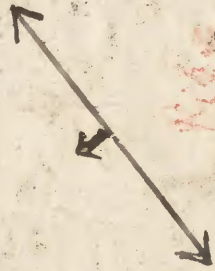
No. 2 about 80 feet

58
No 3
about
60 feet



Rib of quartz.

No 3





...day ...
...and ...
...where ...
...looked ...
...chum ...
...and ...
...been ...
...pet ...
...some ...
...on the ...
...sten ...
...a ...
...the ...
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...hu ...
...dis ...
...the ...

Thursday August 15. 1872. Flowing misty and showery.

Rowed in with Froude past Spanish Island to Derrin where landed. Walked up to the keepers house and looked at a Raths which has large underground chambers. Walked up over the shoulder of Knockatagh and down to a circle of nine stones which have been twelve. Walked back to the shoulder. 600 feet. There glacial is conspicuous but the rock sandstone is weathered. Walked to the top close to it on the weather side is a large heaved block of the stone of the country. Between the two tops got a rubbing. The direction does not accend with the shape of the country and seems to be due to the notch in the hill. Walked down the shoulder to the left in the sketch. Got rubbings at different places. In the lower ground the strata are big enough to hold a ships mast & the grooves are as long. They correspond to the general direction of Kenmare river.

aiming at the anchorage across the harbour. There are so large heaved and straight that nothing short of a glacier as wide as the Kenmare river. and extending from the peaks to the ocean could have made them. Got down to Bann a where a burn runs from a lough into the sea. There Sullivan the schoolmaster gave us whiskey and afterwards rowed us to the yacht. Strong breeze and rain wet to the skin. Walked 7 1/2 miles. The hill is 1150 feet high. The heaved block 1060

The arrows on the sketch show the general directions of glaciation. The arrows to the left belong to the Kenmare glacier. There in the left to Derrin. The Rubbings are from the hill itself.

Letter-Keinn Wales.
Aug 25. 72

Shoulder
Col.
Derrin

Friday Aug 16. 1872. Heavy Gale.
 sketched from the pier opposite to the yacht.

45. a.

60

Letter-Keim Wales.
 Aug 25. 72

Berreen.

Knock a Tigk. Kilma Killogue Harbour.



E

Cashendal

De la

De la

Thursday Aug 15. As to manners and customs of these natives. The Holy Loch near Buncrana is a place of pilgrimage. Once a year, in July, people from all parts of Ireland & even from America assemble to the number of thousands about the "muckeen laun" The sick bathe. The devout crawl round a heap of stones saying prayers & dropping a pebble for each prayer. The Priest says mass. and for the first day all is quiet. On the second day came playing dancing drinking and a fair is carried on in booths on the lake shore on the third day the assembly scattered the Patern ends. Except in that the Priest is a Christian & the prayers are the same this whole proceeding is manifestly an ancient Pagan ceremony connected with the worship of lakes & wells.

at night & blew in gusts and reined in torrents, just as it did last year about this time.

In the matter of Noah's ark. On Monday one with mackerel sky was very marked. I said a gale within two days because the clouds were high and havel. On Tuesday the clouds were lower and softer. Mackerel sky mare's tails & feathers scattered about and "trees" growing up like pumpas grass. On Wednesday the same forms were lower and softer & darker. The sky looked "greasy". The wind began to rise & we ran for shelter. On Thursday night the second anchor is going down while the wind howls and the rain patters on deck as I write.

Handwritten notes in the left margin, possibly a list or index.

Main body of handwritten text, appearing to be a letter or a long note, written in cursive script. The text is mirrored across the page, suggesting bleed-through from the reverse side.

Thursday Aug 15. 72. This is the third time that these weather signs have foretold rough weather while the barometers have been high, and the hills clear, and the rest expects fine weather. Three weeks at sea, and three gales of wind.

47.

Delta-keinn

Wales.

Aug 25. 72



Friday August 16. 1872. Old red sandstone Glaciated on the strike Roadside Kilmakillogha. Rain.

Cashendal

and the 10th day of the month of June 1855 at 10 o'clock AM

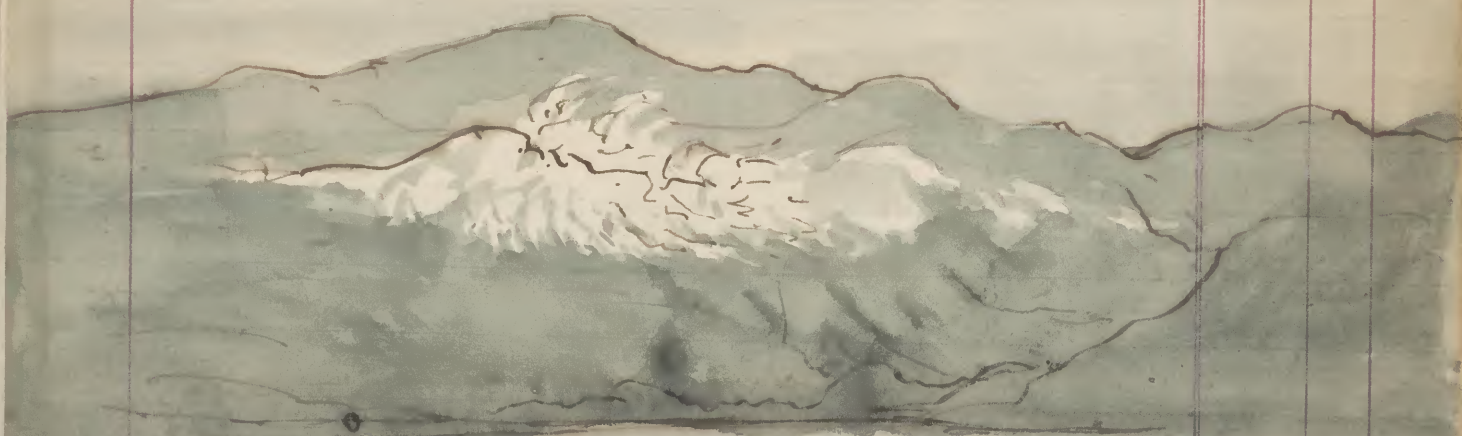
Friday August 16 1872.

Heavy Gale with mist and showers. Translated a bit of Gaelic. Read a bit. After Luchter.

F & I went to try for a salmon and I made two sketches in the fair moments. pp 45-47

The last intended to show the glaciation was finished by a shower. Heavy gusts from the hills, but the sky clearing, and the weather promising to mend. Discovered a native who knew about Ossin the last of the Feinne, and the battle of Ventry, but who would not be drawn out. The holy lake is such a chinn Leathrain as far as I could make out

Saturday Aug 17. Very heavy rain all night. In the morning about 9. The wind shifted to the east and the rain stopped. Watched the clouds growing on the dark hill sides. It seemed that the hollows were full of ^{Saturnian} warm air at about 59° according to observations on the yacht. The colder air from the east seemed to condense the cloud on the top of the bar. and sweep it away in beautiful feather, grey streaks bending about and curling over so as to show the eddies behind the tops and in the gullies. I have often watched this before but I have never seen it more conspicuous.



Jetta-keinn Wales. Aug 25. 72

20

Stark
and
the
other
men

Saturday Aug 17 After Breakfast. weighed anchor
 beat down under light winds and gray clouds
 till sundown. Then for a short time the
 hills took the contours of Southern Cumbria
 and the form of geological models in which
 every bed of rock was clearly seen and
 every groove & gully had its own sharp blue
 shadow. Then the gray tent over head
 turned blood red and opened out into
 windows like mackerel. Sky for shape
 ran out at sea. The Skelligs with a fog of mist
 streaming from their peaks glowed like
 volcanoes in the sea. Then the sun went
 down and the moon rose and the half
 light began to glitter and so we got outside
 the Bulk and wore up the coast in
 fine weather and a rolling swell.

~~Sunday~~ Aug 18. 72. about 11. The wind changed
 right in our teeth. and the sea began to
 rise. and so it continued all day. at
 Breakfast time sketched Cape Clear.



NE 1/2 E.
 Cape Clear. Slaty Rock. Glaciated above,
 and quarried at the sea line by waves. Old Red
 Sandstone Beds on edge or nearly.

[illegible]

Sunday Aug. 18. 72. Strike, faults, glaciation, and Seawork.



Cape Clear Island.
N by E.

Then stood out to sea, tacked and stood in close to the Eastern end of Clear Island; which showed marine and glacial action very clearly. And so we tacked all day running into bays & close past headlands, admiring the coast. At night the moon rose over the bows amongst the heads of the crew who were setting a jib, and there was a tabbou.

Monday Aug 19/72 about 6 anchored in Queenstown in the midst of ships and yachts and craft of all kinds. Met the Willams Steamer going out. Passed the Richard Grosvenor's yacht at anchor & to be laid up. Boarded the Cunningham's steamer the Helen. Landed. Walked about. Went on board wrote letters read Papers. Landed again went on board again dined & slept.

Tuesday Aug 20. 1872. Sailed and beat to windward in a choppy sea. did nothing all day but read Humphrey Clunker and sleep. At night ran into the mouth of Waterford Harbour but as the weather was fine again went on. Saw a bit of N A Ark

Wednesday Aug 21. 1872. off the Tuscan Smith Sea wind a-head. Poked in amongst the shoals.

Delta-Keim Wales.
Aug 25. 72

Nov. 18. 1872. Sunday. 18. 72.

Left at 10.30 for the station. The morning was very fine and clear. We arrived at the station at 11.15 and found the train waiting for us. We then proceeded to the hotel and had lunch. The hotel was very comfortable and the food was excellent. We then went to the bank and had some business done. The afternoon was very pleasant and we enjoyed it very much.

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60 51.

Wed. Aug 21. 72. after breakfast off the Black Rock light-ship past the Lucifer shoals. amongst lots of birds and fish. Lives to work caught a mackerel & cut him up for bait. Sun shining fresh soft air. about 5 am down river to look at Arklow, and anchored at dark in a very strong tide near a sandy beach on which the surf beat heavily. Last night poured rain in about 24 hours because of a long rib of cloud over head with mackerel sky. Tonight came a thunder storm and rain.

Thursday Aug 22. Awoke soon after we got under weigh speculating whether the sails were shaking or we were going aground. a soft scrape made me decide for ground and a slight thrust convinced me. Duncie hailed that we were aground. We had headed in for shore after rounding a rocky point & we had quickly slid on to the sand. There we were bumping for an hour or more while the men manœvered the sails and anchor and the tide rose. When we got off we beat up with light winds and strong tides past Wicklow head to Bray. There it felt nearly calm we got out to the next head & then drifted back to Bray again. At last we got into Kingston Harbour and anchored at about 10. The wind has headed us ever since we left Kenmare R. The night beautiful ~~the~~ ships with all sails set and boats ahead towing flutes across the moon like ghosts and so we stole in and went to bed

Friday Aug 23/72. Surprised to find the water
four degrees colder in the harbour.

I suppose that the water here has come round
the north end. From Wicklow head the
flood was running off through the
Arklow and Kish banks towards Liverpool
and that is said to be the run of the
tides from both ends of Ireland. N & S.
If so the Black water and the normal
temperature ought to be found here about
in the shelter.

Got letters but no decision came to about
future plans. The 2^d Lieutenant to be
on board a yacht ahead of us in the
day some time. Dandelion & wrote
west on shore and to Dublin. Found Jesson
went to the exhibition. Went to the Academy &
saw Cleburn, Crowe, and Mac or O'Sullivan
a great Irish scribe. Talked with Dr. Fergusson
at the door. Drove to H. Gardiner's Place & left
a card for Wrennery. Picked up Jesson &
got back in time for dinner. Sir Henry & Lady
Alice Waverlock dined.

Saturday Aug 24. No decision. Foul weather
air & water the same. Wind NW looks like holding.
Told people at home to keep letters.
About 11. Went to the P.O. and then sailed.
Sketched the hills of Howth. Tramped on the kesh
for an hour. & then with a light breeze made
for Wexhead. Forecast Rain. In the night it
came with S Wind. —

Kelley-Keene Wexley.
Aug 25/72

NE.



Bein Eadair in a haze from Kingstown harbour. Saturday Aug 24. 1872.

53. 68

Sunday Aug 25. 1872. Strong breeze and rain late off.

The water in mid channel is a couple of degrees colder than it is on either side. So this whole streak of water is colder than it was at Arklow; or the colder weather has affected the sea at the surface. Landed and went to Church. Struck forcibly with the change in aspect and appearance. The short even clipped cadence of the Welsh clergyman, & the general look of a nursery school about the broad built natives contrasted with the whistle of the brogue and the lighter built Irish of yesterday. All the children and the boys and girls, and the lower classes were jabbering Welsh and inscriptions on the walls were bilingual. "Periglas dim, I ram woef." reminded me that Welsh is more cultivated than other Celtic languages.

Next the beach is made of chips from the Breckwater. The chips were angular, now they are subangular, but not yet fully rolled. A good lesson in the formation of shingle. The landing place is a path some six feet high of masonry. on the weather side the shingle beach is six feet higher than it is on the lee side which is a good lesson in the growth of sea beaches.



The direction of glaucation is not from Snowdon but from the sea. N.E.

After lunch on board walked about the town and out to the beach

1871

54

Aug 25th Sunday. By the house of Owen Stanley. We did not take on him because Owen does not know him and I only know him by his letters and writings.

Rather puzzled by a cliff of shingle and sand and boulders resting upon rounded glacial rock which is so weathered that we could make nothing of it as to direction. It was glacial work because of a large block of quartzite which differed from anything near. but we could find no scratched stones, and no rock strice. Talked to fishermen about fish and prepared for a company against place of enormous dimensions, 15 lbs. A native came on board to talk fish. I was engaged as guide. Foretold rain by a N.A. In the night it blew hard and poured. Copied the register of temperatures.

Monday 26. Aug. 72. After heavy rain the wind dropped and the sun came out, the barometer rose and the sails were hoisted to dry. Beaumaris seems to be the next point and flat fish the object of pursuit. Got into a Pilot's boat after breakfast and sailed out into the bay listening to marvellous stories about giant flat fish. Anchored & caught nothing at all. Trawled and caught some fair sized plaice worth about ten pence as the Pilot said. Trawled again and caught some more. Anchored again for whiting and caught some four or five little brutes. The Pilot got a line and



August Monday 26.74 Set his teeth and stomach wildly at short intervals. Now and then he came back at half way and said. That is a good one & it is gone, by gorry. "Dear Dear!!". Notices that his bait like mine was nibbled away apparently by crabs. Triced for a story but was checked off by hooks and lines. at last came the yard of "Three fingered Jack" in which this Pilot had played a part. The old bowman called Lewis swore that he helped to carry the body when the ship was wrecked here at ~~the~~ beach.

high
story

He also told us to go to see some place near where thin bones of British men projected from a sandy bank and were as long as his entire leg. I know that yarn of old but it is curious to find it here.

Triced to pick up some welsh but checked off and came up for barley and then fishing. Looked at Carrig Lough where abides Mrs Griffiths, at Owen Stanley's house, and at the Mountain of Holyhead. The bay is a lagoon washed out of some late loose deposit which rests upon the Cambrian rocks and shows in cliffs on opposite sides of the bay. I take this to be a bank formed under water during the glacial period but without time and shells & knowledge I do not know. The best fields as usual are upon the sand and clay.

The night was too coarse for Cenger after dinner. So went to bed time.



North Wales.
BEAUMARIS CASTLE.



2122. Bangor - Suspension Bridge, from the Beach.

Tuesday Aug 27. Fine fresh morning. Air 54°. Water 58°.
 Fresh northerly sun bright sun Barometer up
 after breakfast sailed. Boat out round the
 Skerries and ran up inside Puffin Island to
 Beannan's where found green trees bright
 sun and summer evidenced by a band
 of music. Picked up Francis and
 Fitzhugh and his friend Buckley.
 Lunched with them looked at the castle
 and looked from the Terrace of Sir R.
 Buckley's house at the snow-clad range



215. Beannan's Castle—The Banqueting Hall



747. Bangor—Suspension Bridge and Monai Straits, from Anglesea, No. 2.

Handwritten text, likely bleed-through from the reverse side of the page. The text is mirrored and appears to be a list or inventory of items, possibly related to a collection or a study. The handwriting is cursive and somewhat faded.



Wednesday Aug 28. 72. Fine Morning strong SW breeze
Shippers L & F. & P. sailed out - the way we came
and trawled caught a few "Camberstills"
and about a ton of stars, shickles, solchies
and sea urchins a lot of various fish
the sworded. Somethy and a Garraugh.

Great Niagara strong gale heeled over 17° 18°
under head sails and three reefed mainsail.
Sketched the hills in the morning. Rained all
the evening.

Thursday Aug 29. strong breeze & Rain or rather
gatch mist. Air and water 54°. Barometer
down. Landed at Beaumaris. and fought -



View looking East towards Great Owm's head, and
Alandudno. Called on board Sultana Lord Gorge
Paget; Lady Spencer on board. Called on the
Burkeleys father & son. Sir Richard came
down and called with us on board the Sultana
Then he took us a drive to Penmaen and St
Monastery said to date A.D. 1400. A fort & a
cross up the hill have interlaced ornaments
many identical with designs in Stendun's book



Font Penmon



Penryn

The lintel over the door of the oldest part has a network in the same style. One part of the church and "Norman" and one arch has been added over the gate of Penryn Castle.

Joined a party shooting rabbits & L. & L. Conley. Admired the keeper who was as broad as long. Very bold. Talky Welsh. Drove back in a pair of rain sent for our clothes dived & slept at Bavan Hill

Friday Aug 30. After breakfast at 9 got a trap and drove over the Bridge to Bangor & L. & G. Paget's Salliana got aground yesterday and was under the lee of the bridge. The owner & party off to the mountains. Drove up to the slate quarries. The extreme height from top to bottom is 1200 feet. Four hands at work. The men hanging at the ends of ropes looked like puffins in a cliff. A great slip happened a while ago and the debris crumbled the whole of one side. A ruin of vast proportions. It will take many years to clear the gap but I should suppose that the result is but a natural quarrying of large stones. Every body speaking Welsh many none no English. Anything like the scrambling of these Welsh goats I never saw. Watched the slate cutting for a few minutes and then returned the way we came. Bought a Welsh book by the way.

Whites on the E side of the quarry. Glaciated rock covered with boulder clay, covered in turn by quarry rubbish, a curious section. Drove down by the roadside



a towel ghost

Aug 30/72. The direction of movement was that which indicates a local glacial down down at Bangor a gravel pit section indicates water work and a raised beach. Could not find marks on the Anglesea side to indicate direction but glacial stuff abounds and a search would be sure of a find.

Went on board and smoked. Start tomorrow through the straits.

Saturday Aug. 31. Went through the straits to Carnarvon and anchored at 9.30. A very pretty sail lady Wiloughby and party at Clasnewydd 2 of Anglesey's were watching our proceedings. an old Welsh fisherman tried to deal for fish and failed at 3/6 His dialect & the Captain's in Volubility and want of sympathy. A Ben Pilot came on board & got a passage. It was curious to listen to the mixture of Sea & land sounds. Cuckoos & Cuckoos whistling & cawing, the train rushing overhead and the ships tacking below.



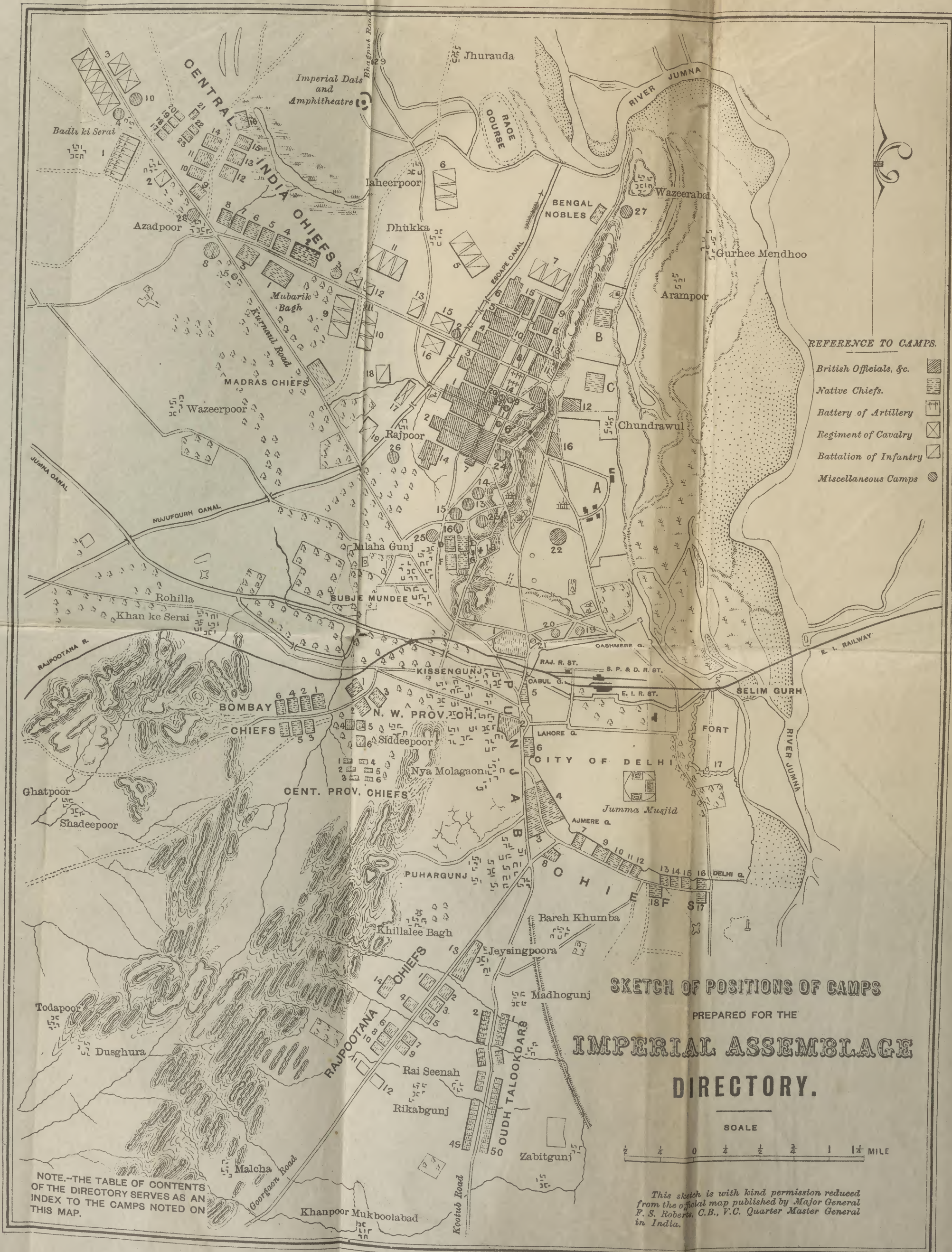
Landed walked about bought guide books and photographs.

701. 72. Caernarvon.

76
60

Letter-kenning

75



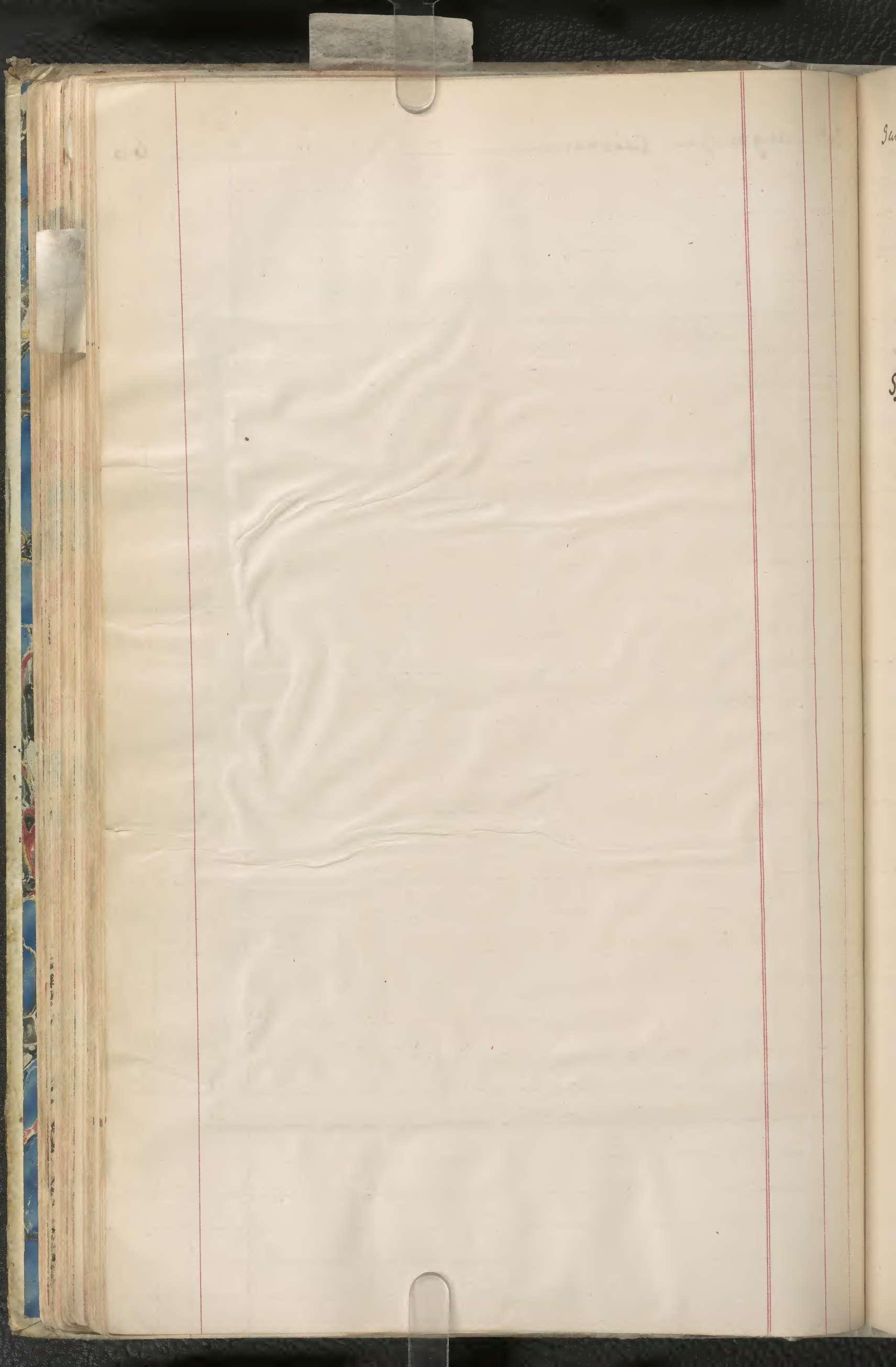
Sat Aug 31. 72. Caernarvon.

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Letter-kenning



Cushendal



Keller-Kennedy

Sat Aug. 1. Went to the top of a granite boss about 180 feet high & on a mt. of quartz got the direction of glaciation. Parallel to the run of the tides. at right angles to the run of the rivers. Parallel to the direction at Llynbad. Therefore the Snowdon glaciers were local, and the general system was as laid down in Frost & Fere.

Sunday Sept 1. Gray morning and sea mist. air 56°. Water 60. which accounts for that yesterday in the straits the water was 59°. From these observations it seems clear that the water South of Wales is water from the South of Ireland. North of Wales from the North of Ireland. The two flood tides meet in the Menai strait about Bangor and the Northern flood is three hours later than the Southern. Consequently it takes that time for the wave to come round Ireland North about to Bangor.

Landed and went to Church. The Sultana came in. & A. G. came on board. Read a Welsh tourists vocabulary. It seems that Modern English words have displaced most of the Native ~~names~~ nouns but that the Celtic grammar as in Gaelic has migrated to the English words. Barmaid becomes. Farnmaid. Further a whole series of words useful to less civilized times remain in use. E.g. a horse & saddle have native words but harness is English. Both rivers & all have native words, and many of these are Gaelic. Further it seems that Native words which have gone out of Gaelic are preserved in Welsh and vice versa. Manifestly they

Keller-Kennedy

Sunday Sept 1. Come from a common Celtic stock further the same word which seems at first to be English altered, is found to be the same in Welsh & Gaelic, from which I gather that the word was Celtic, and was changed into its English form.

A great deal is to be learned as to Celtic and then as to English.

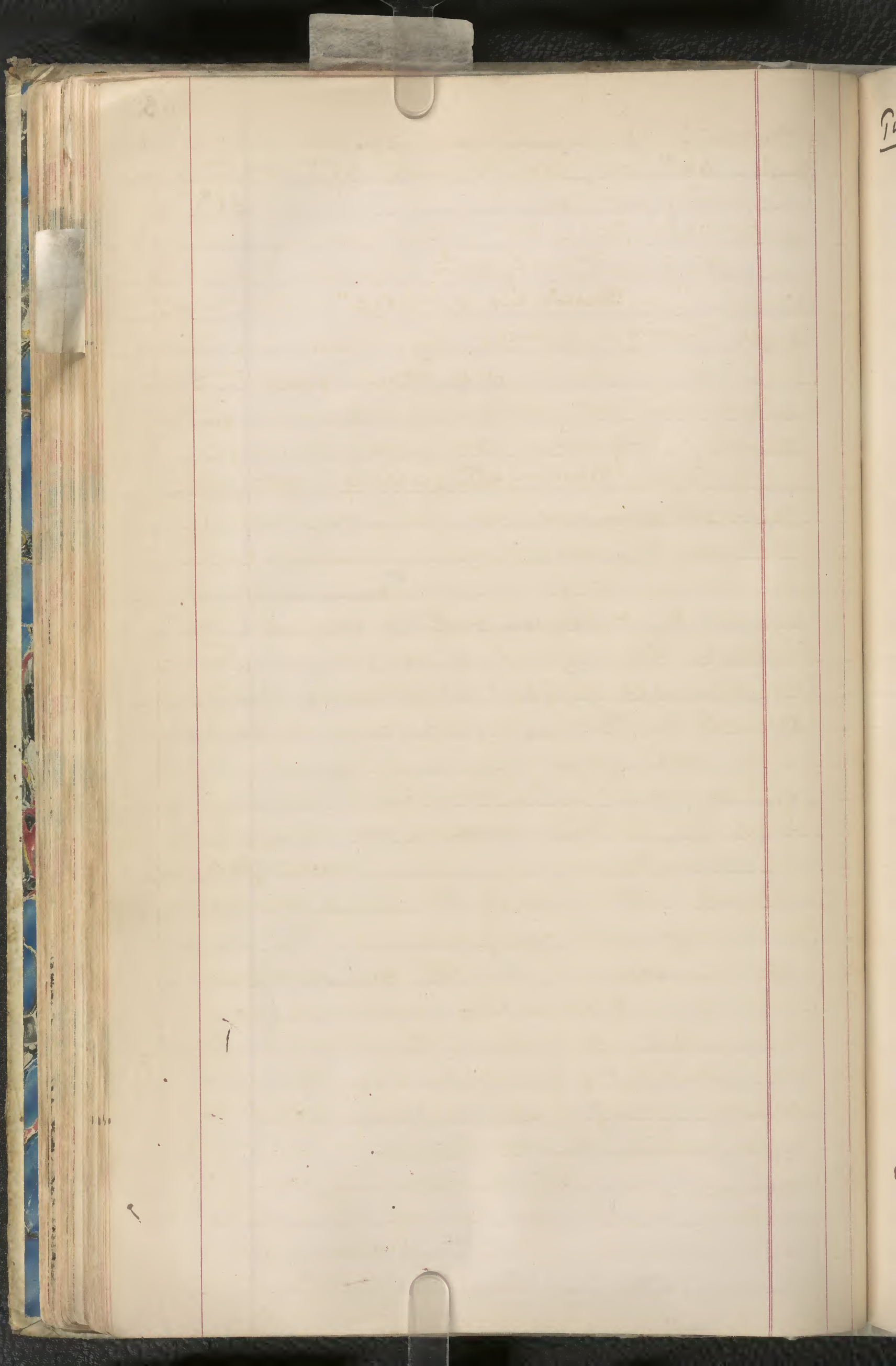
Edg. P. and Seymour dined on board. Talked about Balaklava & the Crimea. agreed to cruise in company.

Monday Sept 2. Breeze & strong S.W. wind. Air 60 water 61. The warm water is blown in by the wind I suppose, but we cannot get out for the sea on the bar. Translating Gaelic till luncheon. Then went to the bar and trawled back with the tide. Edg. Clarence Paget in a broad beamed clinker built white boat of his own contrivance sailing about us like a steamboat. Edg. his son Seymour, & Templeman's son. aiding & abetting. Sun very hot. Evening very warm and clouds moving opposite ways on snowden from S.W. Wind in the streets from North. Lights in the towers. Screeches of swallows, organs, hymns, Gaelic harp songs, laughter, bells, trams, splash! whistles. A ship a-boy. The bar is like other bars a foundation of pebbles arranged by the waves with a superstructure of sand hills arranged by the wind and overgrown with bent & inhabited by farmers rabbits oyster catchers gulls and shore birds & swots. It is the beach of Carnarvon bay broken through by the stream of the streets & kept open by the storm.

63.79

Letten-kenius

Cushendal



Letten-Kennedy

Tuesday Sept 3. Barometer low 29.500. Thermometer high 68°: dry air. Evaporation 62°. Water warm but steady at yesterday's temperature 61°. on the whole this is the hottest morning since we left the Schout July 23^d. The sky looks like thunder "as thick as a hedge" but with gaps through which the hills are clearly seen light clouds overhead with the sun looking in at windows. Something with shape of a gun is supposed to be going on somewhere. Barometer falling. after a while Barometer rising and rain falling. Evaporation 12° just before the shower. Noakes ark and Cirro stratus. All hands puzzled by the weather at 9.30 we anchor in a shower with a smart S.W. breeze down topsail, in reef ran out through the channel dropped Pelet and waited for the Sultana heavy showers, and wild leaden sky with grand views of the whole range of Snowdonia. At 11. Made sail Wind S.E. with the Sultana close on our quarter. at one the Sultana astern with full sail set. we with small jib and one reef in mainsail. Winning easy to my surprise. At Bardrea Island the wind dropped a little and Sultana was alongside at two course S.W. 70 miles to the Smalls. Jumping sea, round out of Cardigan Bay. Sky gray. at night strong breeze Sultana's light ran under. astern. Saw the Theby. & went aboard.

Wednesday Sept 4. Strong South wind jumping confused sea at six off the Smalls Water 62° air 64. Bar fallen Sultana six miles to seaward. Bent in and got two for

Cushendall

Wednesday Tacked and ran free to St Ann's head
 went into Milford Haven and anchored
 at two. Sallana nowhere supposed to be
 off to the daniel's end. A tired Turtle dove
 came on board about 6 miles off shore
 she sat in the bows for ten minutes. Then
 took wing and in trying to dip under the
 lee bow, the spray and the wind from
 the head sails took her, and down she
 went. Lamented by all hands.

At three the Sallana anchored at Long side
 just one hour behind us in 27 hours sail
 daniel's end and saw nothing worthy of note
 came on board and dived & reached.

Thursday, Sept 5. 1872. Wind strong. Determined to
 give up the cruise and start tomorrow.
 Wrote for Duie the following note

Meteorological observations.

R & S. India.

The chief object of taking these observations
 was to note anything remarkable about
 the temperature of the sea.

The instruments read at about
 eight a.m. were the Yacht's Barometer
 and a thermometer which was dipped
 into a bucket of salt water.

Water The highest water temperature was in
 the Solent on the evening of the 23rd of July
 after very hot weather 66° off Beachy Head
 it was 65° ^{at the start of} off the daniel's end 62°.

The coldest water Where the water was
 coldest there was a sea fog.

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The day after I left there was
 a late morning rain. The
 temperature of the sea
 was 60° at 10 a.m. and
 62° at 1 p.m. The wind
 was light and variable.
 The ship was under way
 at 10 a.m. and made
 good progress. The
 weather was fine and
 the sea was calm.

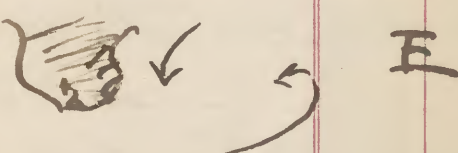
Metorology Sept. The coldest water observed was 55° near Duvrey Island in the mouth of Bantry Bay on the 27th of August in a gale.

In Berehaven, and Kenmare R the sea was steady at 60° to 62° . off the Skellig's, & at Valentia and in Ballyvaughan the temperature was lower. 59° 58° . after heavy rain the water in the harbours rose a degree.

From this it appears that there long sea lochs are warmed a little by the land waters at this season.

off Cape Clear, in Queenstown harbour and up to Arklow the water was 60 to 59° .

In Kingstown harbour it fell to 57° & in the middle outside the kesh it fell to 55° .

The flood tide and the warm Equatorial current sweep round the south of Ireland and of England from the SW. The coldest water was found three times in the lee of a point  E

The probable reason is that water in the eddy remains long enough to acquire something like the mean temperature of the locality.

The mean annual temperature of this region is about 50° . In January 40° . in July 60° . according to Isothermal lines. Therefore 55° is near about

The Great Wall of China

The temperature was 82° at 10:30
 at 11:00 it was 85° at 11:30 it was 88°
 at 12:00 it was 90° at 12:30 it was 92°
 at 1:00 it was 95° at 1:30 it was 98°
 at 2:00 it was 100° at 2:30 it was 102°
 at 3:00 it was 105° at 3:30 it was 108°
 at 4:00 it was 110° at 4:30 it was 112°
 at 5:00 it was 115° at 5:30 it was 118°
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 at 1:00 it was 575° at 1:30 it was 578°
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 at 1:00 it was 635° at 1:30 it was 638°
 at 2:00 it was 640° at 2:30 it was 642°
 at 3:00 it was 645° at 3:30 it was 648°
 at 4:00 it was 650° at 4:30 it was 652°
 at 5:00 it was 655° at 5:30 it was 658°
 at 6:00 it was 660° at 6:30 it was 662°
 at 7:00 it was 665° at 7:30 it was 668°
 at 8:00 it was 670° at 8:30 it was 672°
 at 9:00 it was 675° at 9:30 it was 678°
 at 10:00 it was 680° at 10:30 it was 682°
 at 11:00 it was 685° at 11:30 it was 688°
 at 12:00 it was 690° at 12:30 it was 692°
 at 1:00 it was 695° at 1:30 it was 698°
 at 2:00 it was 700° at 2:30 it was 702°
 at 3:00 it was 705° at 3:30 it was 708°
 at 4:00 it was 710° at 4:30 it was 712°
 at 5:00 it was 715° at 5:30 it was 718°
 at 6:00 it was 720° at 6:30 it was 722°
 at 7:00 it was 725° at 7:30 it was 728°
 at 8:00 it was 730° at 8:

From this it appears that there are
two books one bound in leather of the
16th century and the other in paper of the
17th century. The leather book is
bound in brown leather and the paper
book is bound in white paper. The
leather book is bound in a half binding
and the paper book is bound in a
full binding. The leather book is
bound in a half binding and the paper
book is bound in a full binding.

1. The first part of the book is a history of the
 2. second part is a description of the
 3. third part is a description of the
 4. fourth part is a description of the
 5. fifth part is a description of the
 6. sixth part is a description of the
 7. seventh part is a description of the
 8. eighth part is a description of the
 9. ninth part is a description of the
 10. tenth part is a description of the

[illegible]

Letter-Keelins

the temperature of the sea & place where the cold water was found to the east of a point in an eddy of the gulf stream and flood tide.

The water to the north of Wales was colder than to the south, and got warmer as we sailed from Carnarvon to Milford.

The cold in this case was due to the flood water which comes round the north of Ireland, and meets the flood from the south about the Isle of Man. 57° Aug 26. 59° . 31^{st}

The warmth is due to the same warm flood which was 62 at the land's end, ~~and 62°~~ July 25 and 62° off the Smalls Sept 4.

On the whole the temperature of the sea appears to depend upon the movements of the Equatorial current in passing the land. The sea is warmer on the western coast & colder on the eastern.

Air. The temperature of the air generally kept near that of the sea.

On the 31^{st} of August at Bowna Maris the wind came to the north and the temperature fell to 51° 9° below Glashier's mean. On the 1^{st} of Sept at Carnarvon the air rose to 68° 10° above Glashier's mean. It was so dry that the dew point was 12° lower than the dry bulb.

This warm dry still air may have come

89
an' off the sands at the bar. In half an hour it was followed by a south wind and heavy showers which turned into a strong southerly wind which lasted till the middle of the 5th Sept & seemed likely to last when this was written.

Barometer. We had six strong winds almost equivalent to gales. All of these were indicated (except one) by clouds some time before they began.

They all followed upon or coincided with a fall in the Barometer. But the greatest fall was after the gale had begun & the rise came after the gale had ended.

Clouds For a scientific account of the Cirrus &c. consult p. 177 Handb. of Meteorology Buchan. Blackie & Son 1868.

An old Scotchman first showed me this storm mark when I was a child and called it a Noah's ark.

Since then I have watched this weather mark wherever I have been. See 373. p. 179 of C. agrees entirely with my experience.

When the clouds overhead are ranged in long parallel bands vanishing to points on the horizon and suggest the form of a clinker built boat floating in the sky.

of the bones of the foot. The bones of the foot are
in the form of a series of arches. The bones of the foot are
the tarsals, metatarsals, and phalanges. The tarsals are the
bones of the heel and ankle. The metatarsals are the bones of the
midfoot. The phalanges are the bones of the toes. The bones of the
foot are arranged in a way that allows for the foot to support the
weight of the body and to move forward.

There are six phalanges in the foot. The phalanges of the
toes are the distal, middle, and proximal phalanges. The phalanges
of the big toe are the proximal and distal phalanges. The phalanges
of the other toes are the proximal, middle, and distal phalanges.

The phalanges are the bones of the toes. The phalanges of the
toes are the distal, middle, and proximal phalanges. The phalanges
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of the big toe are the proximal and distal phalanges. The phalanges
of the other toes are the proximal, middle, and distal phalanges.

68⁸⁵

and heady S.W., this wind and
rain may be expected "within 30 to
48 hours"

To this I would add that the apparent
distance of the clouds indicates the
distance of the coming storm.

The form is the result of condensation
~~between~~ below a current of damp-
warm air moving from S.W. to
N.E. over head. When it comes
down to the lower regions it
is felt as a storm.

Friday Sept 6. 1872. Gale continues. Landed at Millpool
and travelled by rail to Portworth. Fairfield.
with Ducie.

Sat 7th Returned to Londen and worked
at proofs of Leabhar na Feinne, and at
painting the houses. Londen a desert. Dined
once with the Russells and Sam Regy. ill & boded
for Australia for a sea voyage.

Saturday Sept - 14. Started for Barginer having
finished my proofs. Entertained Ramsay &
O'Grady on Friday and settled to follow Ramsay
through Ireland. The Broullys at home
alone.

Monday 15th Drove to Warwick Castle & inspected the
ruins & salvage. Crossed by the night train
& met Pickelup Ramsay at Rugby.

Tuesday 17th Picked up Hennessy and went
with him to the Hill of Allen. The next day
for the observations. Called on O'Daly & P. J.
Kennedy in Anglessea. They

2 W. 18th Street, New York

[illegible]

Thursday Sept 17/1872.

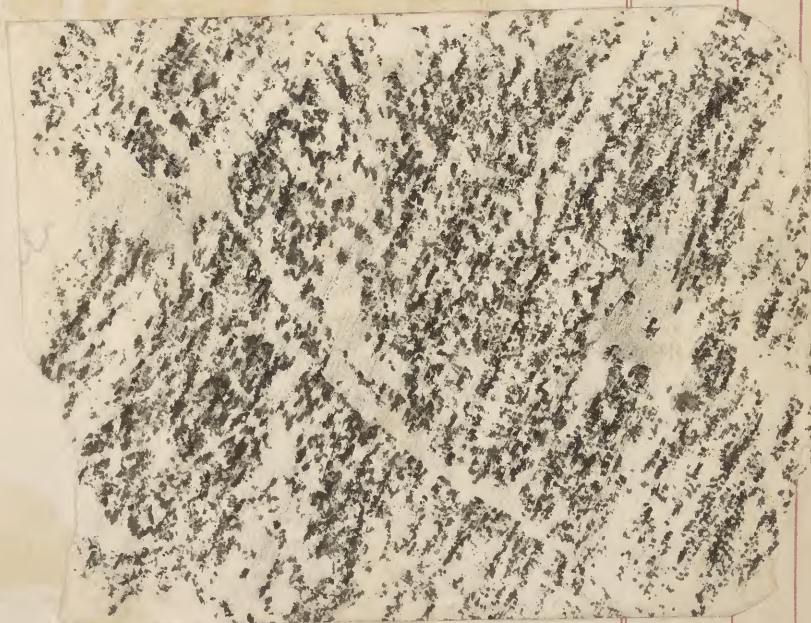
Started from the Kingsbridge Station for New Bridge
less than an hour towards the Curragh, Kildare.
Took a Car and drove about 6 miles to the
foot of the Hill of Allen. Seen from the Railway
it is a low backed knoll with a tower on the
top in shape like hills in Port Lottier.



It is marked in the Geological map as Silurian Vise,
through the Mountain Limestone of the Central
plain of Ireland. at the arrow the rock is
traced near a house gleniated from the N.W.
Stria well marked, & near the top the direction
is nearly the same. The top is about 360
feet above the base 920 above Dublin by a
disturbed barometer 876 by the Ordnance Survey.
west

North

S



N

East

[Faint, illegible handwriting in a cursive script, likely a historical or scientific manuscript. The text is written in a single column across the page.]

[Faint, mirrored handwriting, likely bleed-through from the reverse side of the page. The text is illegible due to fading and orientation.]

The hills & all Sept 17. 72. -

as a tradition. Hennessy spoke to a dweller on the hill dogan by name who turns out to bear a corrupted Gaelic name. He began about lies which no one would believe. But gradually he let out that an old man whom he remembered used to say that he had seen a great black dog as big as a small cow come out from under these hanging rocks, & that the dog was Breen & Breenne. These names he had heard also Fionn, & Oscar, & Diarmuid & Goll Mac Morna he had never heard of. ~~Also that~~ Fionn had lived here he had never heard. He only knew anything about him now. But the old man had seen Clonies fighting and chattering over these cloughs by the church as clearly as ever he saw anything. They were the good people "The fairies said Hennessy". "Yes" said Fogan the farmer. A man down there had dug down a "footh" and built a house there in spite of all that could be said to him. He was disfigured. His face was crooked and he had to go to one of these fairy men to get cured. That house was not a good one to live in. It was pulled down & now a slated house stands on the place. That is not easy to live in either. They hear strange noises. & & In short Fionn has become a fairy. & "Breen" a mythical ghoully hound.

It is curious to have stored in Warwick & an Almanac on the same successive days

[Faint, mirrored handwriting, likely bleed-through from the reverse side of the page. The text is illegible due to fading and orientation.]

Sept 18. 72. Instead of going to Tawa went to
 the Academy & looked over the Museum
 with Capt Mac Anvy. The new curator
 who is arranging the collection. The civil eng
 curves are curious. I did not see them
 before. Read the history and antiquities
 of Tawa Hill by Pelric. About 4 May, 1837
 Vol 18. Transactions of R. I. A. ^{referring to Diarmuid}
 The hill was deserted in the 6th century ^{mac Eoin O'neil} 563
 It was spelt Teamhair. Similar hills
 were occupied by royal houses. Enanice
 near Armagh. Aileach hill near Derry
 were residences of the Kings of Ulster.

In 222 The large fleets of Cormac mac
 art were over the sea for the space of
 three years. - (Tradition as to the conquest of
 norwemen in Scotland by the Pictish). annals of
 Tighearnach. quoted as historically true.
 P. 142. reference to the false judgment of
 Lughaidh mac Ean about the sheela
 (tith in tradition) The buildings on Tawa
 are described in ancient writings.
 In the book of Leinster & other books are
 plans to show the arrangement of
 seats. Long na Luch Bave na m-ban
 The warriors ship like hull had 12 or
 14 doors 7 on a side. It was 75 feet
 long by 46 broad, and must have
 been 90 feet long before the wheel cut
 through the traces of the trench & mound
 which marked the sites of the ancient
 buildings. In the Dinseantran is a
 poem describing the magnificence
 of the palace

[Faint, illegible handwriting, likely bleed-through from the reverse side of the page.]

Tawa

73 D

The golden jewelled cups the number of guests, the lights, the feasts &c at ancient Tawa. From the plans given and from the overland survey and from the golden trophies found at the place it seems that in truth the ancient kings had large wooden halls with fires in the midst - ~~large~~ tubs at the end, and tables at the sides with places assigned to ranks & professions, to whom messes and portions of meat were assigned one ~~rank~~ profession had a shoulder of Pork and lots of fat another a Sheepshank. another a "Corked bone" Gold they had and dresses, ~~but~~ ~~none~~ weapons which are in the museum now, but the buildings described and depicted were but large huts, and all that is left of them now ~~there~~ is a lot of low mounds. Such being the description of the place determined not to go. The hill is near 17 miles 30 miles from Durbin. The lookout is said to be very fine.

Dined with Hull at Raglan Road. Met Horta and Dr. MacAlister, Curator of the Museum. A man called Jones came in with his son. There was a fearful lot of talk to which I listened much amused. Especially of the cutting up of waste meat fragments, the famous Mound. ~~Forster~~

Keller-Kennedy

Sept 18 72. Had a get the police to protect
the removing of the clog from his admirers
who wanted relics & would have committed
burglary to get them. Darwin & Whigs
were the chief objects of Walter, atrocious
and eloquent invectives -

Campbell. a man at the Academy
produced for me MacFivris copied by
O Curry from the original which belongs
to the Earl of Roden p. 42. it is the
pedigree of Mac Ailin. which gives
some but not all the names in the
Anglic pedigree. P. 9. There is but one
Quinn or Quibbin. The man who
signed Colin is called Ailin by MacFivris
or by one of his copyists. T. D. McNessy
who came in & who has said something
in a note in the annals of Loch Ce.
See mit Leabhar na Feinne

Thursday 19 Sept 1872. Wrote up by 3m. Keel
wrote letters; packed, arranged about
letters, and made ready for a start
at two for Dundalk where the
rath of Cuchullin was to be seen.

Arrived at the place got a car and told
the driver to go to Cuchullin's rath. He
had never heard the name. All the people
in the place came round but no one in the
place then or afterwards had ever heard
of Cuchullin or of Dundalk. A man who
could speak some Irish after a deal of persuasion
drove us to "Barnes folly" in Castle town, and
there sure enough was the rath which

Henry described .. It is a lofty mound
a truncated cone surrounded by a rampart
and overgrown with trees. A modern house
~~was~~ is on the top but it is "haunted" so that
no one can live in it. Lower down
is an old castle with curious battlements
in which lives a lady whose husband
was almost murdered some twenty years
ago. On the side of the river is another
Rath called Doyle's Fort. & on the top of
a high hill is Fort hill where
Edward Bruce is buried. In the evening
came Nolan the Surveyor who knows
more than the people but nobody seems
to know much about Irish tradition
& nobody in the place talks Irish.

Friday 20th Sept 72. In a carriage & pair drove
to the railway cutting and studied the
geological section. It includes Silurian rocks
mountain limestone and trap dykes. The
strata much bent & disturbed. Shown
over the edges. Found a large swatch of stone
walked up to the top of Feed hill. Surface
Weathered granite but manifestly glaciated
direction N magnetic from a horizon
which leads to Newry. Southwards
the ice passed sea waves by Trumpet
hill a ridge of Diorite with the core
axis parallel to the side of the Irish range
Amongst the stones were samples of Newry
granite. Therefore this ice moved from
Newry to Duncalk. By boulder clay
on the hill sides and by other marks



E

Trimpet Hill
The Scandium mine
The Macaulay grave.

The giant's foot

Letter-Keirns

Sept 29/72 The ice must have been more than
a thousand feet thick, and probably was
more than two thousand.
Went to a bog grave, 27 feet by 6 at
Bally Mac Scallan near it is a very large
cradle called the giants bed. Made
a pencil sketch. An old woman came out
who had heard of Cuchullin & said
"cho lacliair ni Cuchullin" a proverb which
is known in Scotland. Near these monuments
is a very large Rath on a hill beyond a
river. The old wife said that the grave
was that of Fin Mac Cool & that he put
up the stone. Books say that the grave
is Mac Scallan's, and the Rath his.

Went to Trumpet hill and climbed 450
feet to the top. The view is magnificent.
From here to the Dublin mountains there
is no high hill and the view in that
direction was bounded by the horizon of
Sect & Lanel with the firth for foreground.
Behind us was the Curlewford range
and northwards Slieve Gullion, Beechill
and other isolated hills. The country is rich
and prosperous clothed with white houses
in green trees and yellow corn fields
The sun shone and it was beautiful
in Cuchullin's land. Drove back and
dined and smoked & jangled till bedtime.

The giant bed

Trumpet hill
The Scallan grave
in Macallan's grave



14

San

Letter-Keirns

Saturday Sept 21. 1972 Went to the Bridge & sketched Archibald's Rents. A smart black hail shower came up and I took refuge in a house till the sun shone again. Then walked to Doyle's Fort & found a grove of trees on a flat topped grassy mound. The owner knew nothing about it but he remembered to have heard that there was an opening which led into built chambers underground long ago. A pet dog went in & never came out again but so the hole was closed. An old soldier on the bridge a Cork man who had been in India told me that regiment of little chaps moving parties were about a place which he named & I forget the name of.

The car came up to me and we drove to Lord Clements where we had some luncheon, and then drove over the hill through Raven's Dale to Henry. There I set off to seek the "Yew Trees" after some hunting found a man Locksmith who knew the old name & directed me to Abbey place and a park which was the garden, in which are some yew trees the descendants of the original trees which gave the name. Found none there who knew anything about Denian tradition but an old woman selling tatoes in Abbey Place told me that I stood on a grave. She saw a jaw bone in a gas pipe trench made a few days before.



1266. ROSTREVOR, FROM CLOUGHMORE STONE.

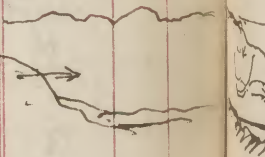
← R



1267. CLOUGHMORE STONE, Rostrevor in the distance.

← R

900 feet above the sea. Mourne granite. one of many stranded boulders of the same stone. of these the highest found was at 1575. feet on the top beside the Surveyor's Cairn. at the same level. on a hill behind Ross Trevor, Took a Rubbing, on a dyke. The Direction corresponds to the arrows. R: R in these Photographs.



78
95

Sat Sept 22. Got on board the Veit and went to Warren Point. Cold wind and showers. - Took our quarters in the Royal Hotel kept by Ross an old mess man, & a Scotchman. Lots of Scotchmen came over here from Arraivie T. G. Wj. Met T. Veit surveyor and took a walk down the shore of Carlingford Loch a bay. The general shape of the hills is very like Gullbrandedal and great blocks are perched on the hills. The people on the S.W. side speak Irish on the Mourne Mountains not a word. The loch is very pretty & not yet overrun by Tourists. I fancied that I saw Newry on the platform. I went after him but the man had vanished before I got to the door. The town is a curious mixture of magnificence & decay. Bright Linn & the Wj. napples.



WARREN POINT, CARLINGFORD LOUGH.

This favourite watering place is delightfully situated at the head of the Lough of Carlingford, and about six miles from Newry. It forms a halting place for visitors to the beautiful scenery of Ros-trevor, from which it is distant two miles.



ROSTREYOR, CARLINGFORD. 298.



ROSTREYOR, FROM CLOUGHMORE. 299.

798

Sunday Sept 22. 72. Cold gray & showery very
autumnal with bright gleams of sun.
Read & wrote, and went to church where
the clergyman read the Collect for
fine weather. Fell in with a couple of
old fishermen and made them talk
Irish. Their dialect appears to be
pure Scotch Gaelic with a peculiar
accent. At first they would not
understand me, but in a very short
time they found that they could &
they did. Got out Githies & read
some verses. They recognized Brennan's
fight and other bits and they
said that on the other side many
people could keep me going with
stories, in particular a Jackman
Irish I could see him & I may get
a harvest of ballads might yet be
gathered in this region I am quite
sure from this short talk with two
fishermen.



Ireland.

King John's Castle, Carlingford.

This castle was built towards the end of the twelfth century, to defend the entrance to the harbour, and the narrow pass between it and the lofty mountain Slieve Foy, which here terminates the mountainous chain that guarded the frontiers of Ulster from Carlingford to the Moyry Pass. Its form is unshapely, from the necessity of adapting it to the configuration of the rock on which it stands. When approaching it from the sea, these words of the poet are brought to our recollection:—

"There, watching high the least alarms,
The rough rude fortress gleams afar,
Like some bold veteran grey in arms,
And marked with many a seamy scar;
The ponderous wall and massy bar,
Grim rising o'er the rugged rock,
Have oft withstood assailing war,
And oft repelled the invader's shock."

Monday. Sept 23. 1872. Drevet Ross Trench. At N. Sea level is a section of Boulder clay resting upon rocks from which the stone have been worn. Further east coming to Drevet the local surveyors. They are interested & they point seaward from a little to the East of North. It is manifest that the gap between the Marine Mountains and those of Livingston was the estuary of local glaciers, and was a passage for the older & larger ice which covered the whole land. The debris on the shore of the Loch and the slope of the mountain pass come exactly like the end of Gulbravsdal in Norway, at the head of the Njösen. The clays walls showed that the same tools did the work.

800 at about 800 feet above the sea out of a wall by the path are horizontal grooves aiming about North and South and corresponding to one of the grooves which are seen from below in the Photograph (P. 78). At 900 feet is the big stone Photographed above which is Morne Grenville & very large.

1400 About 1400 feet above the sea at the head of a comb from about 100 feet below the top of their point and below a cup shaped depression are grooves pointing down the hill at the comb in the direction which running water takes upon the grooved rock. These are marks of a late local glacier the debris of which can be seen in the bottom of the Corrie.

1575 On the top of this hill at 1575 feet beside the Surveyors Cairn is a small granite boulder marked in paint B B. It rests on Silurian rock and proves a depth of ice or of sea with ice rafts greater than 1600 feet

Heavy.

Leacan mór

Warren point

N. Magnetic.

900

River

Cenlugh
Loch.

Ross River

1440 Boulders

900

800

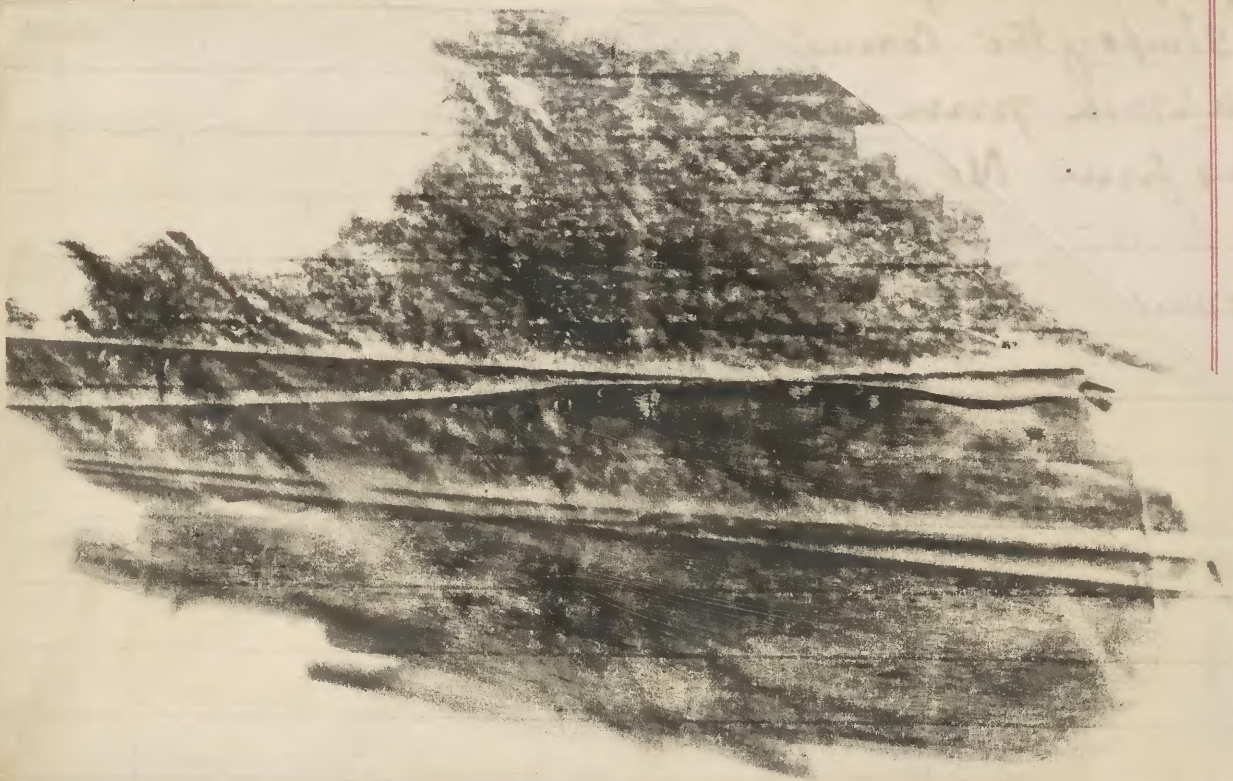
1400



Sept 23. 72. Looking down from this high point.
 The shape of the country is that of glaciation
 a deep wide groove contains the river. which
 runs from NE to S.W. Produced on the map
 the line passes into Galloway near Port Patrick.

The rubbish in the groove includes many
 strange stones which do not belong to the district
 including Antiquarian flints from about
 Carrigfergus. Granite of the same kind as the
 large boulders is found about the elevation
 at which they are on hills in that same
 direction. Sleive Crub. On the whole I think
 that the northern ice was turned aside
 by Sleive Gullion, Carlingford mountains &c
 and escaped through Carlingford Loch
 and down by the River's Glen Pass into

Oscudallie. - Went to a flax mill at the
 bottom of the hill and was much entertained
 by a little girl with a red handkerchief round
 her head like a Phrygian cap, with a red
 bodice & a tight figure as like a French
 grisette at the Bal de Opera as she could
 stand. In return she and her pals were
 greatly entertained by my passage over the
 river on a narrow plank which was
 slow as my head has lost its steadiness.
 Walked up the opposite hill and took a rubbing
 then down the road a Ross River again
 to 11 1/4 miles up and down. 1575 } 2675
 900 }



a Water worn surface seen a bare foot in the
Hwy mountains



a bit of marine sculpture about four feet of
hard Porphyry worn away

N by West.
 From the direction of
 centre, towards the Northern
 end of the Moore Mountains.
 Corresponding to a hollow
 and a small R

N Magnetic.

99

Letitia Keirney



Roading taken
 near a Road about
 720 feet above the sea.
 Drawing taken at about
 810 feet near the hill top.

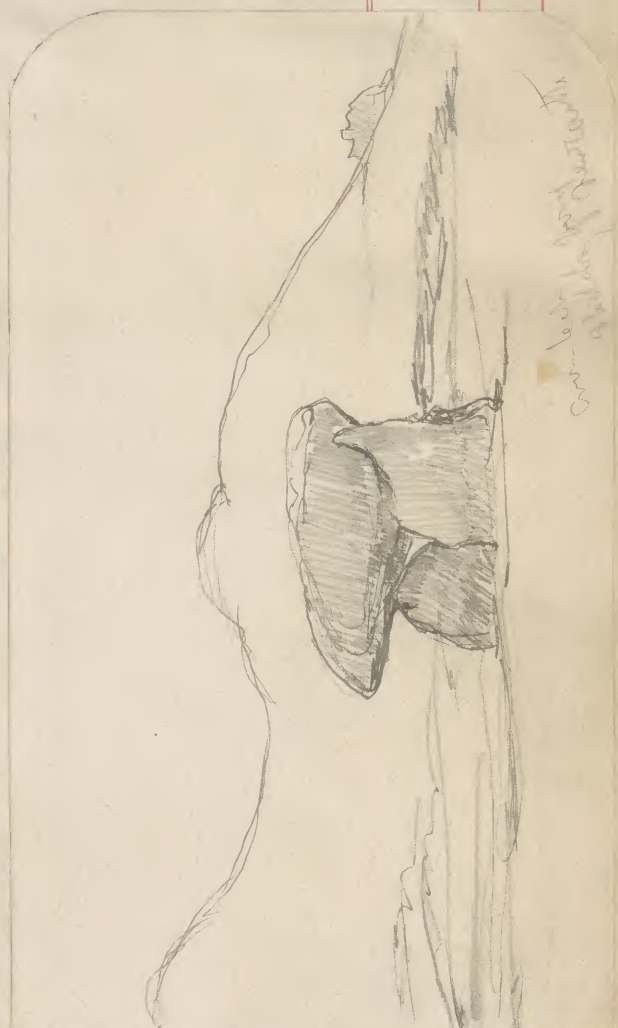
Sept 26 1872. -

From Shale Gallies & the
 Lower end of Loch Neagh.

Crestedale



NEWCASTLE, C² DOWN . 304 .





Monday 23^d Sept-1872. From Rharvenpoint Walk about the Southern end of the Mourne Mountains.

Tuesday 24. Drive and walk about the Middle district of the Mourne Mountains, to Newcastle-Coy. Down.

Wednesday 25. Walk along the shore and up to the hill sides. Outside district of the Mourne Mountains.

Thursday 26. Drive inland to the Slieve Crub district and take rubbings, & outlines of the Mourne Mountains.

Friday 27. Rail to Belfast. Visiting Lamlasherry tower upon a Rock for glacialities. long axis is N.E. & S.W. cross groovings at the N. & ends.

Saturday 28. Rail to Larne and up the hills to look at Ironstone mines and Fresh chalk.

Sunday 29. Rest & write letters.

Monday 30. Walk about the coast and study the geology after the manner of the Survey. Rail to Belfast meet Hall.

Continued on Page 90

Copy letter to Ramsay.

Ballymenaugh in Middletonstown Antvini Monday Oct 7. 1872
Dear Ramsay & Co.

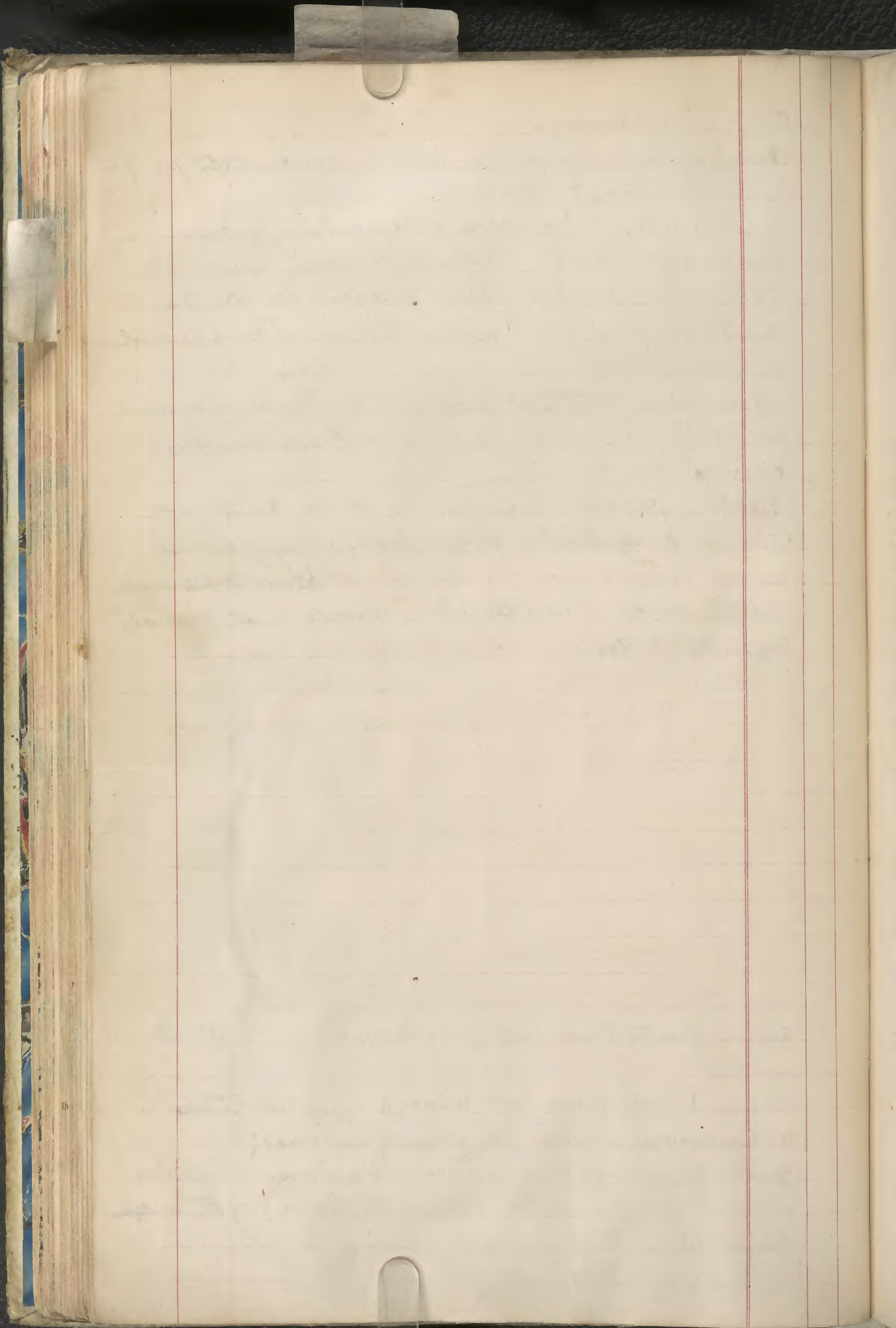
I said that I expected to be at Ballyshannon today and so I might easily be it raining and I have a whole house to myself and lots to do so I think I shall stay where I am. I have found lots of old women and old scratches and mean to work them out. As I have no reason for keeping my facts to myself here are the chief of them.

Slieve Gallion is a "Tor" of some kind of stratified Eocene rock with a cap of Chalk and Basalt at one end, a peat-moss upon the top and Boulder clay sands and gravels upon the sides.



Sketches from the Train after going to the top. Friday Sept. 4th & 5th 1872.

1. Ridges are not always upon the strike.
2. Peat mosses are not all formed in lakes.
3. The drift may have grown anywhere North but it certainly travelled along the base of the ridges from N to S and did not grow upon the hill. Striped greys and banded rocks like



Letts-Kennedy

There which abound in "Northern drift" are common down to Corks Town at least.

4th It did not go South Eastwards for there is not a scrap of it here in Antwerp on the surface, and it did not come from the N.W. directly over this ridge for there is not a scrap of drift above the level of 1200 feet or thereabouts.

Assuming that I have got on the "Northern drift" which is a friend of mine I crossed this stream to here.

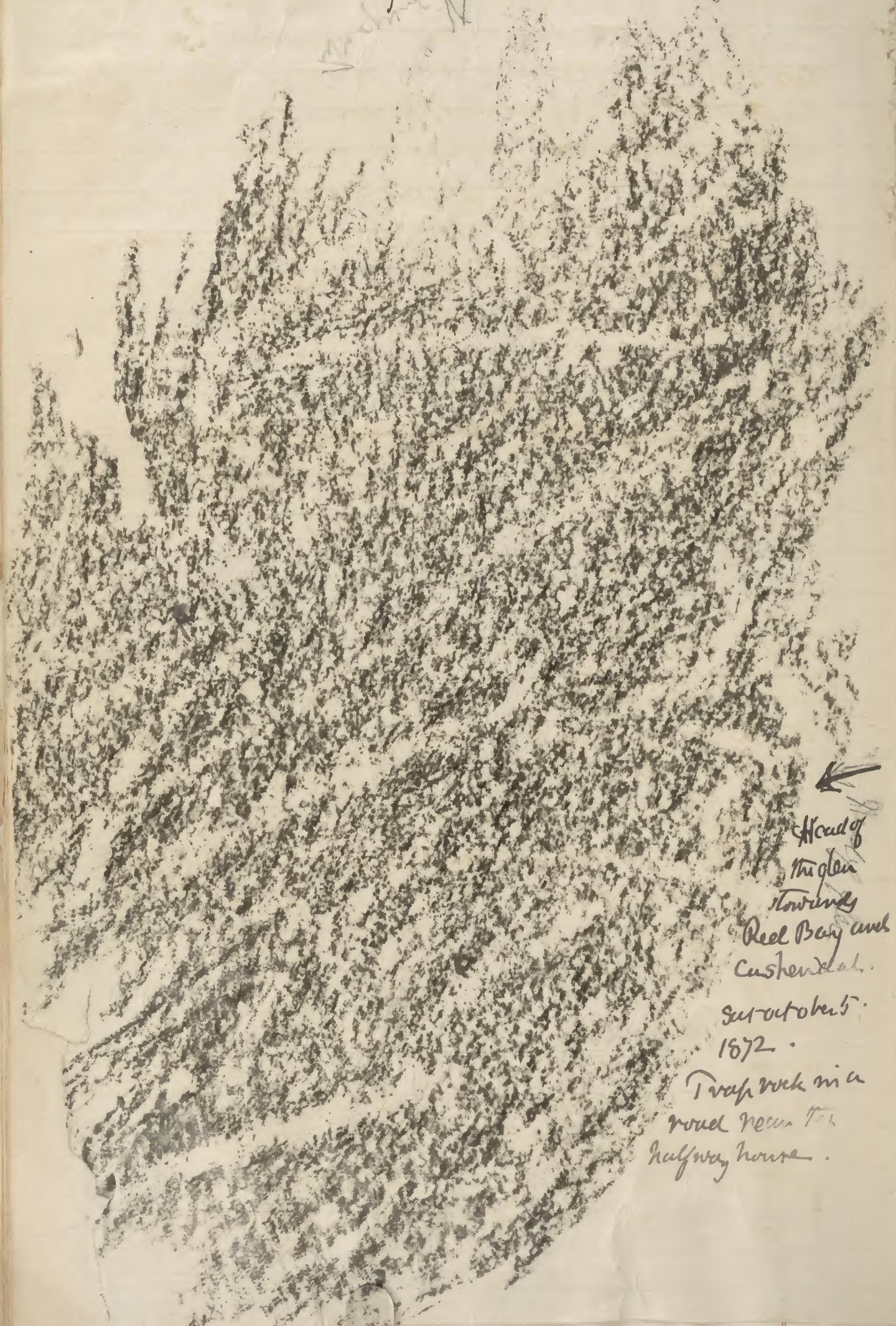
No rock could I see in the Ban at Loch Neagh and the neighbourhood is as flat as a lake bottom ought to be and brown.

Antwerp is brown; and the drift on the surface is brown; all the loose stones are brown. But in a gravel pit near this town I found this section of sands and gravels.



Blue gray sands, dark brown gritty mud in alternate beds, capped by dark brown mud, with brown stones which I suppose to be glacial stuff brought down by local Antwerp glaciers.

Nl Magnet. Variation 25° West



Head of
the Glen
Stirling
Reel Bay and
Cushendall.

Set October 5.
1872.

Trap rock in a
road near the
halfway house.

Letitia Keirney

He has fully explained to me the whole sequence
 of sands and gravels; and their reasons,
 so you must ask him to explain it to you.
 As he justly remarked several times I am
 profoundly ignorant and an unbeliever
 but nevertheless I saw a glacier making a
 thing very like my section, and you will find
 it described in Frost & Fire under
 Suppelledals Lis Brae.



and its terminal moraine.

Up the glen I found a glaciated surface with
 a NE and SW trend which I supposed
 and supposed to be the local glacier
 mark, later than the gravels. (letter continued on p 88)

Notes made Saturday Oct 5. 1872. From Cook's town. drift
 in ridges. Maghera Velt a lot of Enigmatica language Scotch.
 Flat haughs, and peat bogs, & water meadows; very
 flat meadows called Creever meadows, & Natural
 Ban R. eel fishing worth 2000 a year at work
 Sands & gravels where the lakes join. From the Ban
 a slight rise - a gentle slope, a hog back about
 90 feet Park ground, & beautiful view of lake.
 Shane's castle very few stones anywhere, all under
 trap. River running into Loch Randalstown.
 Thus far crossing the ice stream. Junction near
 Arthurs. Trap stones in dykes. North ground.
 Ridges parallel to river. Mosses River. flat
 haughs between the ridges. No walls. to Ballyhaugh
 Can up glen. ground flat. Scrub. Amy McCann.

Handwritten text, likely bleed-through from the reverse side of the page. The text is mirrored and mostly illegible due to fading and bleed-through.



Handwritten text, likely bleed-through from the reverse side of the page. The text is mirrored and mostly illegible due to fading and bleed-through.

104 86
another Jenny. Two old women who spoke Irish. On this subject remarked that the language was very near that of Connyghshire, with a certain peculiar accent, and certain peculiar forms which occur in the ballads.

Reeves at Armagh on Thursday last assured me that the people in the Antvorn glens are not Scotch, but Irish & that they speak Irish not Scotch Gaelic. The accent of Henry MacElliott who has never been out of her own glen in all her long life, when she spoke in English was distinctly highland, it was a very remarkable contrast to the language of the people about her, ~~and to~~ which is the broadest of pure broad Scotch; and to the accent of Kerry which differs materially from the Connyghshire accent. I have somewhere read that the Irish Antvorn were almost exterminated and the Plantation of Ulster is a fact.

near Cookstown. I met an Irish girl who spoke a different dialect of Irish. She came from the hills in Derry, and I could not make out her talk in the ten minutes which I had to spare. Mr. Gourlay the farmer who found this girl for me working in his field spoke pure Broad Scotch. The most remarkable thing about these people to my mind is that they have entirely forgotten the Plantation of Ulster, and their Scotch extractions. I have not found one man who remembers anything about it. I tried one man for all the Irish traditions that I could

[Faint, illegible handwriting in a cursive script, likely a historical manuscript. The text is written in a single column across the page, with some lines appearing to be underlined or separated by small gaps. The ink is light and the paper shows signs of age and wear.]

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[Small handwritten mark or signature on the right margin.]

Letter-Keimig

think of at Larne. He had never heard of
 any of the names even. At last I told
 King Arthur and was successful.
 He had heard of him. Several people
 on the road to Red Bay knew about
 Robert Hood & little John. Jerry
 MacCallum had heard of Cuckoo &
 Pion, but not one scrap of tradition
 about them could I manage to extract
 from either of these old clowns.

A man is in the habit of telling
 'urisks' about giants & how they
 transformed themselves but he was
 out on Saturday and I got nothing.

Tu. I therefore walked up a hill 1170 feet
 above ~~Cookstown~~ Ballymenagh. and found
 weathered traps with glacially scoured
 or somewhat like them but nothing to
 tell the direction except the general
 trend of the Cuthbert hills which is
 about North and South true crossed
 from N.E. by Glen. and in some places
 from N.W. so far as I could make out
 the general features.

Mon. all these hills are being bored into for iron
 stone. It occurs between beds of trap &
 Basalt, and is in lumps cemented together.
 When washed and broken it comes out
 like pistol bullets and is very heavy.
 It is the same all over the county
 down to Larne and varies in quality
 from this hill to the Glen of Drough though I
 the Bar was well seen & is
 correctly described in the letter to Pion.

North Magdalen

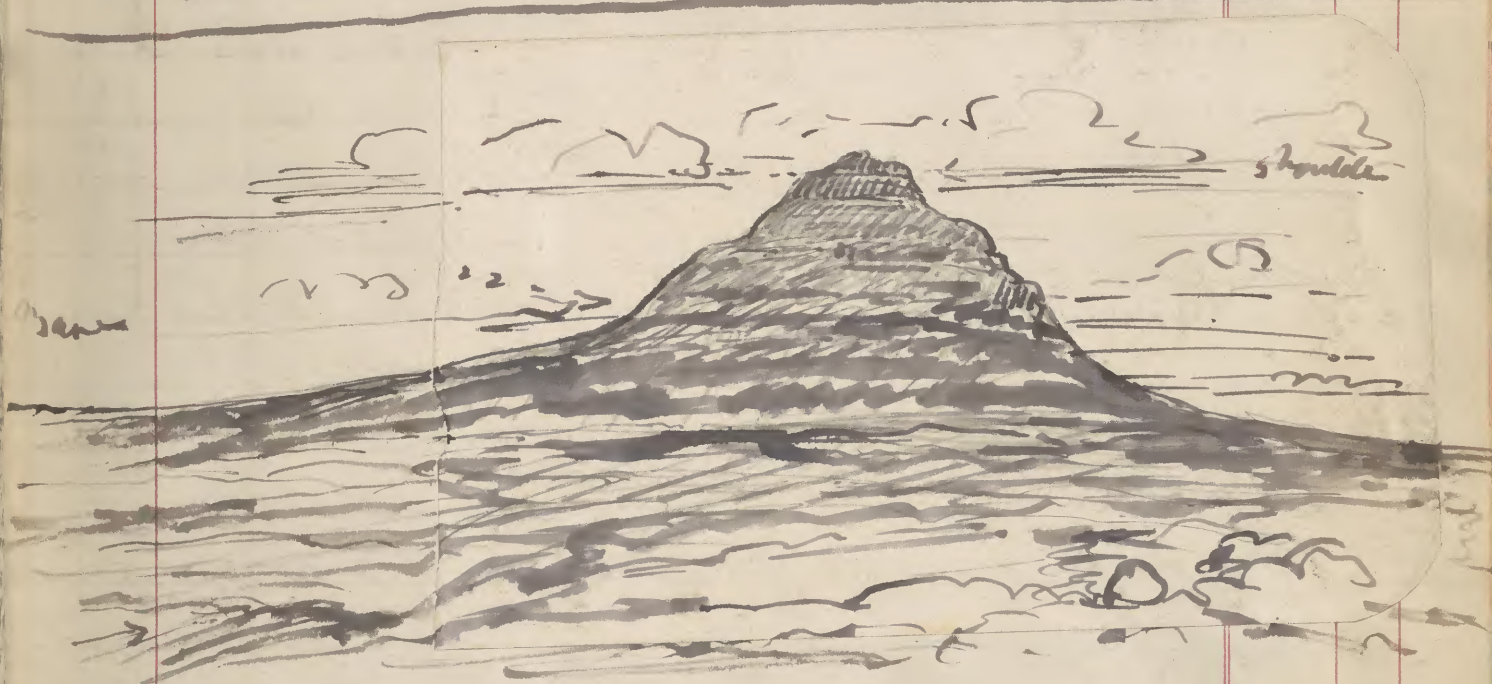
Headglen

450 above. North Magdalen. In a road near
New Gill's farm. 1872
Oct 6. 1872

✓
Sediment



1888
 Zetter-Keimig
 Yesterday, after receiving a
 very excellent sermon. I drove to Slieve
 Mish, and in the glen which leads to
 Glenarm above the level of the sea. I
 found another surface. NE and SW
 aiming at Sean Pellaigh in Galway,
 over all Ireland, upon my theoretical
 line.



Slieve Mish looking south along the long axis of the Tor. From
 the road near Mr. Mac Gill's farm. at the highest
 north west shoulder. about 1400 feet above Bally
 menagh. about 200 feet above the base of the Tor
 is a deep groove E by N. magnetic with an
 open horizon in all directions. at the level
 of this road. about 450 feet above
 Bally menagh, got the rubbing on the opposite
 face. The outline of the hill shows the
 long axis is a little in prospect as it was taken
 about a quarter of a mile to the left in the
 sketch above.

[Faint, illegible handwriting, likely bleed-through from the reverse side of the page.]

Letter to Mr. Keating The hill is a correct copy of North Tor with duns and the ice marks about the foot of it bear the same relation to it. The long axis of this "Tor" is nearly north and south; perpendicular to the long axis of the hills on the other side of this great big rock group in which is Loch Neagh.

The structure of this Tor has nothing to do with the shape of it. It seems to be an "Ice mark" like the Devonshire Tors and dozens of other Tors which I have described under that name & which I have seen without describing, including Slieve Galian.

And now when you have found Laventian Gress & Slieve Crub Granite over amongst the Ten Pins or somewhere in that direction think of me amongst the old women, jabbering Goli and listening to lies, for that is to be my occupation, I have cut here in the N E Corner of Ireland for a few days. If I do not catch you sooner I hope to see you at in London and drink to the Geological Survey in Chancery. And so I wish you all good luck and am
Your faithful Outsider.
J. Campbell

1. The first of these is the fact that the
2. second of these is the fact that the
3. third of these is the fact that the

90 108

Tuesday ~~Sept~~ Oct 1. 1872. Rait to Dungan
crossing the glacial stream. Saw a mountain
from near Dungan northwards with the
usual glacial shape & determined to make
for it. Drove about the coal fields &
looked into quarries. The caps were
utterly smashed by the force which
carried the drift southwards. Looked
at clay pits said to be Myocene.
Some are dark brown (probably trap) some
are white (probably chalk). The local swamps
afterwards show in this Myocene clay. It
contains lignite, and probably is the
debris of the basalt & chalk denuded off
this country.

Wednesday Oct 2. Drove to Armagh and looked
about Permians & Coals in the Valley of the
Blackwater. Picked up and carried off a
scratched flint. Which proves the Northern
set of the drift. At Armagh went into
a quarry where Ramsey found a Permian
Breccia which is going into the map. To
me it seemed part of the common drift
attested by long contact with a lake of which
I found the shore with caves in a gravel
pit, and the bottom in weathered limestone
in a neighbouring quarry where there
was no drift.

Thursday Oct 3. Got my six copies of Leabhar
An Teinne sent them off. Called on
D^r Reeves whose housekeeper a Kerry woman
opened the book & began to ejaculate
over the beauty of the text. Got a car &
bid farewell to the Surveyors who are



Wexley, Oct. 2. 1872 a rough note of the general look of the drift country and shiabh. galen. taken from the site of O'Neill's castle. 444 feet above the sea, and the highest point in the coal district. To the NE there is an open sea horizon though beyond the power of eyes and telescopes

91 109

going to visit Lord Curiskiller and work
at the ground surveyed by the local men.
Drove back to Dungannon. 444 feet above
the sea and the highest ground between
Galweg bog & Loch Fyke. Drove on
to Cooks town, and met Handman
walking with his wife. He told me that
all the drift was local. I asked him
to look at some big boulders by the
road side of which one is striped gneiss
and very large. Slept at the Imperial
Hotel. Walk up the hills nearest to
the town and fell in with a cross Bull
a cross dog, a good natured farmer
Gowley and an Irish girl from
up in the hills. Also with a Banker
who had never thought of going up in
his thoughts he had been here two years
and who solemnly assured me that
the vein did not go round the north end
of Loch Neagh. From which I gathered
that he was an ass.

Friday Oct 4 With Handman drove to the foot of
Slieve Gallion walked up and down, grand
views over Ireland. Wait. See letter to Ramsay
page 83. for the Result of the observations.

Saturday Oct 5 Rait to Ballymena. Con-
tinued to Cushendal. See above notes below
Ramsays letter.

Sunday Oct 6 letter. Page 88. On telling Mr
Gowley the farmer below Slieve Misk
that my name was John Campbell

[Faint, illegible handwriting on lined paper, likely bleed-through from the reverse side. The text is organized into several paragraphs across the page.]

Deftes-kenins

Sunday 6th Oct 72 He exclaimed Well brick
your name. He is very rich, very tall &
stout and stalwart an old man the picture
of a low country Scot but not one would
could he remember. about the plantations of
antiquity. We laugh at people when
they speak Irish here. said he.

Monday Oct 7. Rami so wrote to Ramsey
and made up this log from which
a great deal has been left out
during the gathering of knowledge.
It is not quite so easy now to walk
up hills and so I rest at night
& smoke. Last night I had a long jaw
with a worthy priest who lives in
Paris just outside the Porte Maillot.
He was in Rome ^{during the great quarrel} he looks exceedingly
like a mixture of Napoleon the first
and Keenaghore. He drank whisky punch
and I smoked. while he snuffed & spat
out his handkerchief at intervals. His
French was pure Irish when a bit
of it came out By 7. this morning he
was off to carry.

Here follow a lot of photographs intended
to show the peculiar form of the
coast line of these Antvian hills, of
which this is the general section

North



Shallow gullies
drift
of the basin

Loch keogh

Antvian hills.
Shallow hills

Coast Sea

Cushendal



HORIZONTAL FORMATIONS GIANT'S CAUSEWAY. 225



THE GIANTS LOOMS AND GREAT CAUSEWAY, IRELAND. 215



Giant's Head. Co. Antrim.

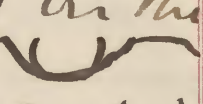
This shows the character of the coasts down to
 Larne. Every level land is of the same pattern.
 The beach where there is one is a plain of
 marine denudation. Ramsay refused to admit
 that the sea had done any thing to the foot of
 the Antrim Mountains. The same day I
 made the sketch on page 81. The Professor
 is about to write a work to be called
 "Earth Sculpture." He reviewed Frost's
 and got £80 for it from Douglas, editor of
 the North British Review (Douglas says that he
 only paid 40.)



Sept 30 1872.

outline of the unbroken coast line at Larne
looking up the loch with Island Magee on the
left. and rubbing taken below high water mark.
from a water worn surface of fresh lime with
a flint Belemnite in it. Not far from
this spot are a lot of sea caves on the
raised sea margin. Numerous "faults" are
marked ~~on~~ the map and some are evident
enough in quarries. My impression is
that the sea has undercut these hills
so as to make cliff & Talus. This outline
was made to convince Ramsay of raised
sea margins which he utterly denied
at first as he did ^{my} local glaciers on the
Mourne Mountains which are perfectly
manifest to me. Close, writing a paper
on Irish glacial drift &c, leaves out the
Mourne and Antrim & other mountains
as sources of local systems while he maps
glacial phenomena in the low lands.

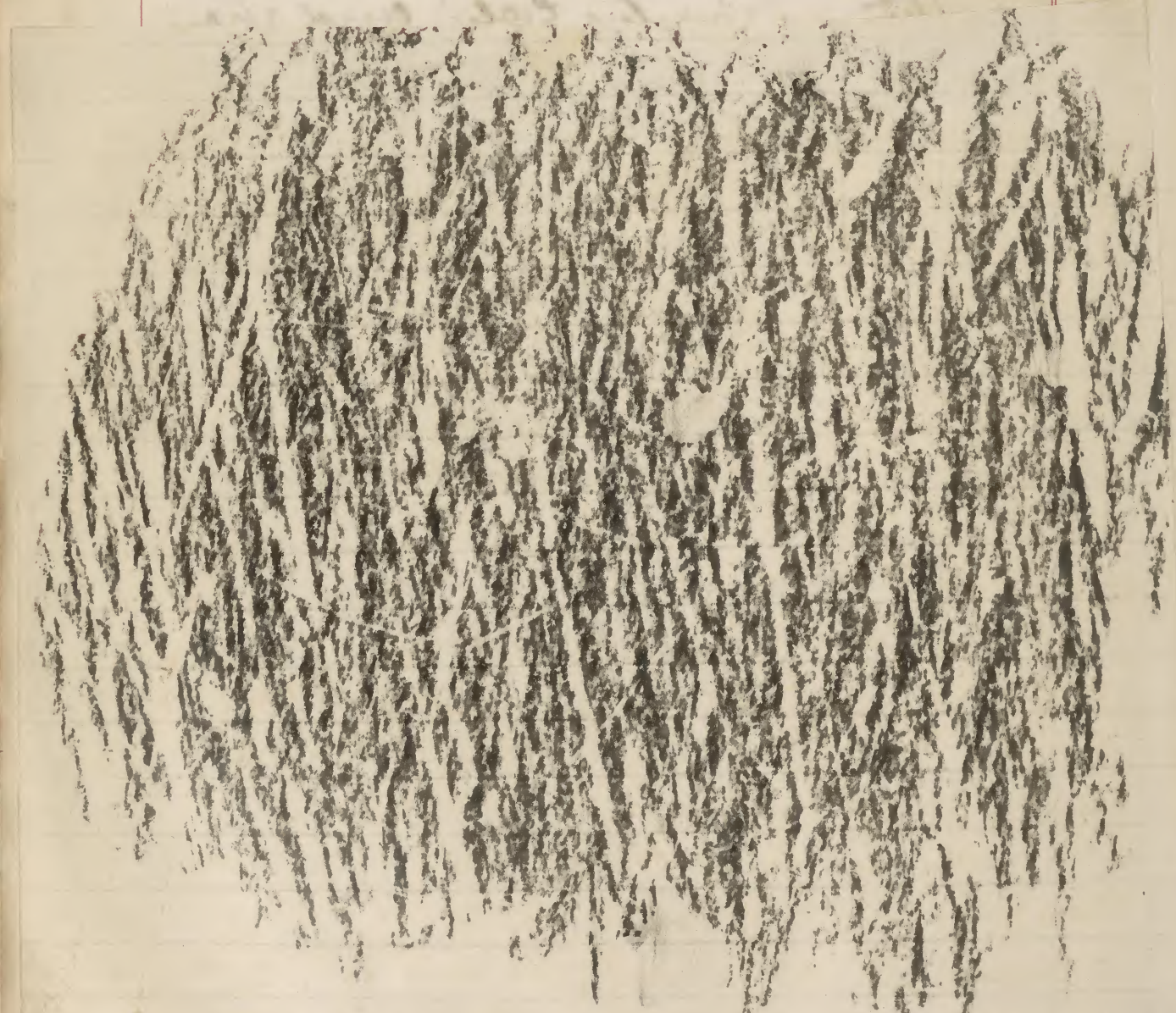


Monday, Oct 7. 1912. Having made up the log at home started and drove out to a place where Slieve Mish was visible. Made a sketch to show the form. Went to the gravel pits intending to sketch the section but the tide had taken in and covered it so went on. up Glen Ravel passing lots of Iron mines in the hill sides, & lots of rusty miners coming from their work. In the evening light they glowed like the phosphorescence in the Opera of Faust. At the top of the glen on the col 1000 feet above the sea tried at Skene by seeking and by asking questions to find a foreign boulder on an ice margin. and failed utterly. There can be no doubt that the cutting page 85. is the mark of a late local glacier. The place is about 200 or 300 feet below the watershed and several miles from it. The marks are quite fresh whereas all surfaces at the top so far as I could see are deeply weathered and the rock itself is decomposed. Nevertheless the general shape of the hollow on the top is that of an big ice groove.  Point at the firth of Clyde. An Englishman at the top now engaged about a wire tramway lately employed in Egypt told me that sea margins abounded lower down. As we drove down the glen to Cushendall Cliffs & Talus facing the sea and the bed of a local glacier appeared. The chalk also appeared, and the general shape of trap weathering in horizontal beds but sea margins were not conspicuous features to my eye.

Chronology That which struck me was the marked change of race. For big burly heavy Scotch men I saw occasional samples of black haired fine boned french looking cells. I could get nobody to respond to Gaelic in the word. Language At Cushendal I got a man who spoke Irish imperfectly but it was the Irish of Scotland with a difference. He led me to Mrs Mac Killoch who keeps a public. She was filling jugs with her head down so I said "Faiille" Faiille Abbott said she could then we conversed with occasional difficulties. I spoke Gaelic and she understood. She translated what I said to the conductor. A customer came in & spoke the Irish of Connacht I understood the whole conversation. A few Irish peculiarities made the chief difference a considerable number of words used were new to me, but the difference was less than Norse & Swedish; or between Broad Scotch as spoken here and English as spoken by the Tramway engineer on the hills top.

Dialect. The whole accent of the people here differs from the Scotch accent of Leam within sight down the coast as much as Irish Brogue differs from Cockney English. The people of neighbouring parishes in Antrim might be the people of different provinces by their manner of pronouncing English. I never heard such variety of dialect anywhere. It is not this

The other three specimens are from the same
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 specimen of the same form. The hundredth is a small
 specimen of the same form.



Oct 8. 1872. Long axis of a Boulder at
 Cor en clat (Cushendal). ant. -
 Trap. Specimen.

Deltos-kenius

language has changed. The Celts have retained their several dialects & they have failed to mix with the natives of these Antrim glens, or with Celts from the highlands, if the natives were exterminated. I made an appointment with a man to conduct me to Mr Mac Killops brother who is said to be the best Irish scholar in the place.

Tradition. Miss Gault Mrs Mack. knew of but she knew none. The leading names of Fionn Oscar Cuchullain etc. She knew but she knew none of the old lays, she had never heard them. When I showed her she did not rise as they did in Kerry. Her brother had read about Oscar & Fionn she believed. We shall see. She seemed proud of spelling and set me to spell words. On the whole I do not expect to get traditions here unless they be historical about the part of Antrim.

Tuesday Oct 8 1872. Got a smart boy as guide and walked up a couple of miles to see Mr Mac Killops. On the way fell in with a lot of men making a claim in a binn. Found compact micaceous rock gray. Hard & greiss like the Central highlands. This was in large blocks and common. The men said that gray stones of this kind were abundant even on the hills tops under the peat mosses. Granites of various sorts. Rock Sandstones, pudding stones very like the rocks in Arvon. In short the stones like the people seem to be Scotch.



512 pm

512 pm

Letter-kenning

Cushendal 9th Found a scratched boulder. Copied the surface and broke off a chip. He seemed to be a native. It is proved that ice worked here. Picked up a lot of characteristic stones from the road side Macadam. Met an old man & spoke to him in Gaelic. We understood each other, but the accent varied and words of mine were not understood. He had been in Ceantire and in Islay. His ancestors came from Ceantire to this country. Found more hills. He said at once that he could not understand Scotch Gaelic. He ended by understanding me quite well. He said that he could not read Scotch Gaelic. He ended by reading and understanding some. The ballads in Leabhar na Feinne which I had brought. But I could not get traditions or signs or symptoms out of him. He had been a preventive man and his reputation is founded on his knowledge of Irish books which he produced and read, and in his accent picked up in other districts. He spoke more like the West coast men. Less like the East coasters & West Highlanders. Got a stone axe from his daughter & gave her a shilling for it.

Ferns Returning sketches the horn of Red Bay under great difficulties from showers of rain. Spoke Gaelic naturally and without warning a several people on the way side. It was understood and answered at once. The answers were the usual ones.



Keller-Keirney

Oct 3. Coshindal. After some beer & biscuit walked along the shore and found Red sandstones and conglomerates dipping about S. strike running under the Antum basalt. Made a second sketch. By the dip there ought to be Permian, by the look of the rocks they ought to be old Red. But if they be the Coals at Ballycastle must be in a strange position. Met a young fellow on the top of this ancient sea margin. He took me to an old church where is a very fine wooden cross to the memory of one Dr. MacDonald; and an old stone in memory of Alexander Macdonald who fell in the wars of Montrose. Names noted were Daniel Macalister, Storer, & Macgregor. I Macaulay. Mr. Skelton MacPherson &c. All these are Ulster names.



On the coast of Antum near Glencarn.
The Madman's window. Chalk rocks.



The horns of Red Bay from Coshendown. Chalk & Trilobite
on Red sandstones. near an old O'Neill castle.



Gravel of gray pebbles upon Chalk, which caps the
hill above Torr Point preventive station. Crinoids
in the distance Northern shore. The curves show
the direction of strike lower down at about
400 feet above the sea. 850 feet

Keller-Kennedy

Wednesday Oct 9. Took car to go round the coast & do amateur geology. Behind a hill which is behind the town in a field by the roadside is a very large block of unaltered gneiss or gray stone. $12 \times 8 \times 6 = 648$ cubic feet. Near it are many smaller blocks and near the place I found a scratched boulder of ~~Basalt~~. The proprietor of the field was called MacDonald, and we had a long jam in which he said that his ancestors and most of the people about this region came over with Cellach (Kille) and that many MacDonalds thereabouts were left handed still. Came down to the shore again at Coshedown. and made an outline of the Antoin's coast. Spoke Irish to a deaf old woman who clapped her hands and blessed me for speaking Irish.

Trived to find out the story of two stones. The Driver said that David O'Neill had set them up but he was an ass. A man better informed said that he had prevented their destruction. A girl said that there was some story about them but she had paid no attention. Drove straight for the north of County along the coast rising & sinking. At the turn northwards got a Rubbing.



North Magnetic Trough

101

400 feet above the sea

In the wood under the
on a hill side.

Complete light house

Small of

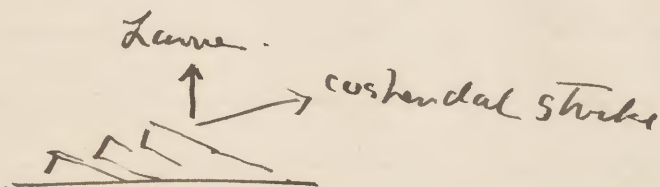


119

Keller-Kennedy

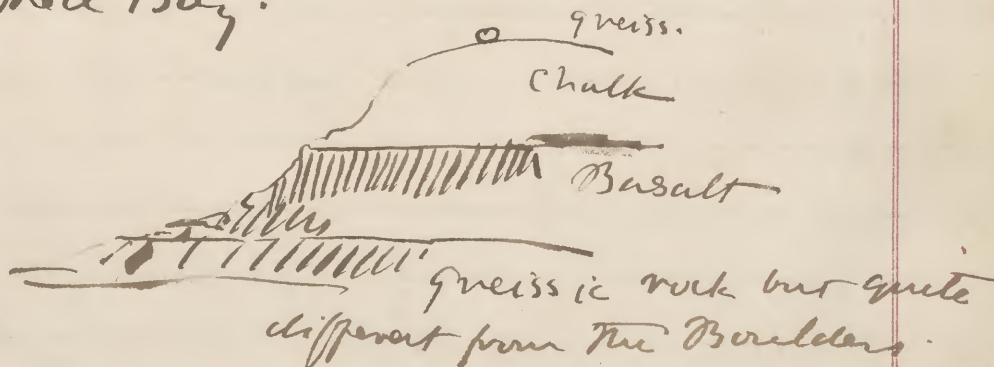
Near this one
better preserved
larger coarser grooves
aiming in the same
direction.

This rubbing proves a movement parallel to the northern coast of Peartine. The stream of boulders & erratics seem to belong to Rocks in the central districts of Scotland. All the hill sides are strewn with these Gneiss boulders. The above by the road side. At the point found some gneissic rock in situ and began to think that I was all wrong.



The strike is about the same as that of the conglomerates but the dip is the other way. See sketch above.

Having got round the shoulder tower NW I went to a hill top where is a lime kiln & a surface of hard chalk. There on a spur opposite to Peartine with the sea horizon open to the Maldives at 850 feet above the sea found a large block of the same contorted grey gneiss with large quartz boulders in it. 6 by 12 by 8 = 576 cubic feet. From it made the outline above. Walked about the hill and counted 18 large blocks of the same stone. Their general arrangement is that of a train of blocks traveling Southwards into Peel Bay.



The first part of the paper is devoted to a description of the general character of the country. It is a plain, fertile, and well-watered country, with a few scattered hills and mountains. The soil is rich and productive, and the climate is temperate and healthy. The people are industrious and enterprising, and the commerce is flourishing. The paper then proceeds to a description of the various branches of industry and agriculture, and the progress of the country in these respects.

CHAPTER II OF THE AGRICULTURE OF THE COUNTRY

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So far as memory serves the boulders on
countryside and boulders on the Ridge of
Sutland are of the very same rock as
those on Fairhead. Boulders seen last
year in the Hebrides were very like them.

This ridge of chalk ends in a
hollow where the sea level might
have been.

This answers to the groove which I found
aiming at Islay, on the north of Oban,
about the same level.

The road now dipped into a hollow &
rose again to the level of the chalk.

Went to the top above the chalk quarry, I
found a great stone circle 24 yards
in diameter. With a group arranged
as for a cromlech in the very middle.

The hill is called Clack corrach which
may be interpreted. Rocking Stone.

At 1100 feet above the sea this whole
structure consists of gray gneiss.

Apparently the ancient circle builders
gathered all the corvachs off this hill for
~~there are~~ no large ones were to be
seen elsewhere. Small stones of like kind
abounded in dykes & walls.

An idiotic Native who came up with me
would not be drawn. I did find that
boys make a fire on the first hill on
the largest day. And I did find a
circle of white stones and a little lined
house made about the centre of this
very remarkable structure.

The first thing I noticed when I stepped
out of the car was the smell of the sea.
It was a fresh, salty breeze that seemed to
wash over me. I had heard that the
coast was beautiful, but I didn't realize
how much I needed it. The sun was
just starting to set, and the sky was a
mix of orange and blue. I walked
along the beach, feeling the sand under
my feet. The waves were gentle, and
the sound of them was so soothing.
I had come here for a vacation, and
this was exactly what I needed. I
was going to relax and enjoy the view.
The beach was wide and sandy, and
there were no people around. It was
just me and the ocean. I walked for
hours, not caring about anything else.
The sun had set, and the stars were
starting to appear. The moon was
low in the sky, and the water was
dark. I was alone, and I was happy.
I had found a place where I could
be myself. I was going to stay here
for a while, and I was going to enjoy
every minute of it.

The horizon was open to the Donegal mountains past-Creek ~~land~~ and to the Isle of Man in the other direction. Isles, Juncos, Cuckoos &c were all spread out like a panorama. Torva's castle on the ~~left~~ Part end of Rathlin bore N. magnetic. But the falling showers which have been rattling on me all day spoiled the view. -

Going down the road spiced with the large circle of large stones upon the same ridge of fair head. On the East side is a higher hill called Carran Mór. On which is a cave. A place built of large blocks of the same stone ascending to a native but now stepped up because sheep get in & get lost. I saw the place from the road.

Provoked at the dense ness of my companion I began to talk of the fairies whereupon he took off his hat. Thereupon I began to shout Gaelic charms songs and incantations from popular tales as fast as I could gabble performing ~~some of them~~ with my long hooked wooden stick which excites a great deal of wonder everywhere.

Presently my man ran away home as fast his legs could carry him.

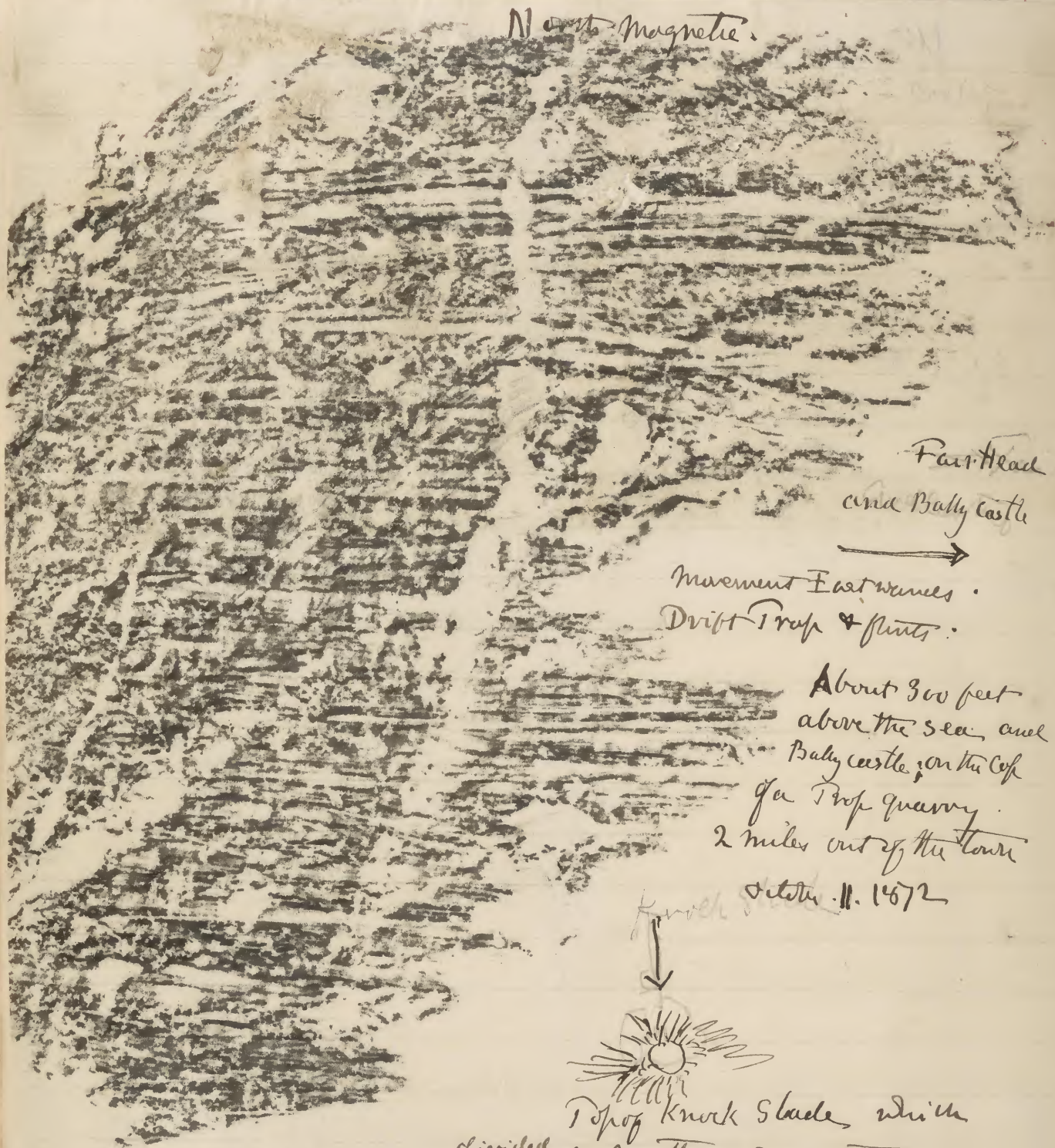
I joined the car got to Ballycastle and Baginbun & Bannahad & Barts & Breen & Breen.

Thursday Oct 9. 1873. Rain. Walked up to the top or near the top of Knock Lude. Got into difficulties with whins & had to come down to the stream again & get up another way. This curious rounded hill used to be a kind of Weatherglass visible out of my window in Ilay house. I passed it with Cyril & Graham some years ago, and I always wished to get to the top of it. I saw it from Sleive Gubinn last week. It is chalk and trap with a great mass on the top. The trap at about 1300 feet is glaciated but I could make nothing of the direction. I could find no conspicuous corallines high up. Low down is a deal of glacial stuff and a great variety of drift stones which do not belong to this region at all. I could see but little beyond Rathlin and Fairhead where I was yesterday. The photograph was taken from somewhere near Ballycastle.

Fair Head.



North Magnetic.



Fair Head
and Bally Castle

→
Movement Eastward.
Drift Trap & flints.

About 300 feet
above the sea, and
Bally Castle, on the top
of a Trap quarry.
2 miles out of the town
Oct. 11. 1872



Drift Trap & flints.
divided a northern current

Friday October 10 1872. In order to cross the stream higher up. took a car to Ballymoney about 14 miles.



Fair head and Cleenagh from above Bally, with

about 2. miles from the town and about 250 above the sea took a note of the form of Fair head with Cleenagh in the distance. a little further on took a rubbing from a trap surface. It seemed that Crock Lade at about 300 feet above the sea split the northern stream and sent it eastwards, whereas at the higher level of Fair head 1100 feet, the stream came from the N.E.

Further on at about 4 miles from the town in another quarry got another rubbing at about the same level out in the plain. Here the other fork of the stream aimed for Ballymenagh or for the other side of Crock Lade at all events. It was the same as at the northern end of the Merionne Mountains



North Magnetic.

Between Bally Castle and
Ballymany. Octo 11. 1872

Trap quarry, near the
road. This agrees
with Close's
see his map.

↓
heavily Parallel
to the contour
hills.
to the left
looking
Southward



The second rubbing shows this split in the northern current. There was little drift chiefly flint & trap, which are in situ northwards. I could find no Donegal stones at all; and no conspicuous sands and gravels. The country is very flat. Peat mires of great depth abound in hollows. The owner of the last quarry came to see what I was about, and told me of antiquarian finds - gold chains, and bronze pots. Lignite is in his land he says, & he looks for coal and iron stone. He spoke of a satch and showed me a high knob with a "firth" and a cave in it, which commands a view of the whole country.

Took the train to Derry. Saw no sands and gravels except close to the River Ban. The country is very flat and devoid of drift. In the distance are conspicuous sea escarpments towards Lough Foyle.

When the line turns westwards the train passes through a tunnel in trap, and we were for some distance under a cliff of chalk and trap opposite to Innishowen.

The opposite shore seemed to me ruled in horizontal lines, and the cultivation rises high marking the drift. When I was at the light house I failed to discover glacial marks but I was there for a very short time.

To the left are manifest sea cliffs, and the line winds about on a sea bottom quite flat, and sometimes newly reclaimed from the sea. Arrived at Derry walked up a hill, and next morning bought a photograph.

Friday & Saturday Octo 12. 1872.



The steeple is that of the Cathedral. The water is the Foyle. The high ground is the north side of Loch Foyle. Lanning a Innishewan. The hollow is the way to Loch Swilly which is a low neck of ground over which I drove last time I was in these parts.

Consequently the hills form a Peninsula, & were part of an Island. I saw this from higher ground, in the same direction. The rocks are slaty, and the drift contains a vast number of stones ~~from~~ of various kinds I could find no glaciated surfaces.

Talked with a Frenchman who looked like a German, and spoke with an accent which I did not recognize. He had travelled a great deal, and spoke a smattering of tongues with the same accent for all.

Saturday Oct 12. 72. Went to the Cathedral with the Frenchman and discoursed an old fellow who had talked a great deal to Mac Anlay who sent him a copy of his history of England. He showed the plays but with native politeness said that the Frenchman might not like to see them. He did not seem to care much.

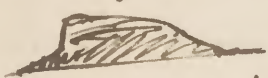
Nearly missed the train talking about rows on the 12th of August & the other anniversary of the siege of Derry when the bells are rung and a fight is held yearly. At H. Stewart made notes as I went. Derry is in a narrow situation? Rock grove, with flats and mosses & brick clays and drift along the Foyle. The hills are rounded with gentle slopes cultivated Terraces about the level of the sea coasts at Larne, and the flats in Loch Foyle seem to be ancient sea margins. At Strabane I could see nothing high to the S.W. Low rounded cultivated hills are beside the river which we crossed often. Glacial stuff and stone walls begin. An isolated hill was passed to the right S.W.

with Rock showing only near the top. At Newtown Stewart Glacial stuff and drift was abundant & seemed to come from the group of hills to the left of the line East. Terraces were near the river. At Moyle a high bluff to the left E but we were only about 270 above the sea. The gravel ridges were parallel to the line about S. by West. Low hills and plains to the right S & S.W. and barren open

[Faint, illegible handwritten text, likely bleed-through from the reverse side of the page. The text is organized into several paragraphs separated by vertical red lines.]

Oct 12 at Omagh The undulating country was open towards Omagh. Where I have been.

The hills to the left form another block of high ground which a rise of 300 feet would make an island round which I have travelled since I have left from the geologists. Arrived at Enniskillen and manifest sea escarpments open



towards Slieve Donard. — one of my lines passes here, but last time I came I could find no strike. In closer map I find a mark parallel to my line aiming at these escarpments and openings between them. S.W.

Turned back and branched off down the northern side of Loch Erne. The whole country is covered with drift and the shape of it indicates a current of ice on sea towards Donegal Bay. The Sligo Mountains are high and compact and no current could pass over them at any low level. At Ballyshannon spotted some glacial rocks, at the station. Walked back from the town and took two rubbings from red sandstone nearly horizontal and covered with a thin coating of red drift which has been moved to make the river a level for surfaces. Here are the rubbings. At this low level a stream certainly moved from Enniskillen to Donegal Bay along the course of the river. North Westwards. I incline to think that the last ice was afloat in a tide

North Magnetic.

Two Surveys

October 12 1872. Ballyshannon. Railway Station
Red sandstone heavily flat. Very little drift at the spot
Sandstones, Weathered Mountain limestone. One block of Gneiss.



dovegal Bay

Lock Lane

North Magnetic

111

Oct 12. 1872. -

120

Baby shannon



From Loch Cove.

Red Sandstone newly flat

Drift, Sandstones

Weathered Mountains

Limestone, are

Black & Melanophis

Greys. -

little drift at

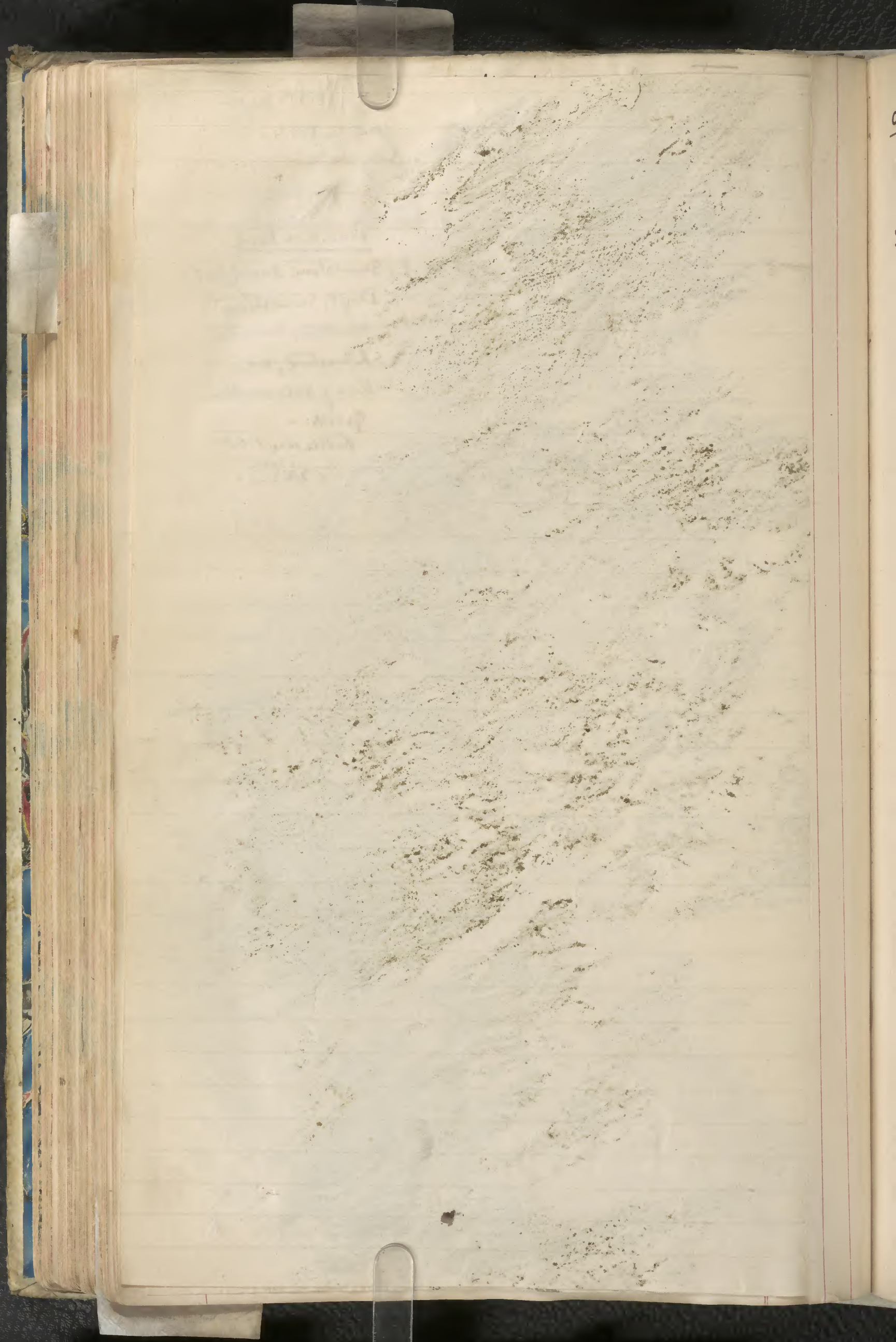
the spot.

John Kenney

spot

Loch Cove





Oct 12. In the dusk walked down to contemplate the
grand rush of water at Cas Ruagh which
came to see. Wrote a lot of letters.

Sunday Oct 13/72. Made up map and sketches,
till church time. Went to Church. Afterwards
walked a bit till and made a sketch on
two of the Sligo hills.



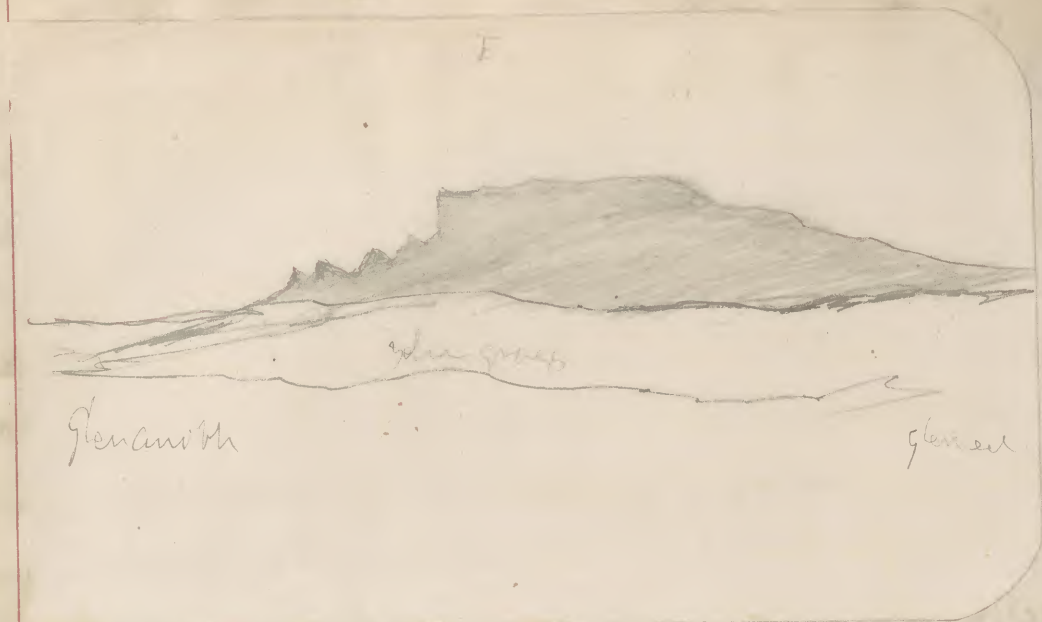
Hills seen from the road to the left of the next sketch. These
are capped by Mountain limestone nearly horizontal resting on
? mudstone grits, and red sandstones. They are scarped out in a
very remarkable manner, and the escarpments are manifest
sea margins. The arrow shows the direction of glaciation
out into Feneagh Bay.

Discovered a lot of natives. One fellow from Sligo spoke
Irish and shouted a hymn which I translated as
he said it. I shouted Fenian songs which he
partially understood. The ruined monastery is called
Monaster Aluinn eibhin Pass Achil Ruagh.
The beautiful joyful monastery of the stream of Red
Ruagh. Near it is Pól na mbea a hole in a rock at
the river foot. Crough Padraig in Mayo is visible
There St. Patrick threw his Backul into the Sea
and ~~there~~ there at the lower foot he found it again.



From a hill North of Bullyshanna. Called Sheegus, from which to the ^{right} of this sketched is seen. Enough. Shuckling in Mayo
The monument to the Right is. Beinn Bulbin. The peak is Beinn Whiskey? to left of it is Glen off is a cave. Called
Leaba Thiamuic in Glenine. The sea in front is the foot of Bullyshanna. Port na Seann & Port na Mairle

Oct 13. 72. One part in this small harbour is called Port na Sorn. The heaves part. Another mark is called Port na Marbh. The part of the dead. There they used to "cry the dead" upon the shore, after which the great funereal processions turned back while a few came on over the ferry with the corpse to intern it. The hills in the distance were named (see sketch opposite). In the distance on a low point called Mullagh Mór is the new house of Cooper the successor of Lt Palmerston. In Donegal over the bay is Slieve Donard where is a holy well and place of pilgrimage. In the hills to the left is a place called Deas na h-Éireann or Graidhne. "What an excellent thing it is to be a limner" said Mr. Hugh at last when he saw my sketch. He was a beardless round faced brown eyed strong man of about 50 or sixty, a genuine Irish Celt. He knew vaguely some few Irish traditions, he had heard old men sing the heroic ballads. Some of my quotations he had heard, others he had not so I believe him. Tyrone is Tir Eoghain Donegal is Contae dubh na gail. The County of the Black Protestants said Hugh with emphasis. He said I they were Danes in those times for there were no Protestants then. There were neither Protestants nor Catholics said Hugh. They lived by hunting in those times. Another old fellow told me how Donn Bascuin bade his sons choose a hound. He was to throw the pups against a wall, and the one that stuck was to be chosen. Give me time here and I could get traditions; but it is not easy to extract them.



Hills to the East of Glen Jff. towards Mearns. Hamletts River.

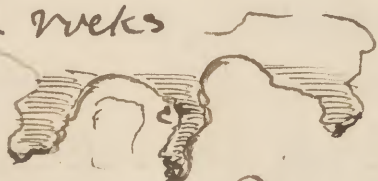


From "The Bridge" from the bridge.

Oct 14. Monday 1972 Got a car and drove 14 miles over the low country through Buncloven to the foot of the hills in the sketch P. 113. Stopped at a farm house where the farmer told me of a man who could read Irish. Took my book to him in a haystack in a bog and got him to read with difficulty. A place of the hill top is called "Sith". (? Gleann Sith) Left my book and walked up the road to the house of one Mac Gowan who is a kind of guide for the gentry who visit Leaba Dhiarmaid. With him walked 2 1/2 miles up Glen off towards a Barty's mine which is near the hill top. The ~~area~~^{stream} is sent down in a wire tramway, washed, picked & ground on the river side. This Glen is a very curious deep punchbowl carved out of nearly horizontal beds of limestone grits & sandstones with very steep sides. The horns of this and neighbouring glens are scarped and they are mere remnants of the denuded rocks.

The limestone table land on the top is carved into

1. Cave.



this kind of shape. The profiles are shown in the sketches



Profile P.M. 5.30 dusk -

5.30. P.M. after coming down from the top.

Oct 14. We turned out of the road and went up to the
 night over mossy ground with glacial clay & scratches of
 stones under it showing in places. at 1260 feet
 came to the Talus and a very steep grassy slope.
 About this height the rivulets end as river-grasses
 & turn into deltas from which I gather
 that the sea was up to this level as it was
 elsewhere in Ireland according to the mark.
 The glen all round is scored horizontally
 up to the cliffs whenever the rock is near the
 surface but in this case these scores
 correspond to the edges of beds.

at 315 feet above the mossy ground rested
1575 above Ballyshannon Bridge. after some queer
 climbing amongst limestone rocks at 675 feet
 above the moss 1935 feet came to the cave which
 is under the brow of the limestone cliff. Mac Gowan
 had a candle so we scrambled about amongst
 fallen stones and water-worn passages for about
 half an hour. The mouth of the cave is about
 50 feet high and a hundred wide. The roof is
 the bottom of a bed of limestone. hard & compact
 apparently Mercurian limestone. The travelling
 inside is very bad regular climbing in narrow
 rifts with hands & elbows & knees without
 a rest for the soles of the feet at times, crawling
 at other places, and nothing of interest beyond
 the fact of the existence of the cave and the
 tradition. Dearmaid slept here on sand; and
 down by the sea upon heather to deceive the
 other Giant who knew things by chewing his
 thumb. Bally the song of Dearmaid for her
 Mac Gowan who ejaculated "more power"
 and grinned extreme approval

Oct. 14 ate some bread & butter. & then climbed down some distance and edged along the base of the cliff northwards. Then we turned up and finally climbed out upon the hill top. The last step was rather queer climbing, and when we lay flat on the limestone and looked down it did not look a pleasant path to descend. The Barometre here gave about 2000 feet. From this point a great mass in the bottom was seen as on a map. It had the shape of a black glacier. Some years ago this mass fetched way in dry weather & slid into the water course. Water gathered behind the dam till there was enough to burst it & then down came a flood of pent & water fifteen feet high. Which killed tons & tons of Salmon so said MacGowan. It choked all the fish in the river.

We now walked along a limestone plateau northwards. It is channelled & weathered into the usual well known shape, and bored by stump holes into which sheep often tumble and get lost. The edges are overgrown with wild hyacinths. Further on we came to a regular wet peat bog with pools of water in it upon a narrow ridge not two hundred yards wide. Then we got up the peak on a carpet of thick hyacinths from which this may well be called blue when the flowers are out. I got out to the edge and looked over and saw that this strange peak is fairly quarried out, for the beds at the cliff edge are nearly horizontal. A strong gusty wind was blowing towards the cliff so I did not stand up. Peaks are in the sky. Scrambled down the slope as the

October 14 was closing in, and near the houses turning and made an outline. The perspective makes the hill seem steeper than it is but it is steep enough in reality. Gave my guide a crown & walked down to the farm house where the worthy woman expatiated upon my "corpulence" and marvelled at my ability to walk. She was exceedingly doughy & crumbly herself. Her son tried to make me drink lots of whisky but failed. Got back in about two hours in a cold wind, & found that even my coat was wet to the outside.

The hills are steeper than they ever were but I am glad to be able to climb 2000 feet and walk about 8 miles, and get home without feeling tired. I was exceedingly blown two or three times, but in July I was ten times worse climbing Bere Island. (Page 22)

Thursday Oct 15 1872. Wrote up log, and worked at the map. Yesterday looking up the bay the only opening in the hills was Barnes Gap a narrow pass through which I mean to travel to Derry. A northern current could not come this way from Loch Foyle. It would have to come in by the Valley of the Ban, and run as it did to Armagh, and turn round by Loch Erne, and so it did as it appears. There is no sign of a current from Donegal into Loch Erne. There is no drift that I could identify with Metamorphic rocks in Glen Ife, and no drift of any kind

out 13' upon the hill tops. My guide who has his
wits about him had never noticed any
large stones upon the tops, & I could see
none in any direction.

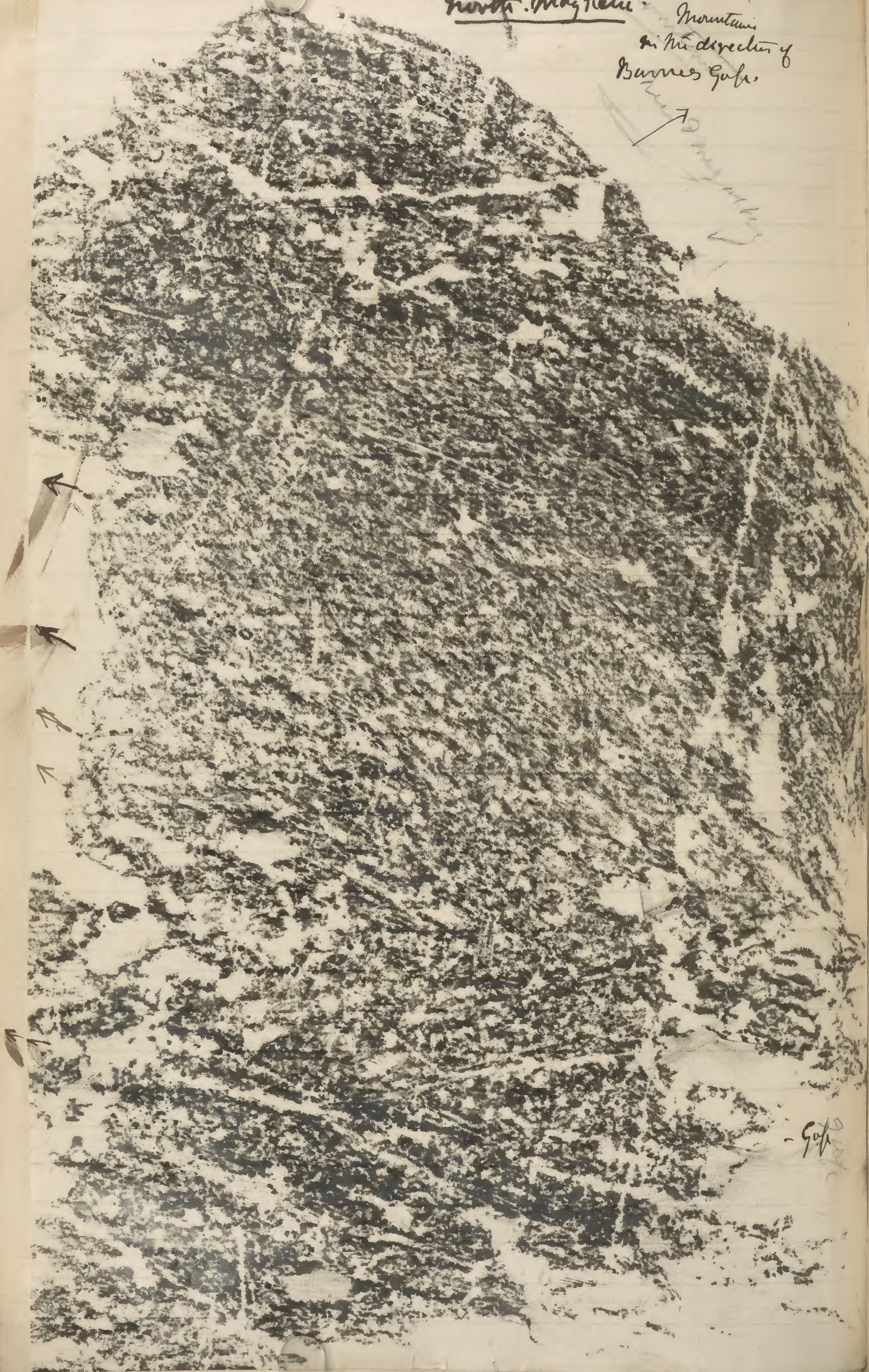
My conclusion is that Donegal Bay was
a great estuary of local glaciers which
moved seawards out of the amphitheatre
into which I looked yesterday.

As for Tradition. There is little of it left but
this place suits the descriptions in songs
which mention Cas Ruach. Better than
any place I know. Here is the famous
Salmon River about which there must be
legends. Here is "the hill with the beak"
Beinn Gulbin (Bulbin) "She" is above the
remarkable cave in which Diarmaid
is said to have hid, and the country
must have been famous hunting ground
when forests grew by Loch Erne.
As at present advised I think that these
old & erian songs, must have been
composed here abouts where the
kings of Lochan did land from the
west and where the country is called
"The black country of the stranger".

Worked till one and then made up
traps for a start. Income tax Commissioners
and Commercial quagers and such like
coming and going. The Noah's ark of
yesterday evening brought Rain as I
expected. Barometer fell about three
tenths. 270 feet to be considered in
my heights of yesterday.


North. Magnet.

Mountain
in the direction of
Baynes Gable.



Oct 15 From Ballyshannon to Donegal the road passes over a series of long ridges of glacial stuff resting upon Limestone. Near Ballintua got a rubbing near a house. The direction corresponds to the trend of the ridges about West into the bay. As I judged from the shape of the country this was a great estuary of enormous local glaciers.

Looked at an old ruined abbey which lies cut in the place where the Annals of the Four Masters were written. At Donegal went to the door of O'Donnells castle which is a fine ruin. Wandered up to a hill in the dusk and talked to some old fellows breaking stones in a quarry. One knew part of the story of Diarmaid & said that Deuba Diarmaid was up in his country about Glenties distant six or seven miles East. Tried Gaelic and got a dark eyed native to speak. I understood him, & he with difficulty understood me. Many old men used to sing the Fenian lays, a few do still. Tradition is very broken here but it exists. A Piper was playing exceedingly well in the street at night. The highest point in the 14 miles was 180 feet at most. That is about the height of the ridges which are the most marked yet seen in Ireland for number shape and extent.

October 16. Drove with a jibbing horse down the coast to
 Killybegs. Fine warm sun, cold wind and showers.
 at Mount Charles went to the top of a hill 450 feet
 above the sea. at 10.45 a.m. This is a magnificent
 Panorama. NE is a gap with apparent sea
 cliffs in it.  In this direction
 is the low country about the head of Lough Swilly which
 I crossed last time. E is Banness Gap.

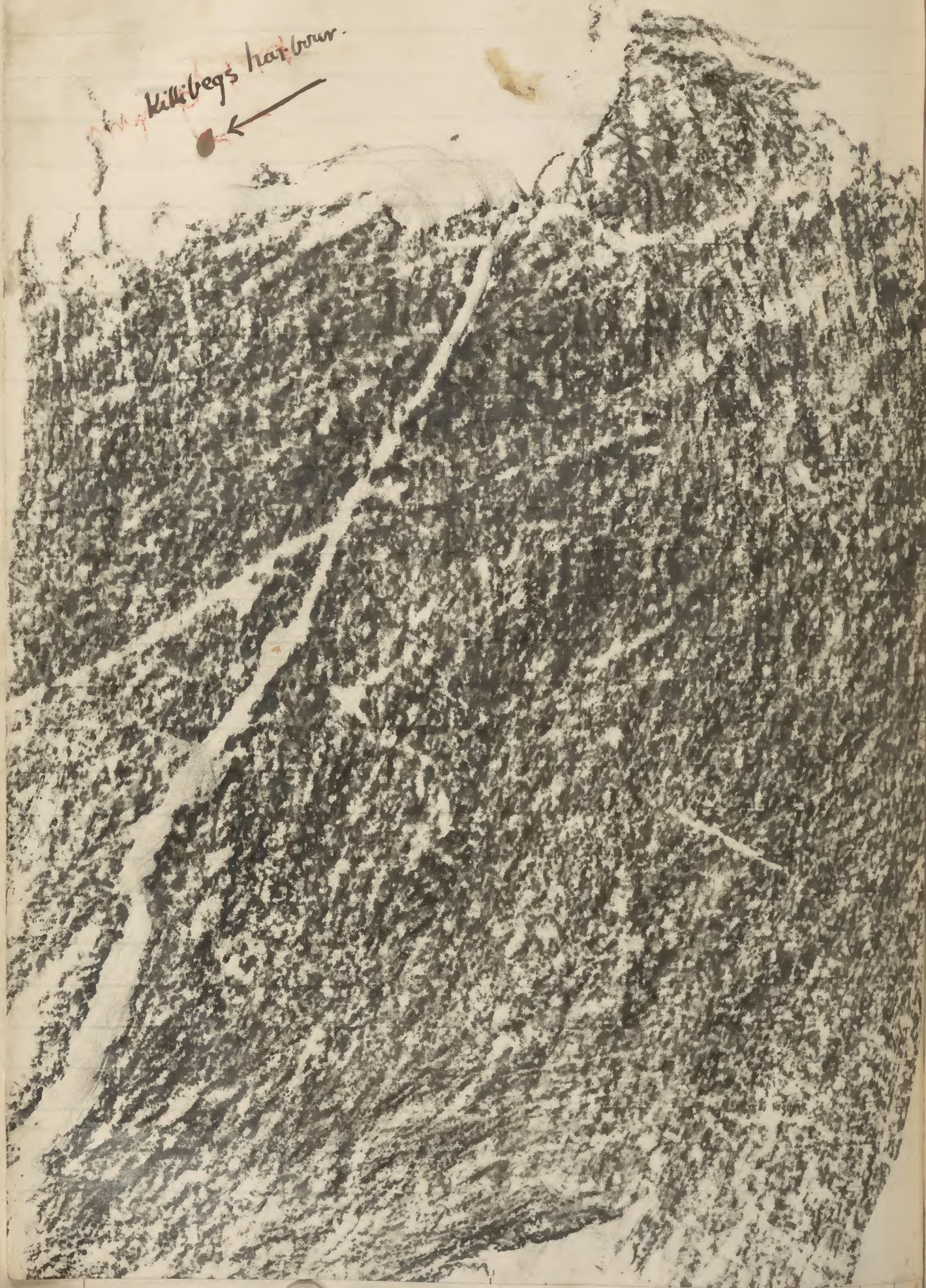
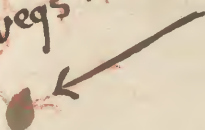


Banness Gap looking to Derry

To the right of this gap. SE is the hill shoulder about
 Omagh. about S by E in the extreme distance is a
 range of high ground. beyond the Sligo hill range
 which is somewhat above Loch Allen & little Loch Erne
~~But~~ SW is Beinn Bulbin. W. Slieve Fhuaid or some
 such name the ridge which comes in behind Killybegs.
 at a high level the way is open from N to S. from
 Lough Swilly into Donegal Bay. at a low level from
 NE to SW. But within the horseshoe Antrim-Meath
 hills. the whole country is made of clay hills
 ridges converging upon the bay, and stretching out
 into it in long ^{low} points. This all the way from
 the foot of Beinn Bulbin. The bearing of the
 Mount Charles is S. N. Beyond this are
 lots of glacial stuff in river courses with a
 direction parallel to the Rivers themselves

N magnetic. 25. West.

Killbegs harbour.

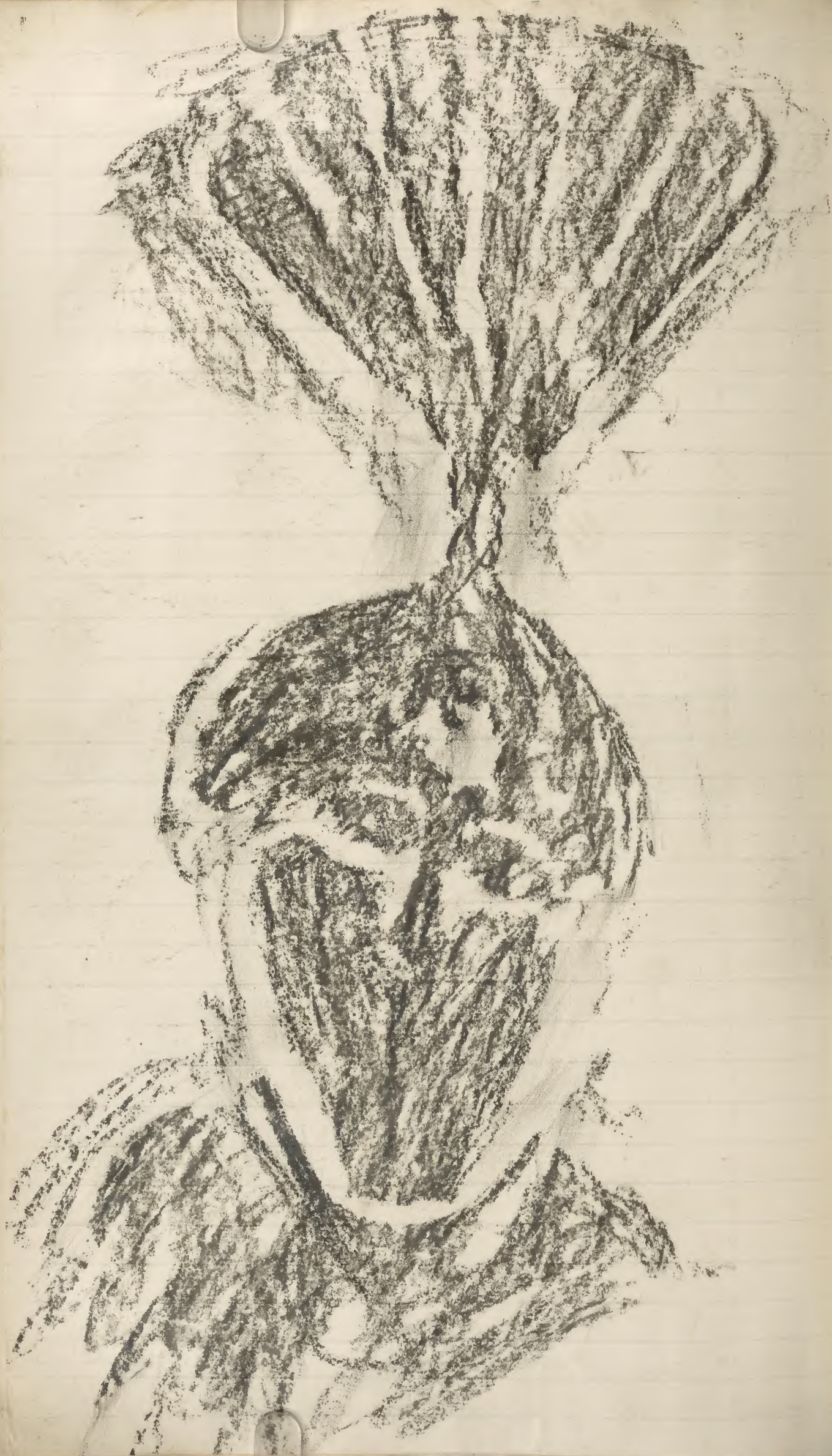


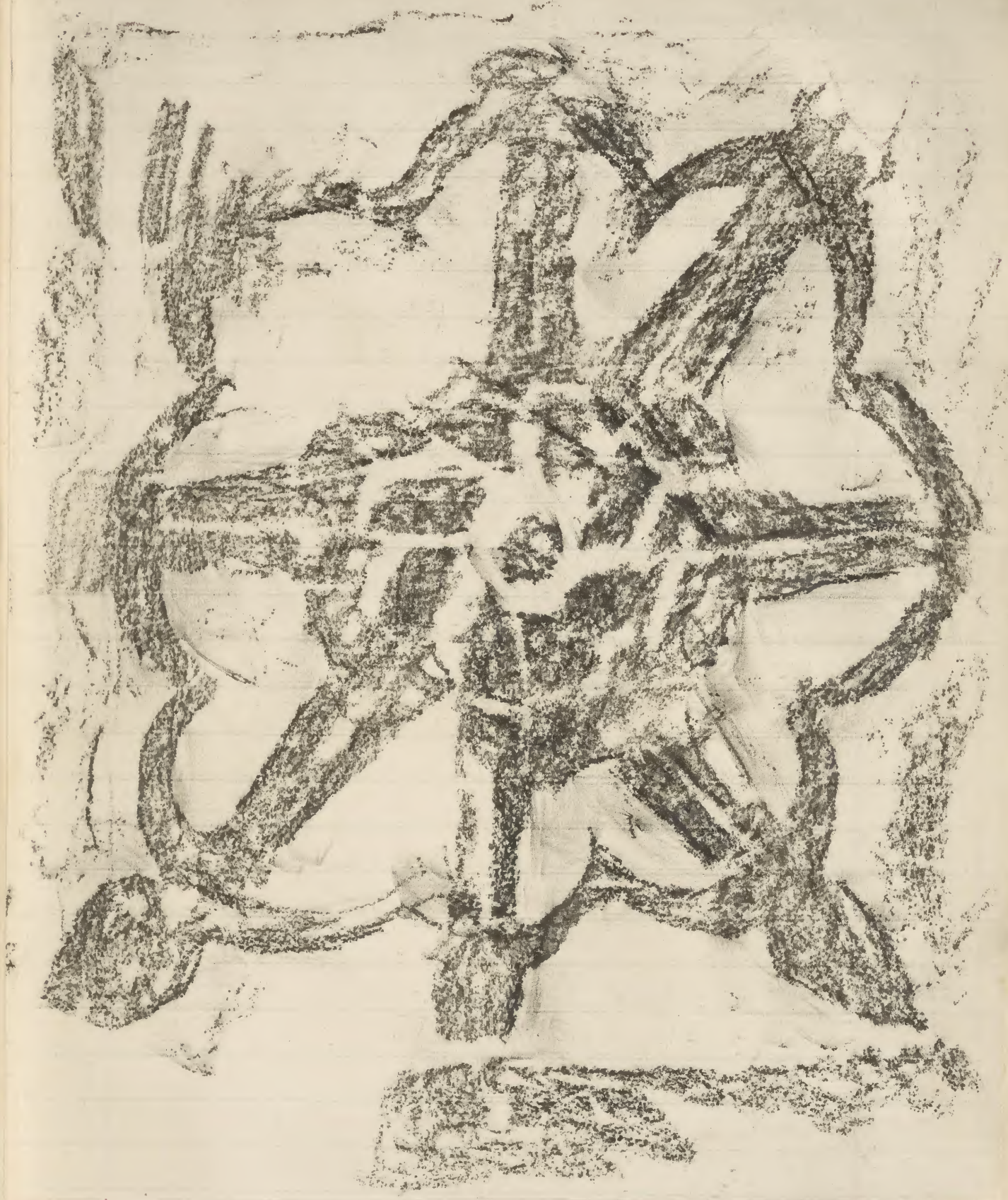
At Killybegs. Discussed a worthy Priest who
 told me to look at Mac Swynes Stone in his
 church. Did so and took a coupley rubbings.
 The chief has a short shirt, a battleaxe and
 a sword, on his head a plumed helmet.
 The stone is like the Limer stones.

Took a rubbing from a Rock Behnoid
 below the church. The surface is perfect
 and the direction out of the heavens even
 a low point. Got into the car &
 drove by car up and down road. At Clapham

is a wonderful Meresme which is marked upon the
 ordnance with map. It is a surface Meresme of
 many ridges of enormous angular blocks.

Got down to Carrick & saw a small boy kicking
 over by a pool. The woman poured holy
 water on his head. The landlord said that
 the boy was dead. Then he said that he would
 die and stuck to that. I felt his pulse & said
 he would be all right again soon. The doctor
 came & prescribed whey. The boy was taken
 home & put to bed. Vomited a lot of blood
 and on Friday he was at school again.
 Not much the worse of his kick &
 "wandering up" Got Page 125.

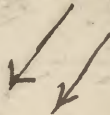




From Mac Dwyer's stone in the church at Kellibegg
October 16. 1872.

North magnetic.

Vertical Dip and Strike



Towards
Peelie Harbour
and a large
medial moraine

North Magnetic.

Very coarse gray gneiss

123

with veins of Quartz

Strike vertical dip.



Very finely
glaciated

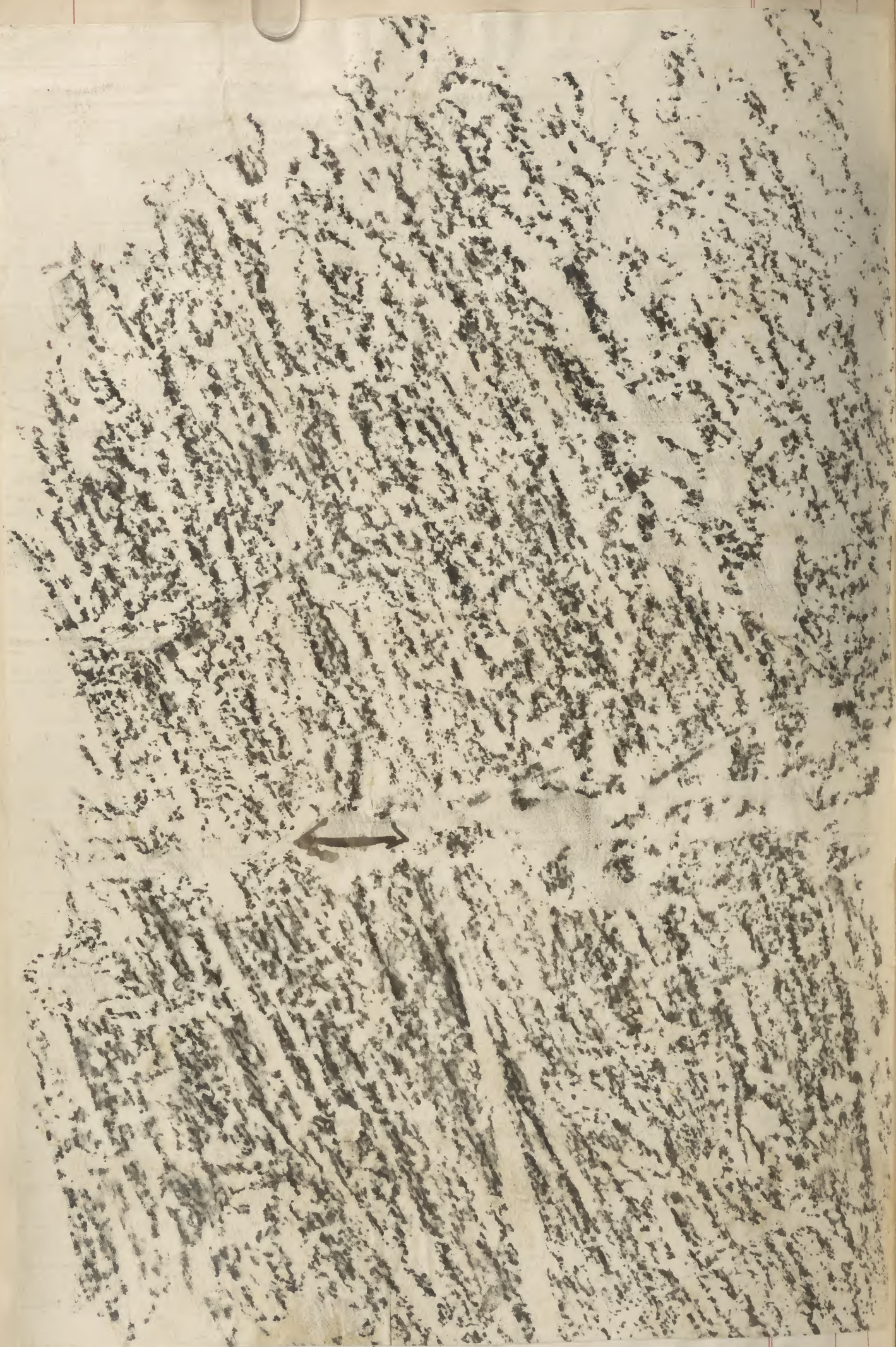
towards Peeling
Harbour.

In the Valley of
"Owen's River"

omhau bhuidhe
yellow R.

below the
shorting ledge

Three miles lower down, at the entrance to Peeling Harbour.
This same glacier. went up over a ridge near the
New Preventive Station, and went out seawards,
towards Maligha, and Clew Bay in Connought.



Glacier Ice going up hill at the end of Peeling Harbour.
Fridley ~~Oct 11~~ 1872. The outer side of the same ridge is
a sea cliff.



Very hard, bedded, metamorphic, contorted, quartz rocks, with
 Puddingstones and Pebble beds, and a few dykes. Section
 about 2000 feet high. Rubbing taken from the undercutting
 of the sea at the edge of a beach of very hard pebbles of
 white and light coloured stones. Friday. Oct 11. 1872



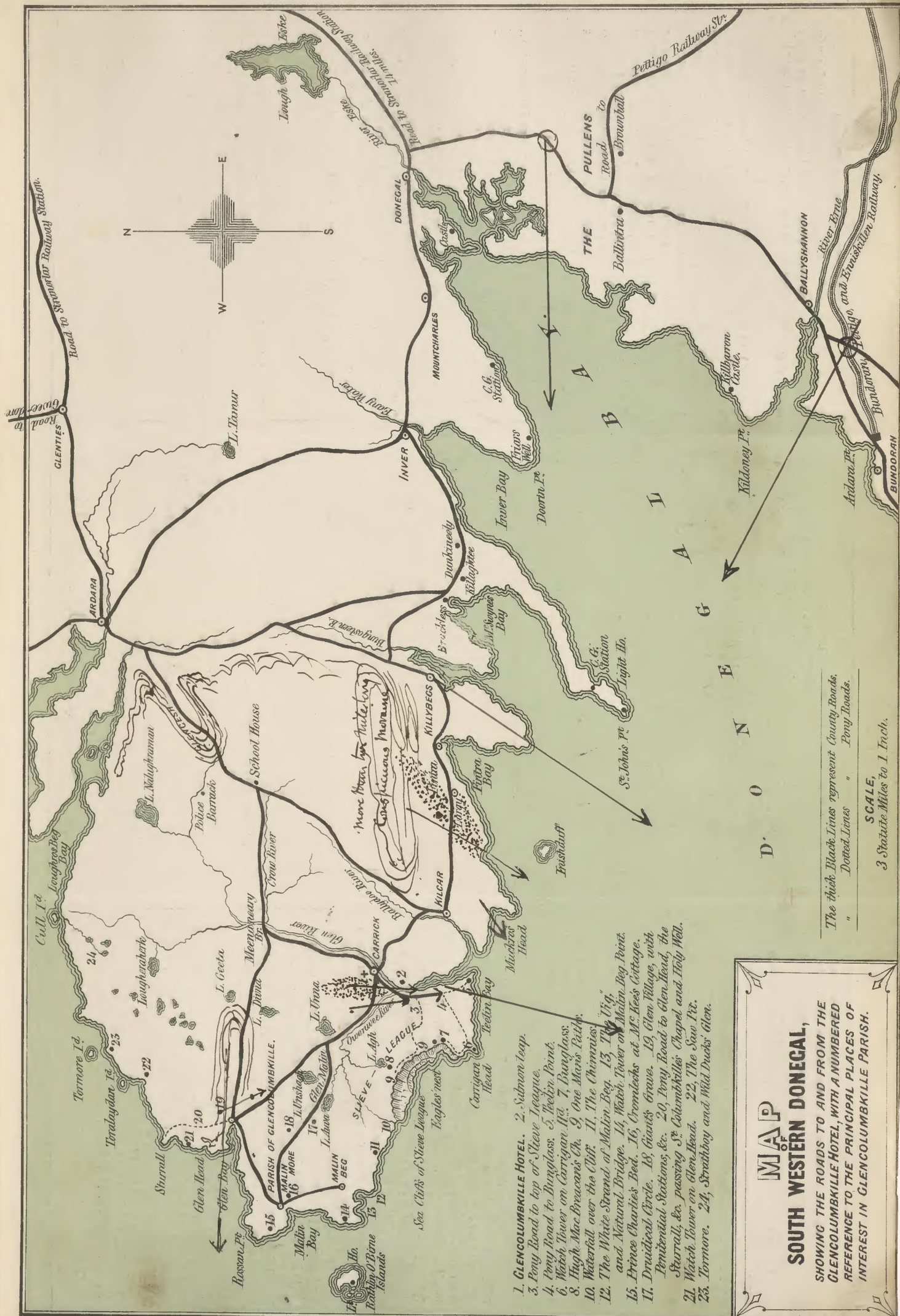
Murphy Oct 10

1872.

Sea cliffs Shabh liag.



Contours beds in the face of the Escarpment at
the cliffs of Elie's Liag. from the boat. Oct. 11
1872. General dip SW. but, dipping all ways
at places. in the cliffs which are about
2000 feet high. and extend about 6 miles
from Teelin Harbour to Malin Beg.



The thick Black Lines represent County Roads.
 " Dotted Lines " Pony Roads.

*SCALE,
3 Statute Miles to 1 Inch.*

ARRANGEMENT OF EXCURSIONS.

The Visitor is referred for a detailed account of the SCENERY OF GLENOLUMBKILLE PARISH to the Guide Books, which can be had at the Hotel. The following notes, however, with the assistance of the accompanying Map, may be of use in arranging the most convenient Excursion for each day:—

FIRST EXCURSION.

Drive or walk from the Hotel to the Bunglass Road (2 miles) thence walk (or take pony) to Bunglass, stopping by the way at Carrigan Head. After lunching at Bunglass, proceed up the mountain to the lower "one man's path," and return. This is the greatest distance you should go if ladies are of your party.

SECOND EXCURSION.

Drive or walk from the Hotel to the Slieve League Road (2 miles), then take pony (or walk) to the ruins of Hugh McBreacan's Church, on the top of Slieve League Mountain; from this follow the cliffs, by way of the upper "one man's path," as far as "the chimnies," and return.

THIRD EXCURSION.

Drive to Malinmore (6 miles), and on the left of the road, where it begins to descend into Glen Malin, notice a circle of Druidical remains, described by the late Dr. Petrie; further on (upon the right of the road) there is a giant's grave. At Malinmore, visit Prince Charlie's bed, as well as a number of Cromlechs on Robert McKee's farm; from Malinmore drive on to Malinbeg (3 miles), visit the White Strand, the Uie, the Natural Bridge, and the Signal Tower, returning to Malinmore for luncheon, after which drive round by the sea to Glen Village; if time permit examine the Ancient Crosses, and return by direct road to Carrick (6 miles).

[The drive from Malinmore to Glen is one of the finest in the district, but to accomplish all in one day you will require to make an early start.]

(Excursions continued on Third Column.)

THE GLENOLUMBKILLE GUIDE, Carrick, Co. Donegal, Ireland.

ROBERT BLAIN begs respectfully to intimate that he has obtained a Lease of the above Hotel, and that he and his wife will give their earnest attention to the comfort of those ladies and gentlemen who may visit the house.

The Hotel is quite new and furnished in modern style. It is situated at the base of the celebrated "Slieve League," and in the centre of the most striking scenery of South-West Donegal. The immediate neighbourhood is most interesting, not only from the grandeur of the scenery, but as the site of the Monastery and former residence of St. Columbkille, and possessing many attractions for the Geologist, Botanist, or Artist.

THERE IS GOOD ANCHORAGE FOR YACHTS IN TEELIN BAY, NEAR THE HOTEL.

SALMON & TROUT FISHING IN THE OWENWEE & GLEN RIVERS. Within a few minutes' walk of the house. Free to Visitors at the Hotel.

GOOD SEA-BATHING WITHIN THREE MILES.

Letters from London, Dublin, or Belfast, are delivered the following day.

The accompanying Map will be of service to gentlemen approaching or leaving Carrick.

Enquiries to Mr. Blain, addressed as above shall have immediate attention.

TABLET

Beds, per day,	1/6 & 2/-
Private Sitting-Room, per day,	3/-
Breakfast—Plain,	1/6
Do. With Boiled Eggs and Meat,	2/-
Luncheon,	1/-
Dinner—Plain,	2/-
Do. With Soup, or Fish, and Pudding,	2/6
Tea—Plain,	1/-
Do. With Meat,	1/6

There is a spacious Office-Room and a Sitting-Room for Ladies.

Choice Wines, as per list.

French Brandy.

Old Irish and Scotch Whiskey.

Burton Ale and Guinness' Porter.

Cars, Ponies, Boats, and Guides will be provided when ordered.

FOURTH EXCURSION.

Drive direct to Glen Village (6 miles), visit the Penitential Stations, cross the head of the bay at the stepping stones, and ascend Glen Head (on pony or on foot) by the road which leads past St. Columbkille's Chapel and Bed, and Holy Well; here one of the curious "healing stones" is frequently to be seen. From Glen Head go on to "The Sturrell," the "Saw Pit" and "Tormore" and return to Carrick. [The scenery further on, close to Strathbeg, is very fine, but few feel able to go so far in one day.]

FIFTH EXCURSION.

[WHICH SHOULD NOT BE OMITTED IF THE WEATHER BE AT ALL SUITABLE.]

Drive to Teelin Point (3 miles), and go round the Cliffs of Slieve League, by boat as far as the Waterfall, or to the White Strand of Malinbeg, stopping at the Caves—particularly the Great Cave—where seals are often met with, then back by boat to Teelin Bay, or land at Malinbeg Port, and back by car to Carrick.

If the Visitor has leisure, he can spend a few days very pleasantly in botanising, or gathering geological specimens, which abound in the district. The rivers and lakes afford good salmon and trout fishing. He can also take short excursions to Muckross Head and Caves, or follow the Glen River as far as Meeneneary Bridge, or further on to the beautiful Valley of Glengesh.

TABLE OF DISTANCES.

Assuming that you approach by the Finn Valley Railway to Stranorlar or by the Bundoran Railway to Pettigo or Ballyshannon, the following are the distances from the Glencolumbkille Hotel, Carrick, arriving:—

Stranorlar Railway Station—14 miles from Donegal and 37 from Carrick.
Donegal Town—14 miles from Carrick.
Killybegs—9 miles from Carrick.
Ballyshannon Railway Station—11 miles from Donegal and 36 from Carrick. (Pettigo Railway Station is more direct, if you don't wish to visit Ballyshannon.)

Departing from Carrick:—

Glengesh—9 miles from Carrick.
Ardara—3 miles from Glengesh and 12 from Carrick.
Glenties—5 miles from Ardara and 17 from Carrick.
Stranorlar Railway Station (if you don't wish to continue through North Donegal)—about 18 miles from Glenties and 36 from Carrick.
Dunglow (for Gweedore Hotel)—16 miles from Glenties and 37 from Carrick.

Gweedore Hotel (the proper route for visiting Horn Head and North Donegal)—12 miles from Dunglow and 49 from Carrick.

Posting Charges, by Private Cars:—

1 person, 6d per Irish mile—2 to 4 persons, 8d per mile.
Tandem—1s. per mile.

October 17. 1972. Thursday. Got one Penny Cunningham as guide, and guided him northwards to a moraine which nobody seems to have noticed. Took him next to the quarry beside the moraine where I got the Rubbing P. 123. Then pointed to the north end of the hill and bade the guide lead me up the river a bit, and then to the hill side. He took me to a big rock in the Yellow River (over we ~~at~~ ~~some~~ ~~here~~). Then I crossed and found a man digging tails. Discussed him and presently got him to chant the Song of the Great Woman. I asked the man to come to the house to try and write his song but he refused. ~~He said~~ ~~at~~ ~~he~~ has been crazy and does not drink whisky, & his family have the fever. He seemed to be a sensible man and he understood my Golic. I understood his. Here I dropped my Pedometer. A boy found it. By that time I had promised a reward for the pedometer. When the boy got it he gave a great gasp of joy & fled out of the hotel.

We now skirted up the hillside for a gap which I had marked. There is a lime quarry. Thence we could see a long way, but no signs of glaciation could I discover on the north end of this hill except the general shape of it. Above the quarry is a steep hillside hard ground & easy walking. At the top of the slope came to a level plain of loose stones which seemed all to belong to the hill and to have been under the heat bag of which part was left on the hill top. In the distance before us I saw piles of stones and thither we

ARRANGEMENT OF EXCURSIONS.

HOMER'S HILLS. These respectively to the north and south of the river are the hills of the river and the hills of the river.

The hills of the river are the hills of the river and the hills of the river. The hills of the river are the hills of the river and the hills of the river.

1771
The first of the year was a very dry one, and the
winter was very cold. The snow was very deep,
and the wind was very strong. The people were
very much distressed, and many of them died.
The spring was very dry, and the crops were
very much damaged. The summer was very hot,
and the people were very much distressed. The
autumn was very dry, and the crops were very
much damaged. The winter was very cold, and
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1772

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winter was very cold. The snow was very deep,
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autumn was very dry, and the crops were very
much damaged. The winter was very cold, and
the people were very much distressed.

Oct 17/1872 Steved. We came upon an old church.
 Said to be the church of Hugh Mac Brightna. a
 persecuted saint. The church is in ruins of
 course. It lies E & W as usual & has a
 cross place to the E end. It is about 1850
 feet above the sea according to my measure.
 There is a holy well beside the church, a
 dwelling place and the saints look out
 He sat in a covered seat like a gray
 hair porter's chair, read his book and
 looked out for his enemy along the hills to
 the way we came. Close to the church
 on the north side, five cliffs above a lake.
 The rock is pudding stone with the strata
 for St John's Point and the Valley of
 Loch Ene about S E. The same as the
 strike in the glen & near the house at
 Carrick. Great stacks of these stones are
 built all about this station. By the saint's counsel
 to reach the guide.

Here I resolved to turn as I could find the
 glacial stone. You may as well take a look
 at the sea side first. Carely & so we
 went on. We got to the verge of a verge
 of sea cliffs about the first. I have ever
 looked down from. 1972 feet is the
 highest point in the entrance inch mark. The
 sun shone brightly and made the sea it was
 calm and pleasant. I dangled my legs
 over the edge & lay there & I meditated &
 gazed and cogitated and basked and
 most thoroughly did I enjoy myself.
 for a long time. at last made the outline P. 824
 as a short hand note. Presently a man

Oct 17 1972. driving a couple of lean sheep, passed below with his bare feet tripping amongst the rocks and heather. His son a small boy with bright eyes toddled along the top, & passed us to go over a ridge which is called the one man's path. "But not the difficult one". said Candy. When the sheep drivers had driven their flock down to some ferny ground at the top of a sea cliff far below our feet, they came back, & we went Eastwards along the ridge. This we got to the one man's path which the lion of this place. & what the use of going over there? said I. "just to say that you did it" said Candy. Made a mental protest against myself for an old fool, and bade Candy go on.



and so we went down. The rock is about 18 inches wide at the top, hard granite rock with good holding. To the right is a steep pent house cliff which ends in a talus which ends in a cliff which ends in the sea about 1500 feet down. To the left is the same white pent house ending in heather and fallen rocks and a steep hill side and a burn and a ferny path.

Thus far had we come from the end of the

Down to work our necks, and then
to work our legs in screwing down the
with the side to the butt & the hatch.

We did it and any body who can
ride along the top of a stone wall
might do it. But it is a queer place
to look down from. That is sure.

We walked back by the gutter talking to
every body we met in Irish. Some
understood all I said some did not
at first, all ended by understanding
me while I understood all they
said or nearly. Got in about 6.

after a very pleasant quiet scramble
for less time than I was afraid I
could. Looking up the Murren I said
"Are there any fairs about here Candy?
Not for the last 25 years" said Candy, "but
I used to see lights up there thick, & hear
the sound of the fun going on. I used
to see the lights over Yonder at another
place and further off at a third
place but I have seen none for 25 years."

15 years ago Candy came home from
America where he was a linen
peddler. He walked over most of the
States, got fever & ague, and came
home to his native place.

[Faint, illegible handwriting, likely bleed-through from the reverse side of the page.]

October 18. 1872. Friday. I saw two travellers for a boat expedition. Walked three miles to Peel in Harbour. There the ice from the glen went up a ridge and over it into the sea, as there was not room for the whole of it in the narrow opening of the bay. See rubbing P. 123. - We got into a boat with four young rowers and an old steerer. Canoe and three travellers. and set a rickety sail to begin with. As I expected the ^{North} wind fell over the cliffs in heavy squalls & gusts and lulled to dead calm, so the sail came down & the rowers rowed. I spoke Gaelic and after a few minutes we conversed. While phrases were exactly Scotch Gaelic then came an Irish form or two instead of cha and a letter eclipsed instead of aspirated, an accent in a different part of a word, a diphthong or a vowel with a different value. occasionally came a word which is not in my vocabulary. The rocks are magnificent and the geological section very fine. The beds of hard brittle sand granite rock, bend and curved and arch and fold like groups of twisting snakes. see p. 125. for a line down as we passed a cliff many hundreds of feet high. at the foot of the cliff are a few beaches of white glistening pebbles, which have undermined and undercut the hard rock. (S P. 124 for a rubbing of the surface which contrasts with the glacial marks on the landward side. We landed on the beach and lunched. Then we rowed on and into several caves of which one went far beyond daylight. as far as we could

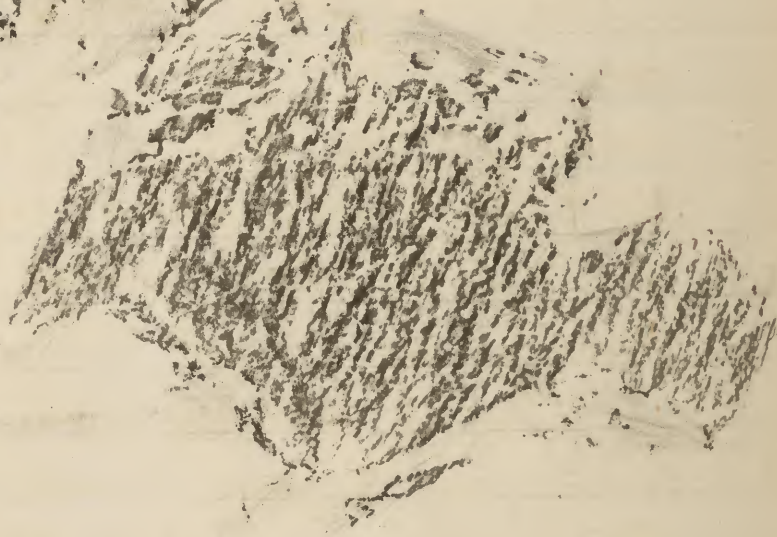
Oct 18. we rowed, and then we lay on our oars and rocked on the swell, and heard the sea breaking far in. There is a beach the size of the far end, but nobody has ever gone to the end of this curious sea cave. Orange sea anemones hang in clusters open just above low water. I never saw them in that state before, and suspect a new species. The men talked of stone falling beside them from the cliff, and of adventures while hauling stray sheep with ropes in the cliffs. The place where a man fell from near one man's hut was shown. He went after sheep on Sunday missed his footing somehow near a huge stone and fell down over a thousand feet in a place where two water courses meet. "They got ropes and gathered him up" was he dead? said a traveller. Hush! ah to bits said the man. We saw women climbing up strange steep faces down which they had scrambled after dulse. I suspect that our crew were all brewers & Poles by their faces when I asked if this was the cave where the Poles is made.

Got home by dark and dined by 6 1/2. The people for the last two days have been busy saving their hay, and they were at it great part of the night as they saw change in the sky. My glass felt it and fell a tenth. The rain began about ten, and the glass went down half an inch.

North magnetic

Crough beg. 864 feet

Saturday October 19 1872. From the Inceclinstone on the
hill above Cloghan Marraire. aim at Ballynac. in 5650
Matrix weathered.



Oct 19. 1872. Heavy rain and a gale of SW wind.
 wrote up log and *Quartus* in rubbery. — ~~6~~ ⁶
 at 12 as it was clear started back to
 Clogher where is the big moraine to look
 at the rocks.

From a hill about 700 feet high above the
 big moraine and holywell, the whole coast
 of the Bay, and the amphitheatre of hills
 could be seen from Banness gap to
 Boon Bulbin & Crough Bluelva & out
 at the end of Mayo. All the low lands
 seemed to be glaciated ice grooves
 parallel to St John's point and other
 points of less length. At this point the
 ice came from the back of Crough na
 Rathed and went down wards along
 the hill face diagonally into the bay.

The other side of this stream must have
 been on the other side of the bay.

were it not so the ice must have run
 down hill. It went right off towards
 the low lands about Lough Carr &
 Ballynec and Mayo dropping an
 Island of stones upon a low rock outside
 and at some time or other it dropped
 the moraine. After the morning's rain the
 distant hills were clearly seen, after
 taking the mists, the ice could be felt
 in from imagination. In the moraine
 are at least six large ridges, parallel
 to each other, and to the glacial stroke
 upon the hill, and to St John's point
 Some of the stones shot over the ends
 of the ridges are as big as small houses

Nov 10

Saturday October 19. 1872. From the summit of the prehistoric stone
on the hill above Cloughmore. about 750 feet high
see morning seawards in a Doregal bay aiming at
the low lands about Bully na in Sligo.



Oct 19. I had no time to examine the stones but I suspect that these six ridges represent six glacier streams from as many glens.

The ridge on which I had got is made of a very coarse conglomerate of very hard quartz pebbles in a hard matrix. They are like the rocks at Red Bay, and Rocks in Arran which are "Old Red Sandstone". The ice has polished the whole ridge as a piece of stone table is polished, so that I got rubbings from the pebbles ground half away, and from the matrix at the places the matrix has gone leaving the pebbles. The look as if they might be kicked away or washed by the rain but it bent me to knock them out with a heavy stone. At other places the matrix has disappeared and the pebbles are left sticking free as they would before this ancient rock was made. I could see no signs of a former glacial period in these beds. They looked like water worn stones -

Leaving the moraine we drove round Inveross Road, a wild place peopled by the wildest looking Irish men I have seen. Some were exceedingly good looking others sour scowling looking fellows who did not respond to my remarks but looked scared and ready for a start. If there be land level shorters in hiding anywhere about I should think that there might be of that class. - Drove back over the hills as we went out by Killybeg, and

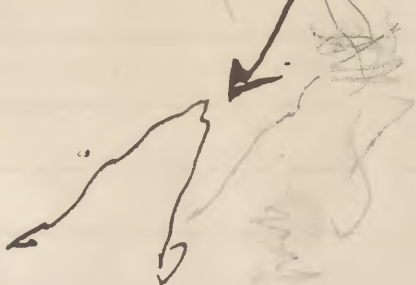
North magnetic



630 feet above the sea on white
ancient vein stone in green to the north of
the road to Glen Columcille. Sunday Oct 20
1872

630 feet above the sea on white
ancient vein stone in green to the north of
the road to Glen Columcille. Sunday Oct 20
1872

Talishan.



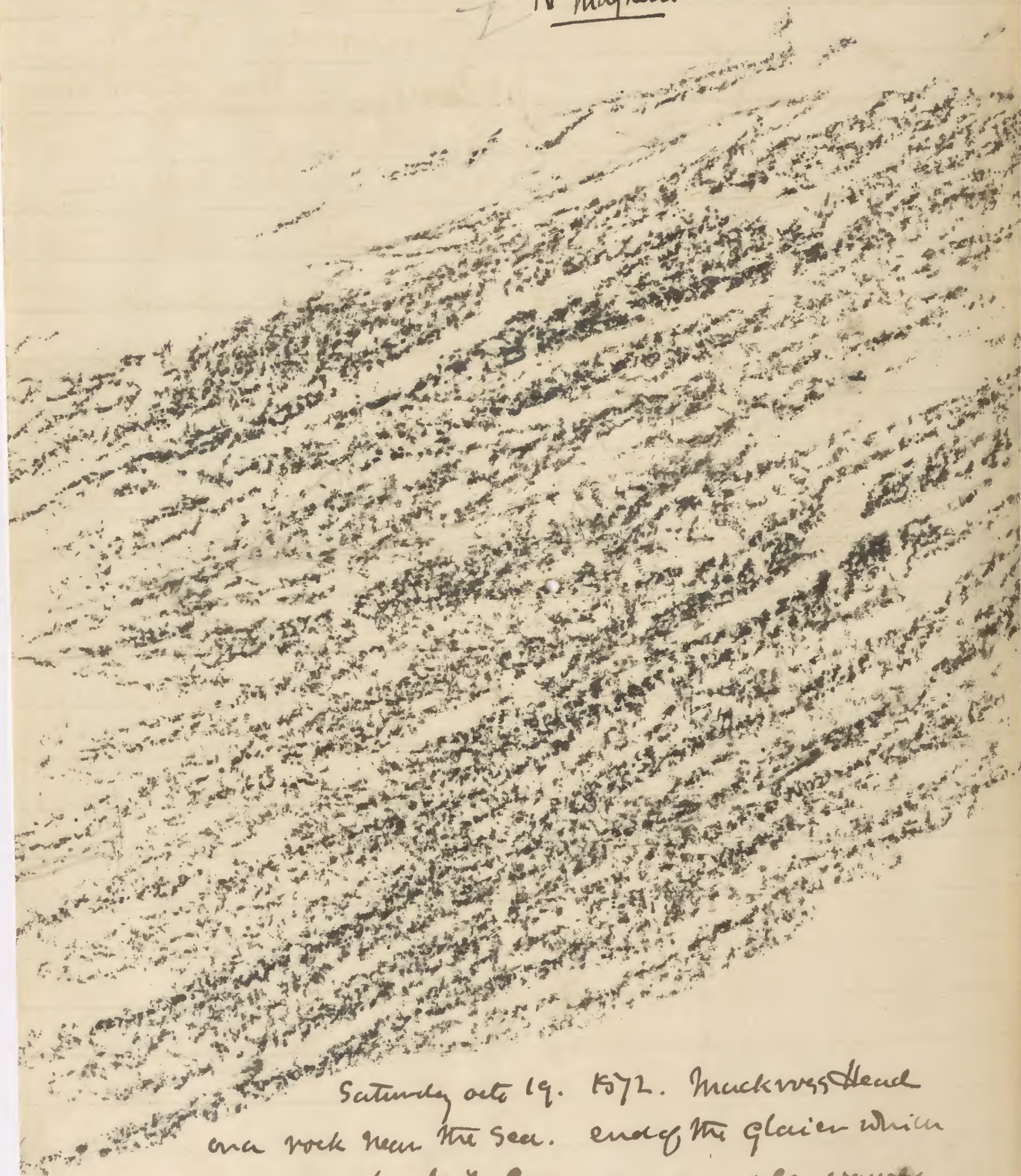
152

August 11



Received of Mr. J. H. [illegible]
the sum of [illegible] [illegible]
for [illegible] [illegible]

N Magnetu.



Saturday Oct 19. 1872. Muckness Head
on a rock near the sea. end of the glacier which
came down by Kells Carr. and went seawards
into Doregal Bay.

~~only~~ found many scratcher rocks on the tops & in the hollows. The whole of this country was covered by vast fields of ice, and I am now certain that it was land ice.

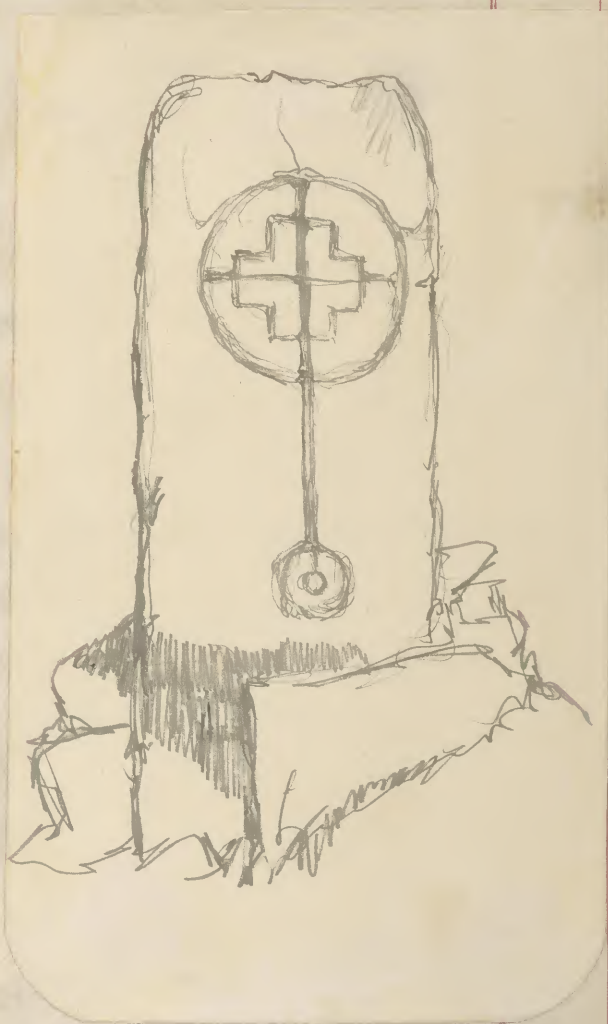
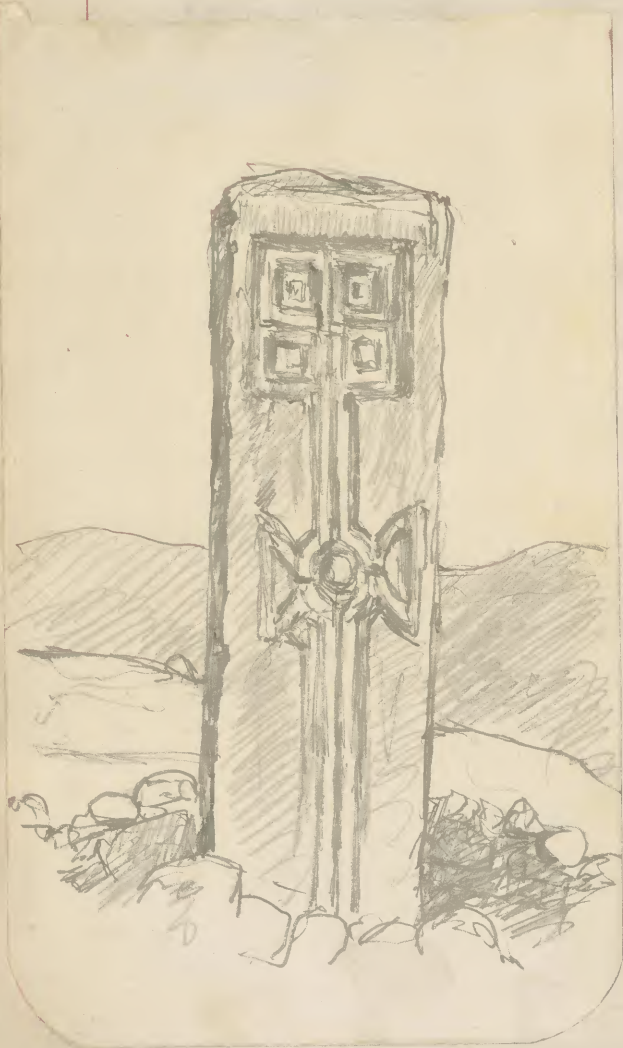
It followed the hollows, forked at the back of high hills joined at the tail of long ridges went up small ascents and generally followed the ground which it shaped as it went. A nice ground slip is

a miniature of Donegal, which is a miniature of Ireland, which I now believe to be a sample of all the glaciation which I have seen.

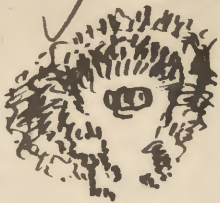
The next point to be made is the North East corner of Donegal and the highest hills there on the back of Inverowen. Rain falling in heavy showers while I write.

Sunday 20. Fine morning. Drove over the hills to Glencolumbkille to church. On the watershed 630 feet above the sea, on a granite vein found ice marks N.W. & S.E. crossing all the glens and ridges, and a puzzle. A little further on the road goes down a steep hill into an U glen in which the marks go out to sea Westwards. After church sketched three crosses. At one an old woman was going round "the station" which is by way of "a Calvary". She stood facing the stone, said her prayer & then walked three round it Sunwise. Then off she set for the next station Duffport.

There was something weird & strange in this ceremony when one thinks that it was Celtic of old, and that Brahmuis to consecrate



Oct 26 72. These places of sacrifice. One of these stones
is surrounded by an oval cairn with an opening
to the west
one of



It is the very shape of
the silver idols which

I have at home.

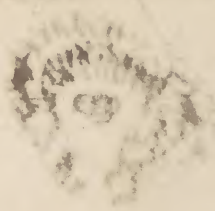
The meaning of that opening.
Another stone has a hole through it. St. Columba
used to look through the hole and see Heaven.

The faithful here assert that they also have
seen Heaven through this holy stone. Women rub
themselves against it. Especially women with
child. So they do in India with holy stones.

The clergyman said that his son in law had
just returned from India & told him so. I
have often been told of it. Another holy pillar
is in the Protestant Church yard. It is sculptured
rudely. Another holy place is a cairn of great
stones with bushes growing on it on which hang
rags, as they do all the way to the far East.

A holy well is in the circuit. Near the
cairn is an underground chamber of great
flags which Dr. Petrie opened and examined.
He told the clergyman that it was the tomb of
an ancient chief. Perhaps ten thousand
years old. Near that is part of a ruined
building, but that is not holy. Said Mr.
Cot. I drove home by Malin Mon. got out

at "The Giants grave" Two large stones
set north and south in line with the
tops of two high hills are 32 yards apart
I thought that Solar worship might have
something to do with all these pillars &
that the towns made sunwise about
some of them may be a Pagan ceremony



Octo

Ther

Oct 20. Tried to get a story about these stories but failed utterly. Found the Landlord Mr. Blane getting at his lonely life. His wife is away & he spends out. He was born at Mullin, went to New York, was a traveller for a good house, came home because his wife was ill. Took the inn from Tom Conolly "Poor wild Tom" who has lost all he has and here he has been for 15 years pining after a life of excitement and hard work. Read a guidebook from which it appeared that the ancient Irish conquered every valley in turn. Three legends are in the book. One is the old story of the Eagle and child which the Landlord declares to be true and to have happened here. The other is a story which the guide told me in Slieve Donard. About a Sparrow and glass lander from a ship, & shivered by a priest who gave a bag of gold with which five churches were built. I thought of Torrid and the Comrade. The third is a legend of Prince Charles. Poor Bee a O'murra and Cheri the wide sleep. Said the hostess. The Thusa luidhe his agus cha neil do dheula 9' a bhaile na dhaisgais thu" said she when he was laid to rest.

Monday Oct 21. Fine with occasional showers.

Drove up the glen of the river and at 1050 feet made an outline of the view back. Then plunged down into a deep U Glen Dheise. Where I made another outline: This Peninsula is a kind of basin shut in at one end by Blai Shliabh Donard. It was a great Men de Glas which got out to sea by Loch Deelin &

SW



1045' fur

NE



Oct 21 possibly by Martin Mer & beg. Down Glen
 Oheise went a glacier in the opposite direction
 NE but in the plain it fell into a great
 stream flowing Westward. along the course
 of the river. Owen's block. (ca) NE from
 the watershed the country to Loch Swilly is
 all lower than the cel. 1056 There is a gap
 between two mountains. Fintona Mountains &
 Achlaun's Close to the cel is a great block of
 gray mica schist, different from the rock
 which is a brittle slaty rock. Strike NE
 dip South E. high. I found preceding stones
 sandstones limestones & other foreign rocks.

Walked about Arvelava. Found a Danish fort
 upon a ridge of drift aiming at the bay & along
 the coast. Walked out into a moor & found
 great tons of weathered gray granite with
 black horn blende. Found blocks of pink granite
 which belongs as I suppose to the Central
 Donegal granite. All these marks indicate
 movement from Loch Swilly, or from the hills
 at least, and ice more than a thousand feet
 thick. Walked on a peat road to the bridge
 and saw a salmon or large fish rise.
 Spied a great standing stone behind a house.
 The woman knew nothing about it. Nor did
 a man. Three old fellows who spoke English
 with difficulty told me a story.

In the place where I was born beyond there
 is a pierogue of stones so broad that you
 might drive a cart round upon the wall.
 The man that built it one of them giants
 went to seek a timber for it. There was a
 woman there who had two cones. While the

Oct 21. Man was away his son & his servant ate
 all that they had, and they took and killed one
 of the woman's cows. and ate that. When it was
 done they took and killed the other and ate
 that. She had some ideas of knowledge of the
 time the man would come home so she met
 him home. "Well how's all at home? said he.
 They're all dead and gone starved with hunger
 said she. When he heard that he threw down
 the timber he was carrying and it stuck in the
 end & he died for vexation. That's the
 way I heard it said the old fellow.

The other had a different version. The master
 and his man were carrying two stones. The
 man dropped his on a hill whence it was
 taken to build a mill some forty years ago
 The master carried his to the river & there
 it stuck in its end. It is ten feet high
 and more than a yard square. I could
 find no ogheans on it.

On the way up the Glen ^{at Mennam Cing school.} I discovered Corick Brogan
 schoolmaster. His scholars with peats & books
 under their arms boys in red petticoats like
 kilt & benefactors pretty girls run after the
 car. I looked at their books and found extracts
 from Robinson Crusoe. The master who boasted
 that he was a true Milesian descended from
 that Brogan who had the glass tower said
 that a girl in his neighborhood could spout
 Parnachan for three nights. Bade him write
 her songs, promised him pay, & sent him
 a shilling worth of paper from Clived
 by Lady Mennam home the driver. -

Spent the evening with a school mistress

[Faint, illegible handwriting, likely bleed-through from the reverse side of the page. The text is organized into several paragraphs across the page.]

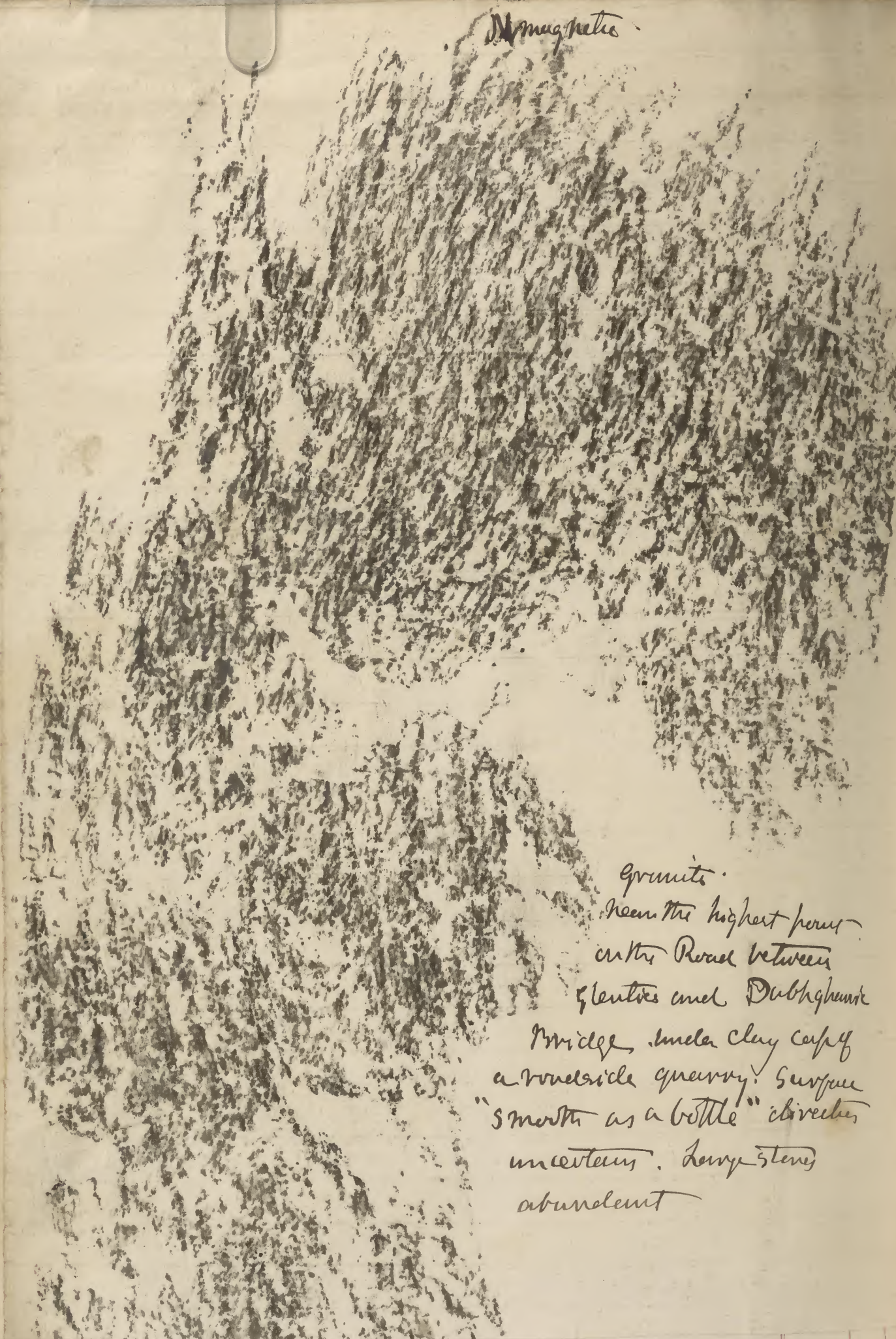
Oct 21. Who got deep into Biblical studies, Metaphysics and French. Latin Greek and other knowledge. His work is hard and so he sleeps on his side while I write. Either the Gollie of this country is getting more like Scotch Gollie or I am getting more used to it. I understand three-fourths of the talk which I hear. The difference is in pronunciation even in the use of hi for cha. The languages are essentially the same. Saw several very pretty women with black hair and eyelashes and gray eyes. one was almost blue with regular features and fine feet & hands. The generality of the people were exactly like old English wives & men, like in looks & ways and dress and in every thing.

Cannot say much for this note

Oct 22. Tuesday.

Mr Cowley asked for my address and proposes to write me samples of Irish Popular tales for my opinion. Up at 7. Showers but more of a good day. at 9.30. drove off for Glenties along the flat seen yesterday down Glen Dheise. The hill to right is achaluis & the way to Letter-Kenny passes through the gap. Turned to the left over a col 630 feet high, and got into a Glacial granite country all sprinkled with very large granite boulders. The hills seem all to be ridges from NE to S.W. on the strike of gneiss beds. From the look of them they seem to be the very same as the Laurentian gneiss of the Adirondacks. Took a couple of rubbings on the way down to Dubh gharraidh bridge at the head of

M. magnatus



Granite.

Near the highest point
on the Road between
Glenties and Derryghun.

Thick, under clay cap of
a roadside quarry. Surface
"smooth as a bottle" direction
uncertain. Large stones
abundant.

after crossing the
appears to be
looking back there is a large hollow at the foot of
Sliabh Snaght from which a glacier probably came
down into the Glen & left a moraine on the bank

← glen the direction certainly
northwards, and

North Magnet

159

Delta-keivis

Near Dubh gharaich
at the head of Gribane Bay
Granite near the sea level
in a gravel pit

near the Glen of the ...

Thurs Oct 2



N magnetic.

270 feet above the
Bridge at Ballyhewie
Mouth of Glen Donagh
Granite in a gravel pit.
In this case the ice was
shunted northwards by a
ridge.

arrow north

North. magnetite.



Movement North magnetite

on granite boulders. Boulder clay washed by the sea. at
Dunglo, Donegal. The stones in the clay belong to the district.



[Faint, illegible handwriting throughout the page, likely bleed-through from the reverse side.]



Oct 22. Guelbawa Bay, & at the foot of Glen Domburri
 which is a deep groove crossing the country so far
 as I could see from the little map, and the
 look of the land. Past that place went up
 about 270 to 300 feet, and then for about 7 1/2
 miles went undulating up & down on a sloping
 plateau full of lakes streams with granite
 granite stones and all glaciated grey granite.
 Under the clay in gravel pits formed
 a few smooth polished surfaces. The
 granite generally is weathered. I never was
 so puzzled by any ice bearings anywhere.
 They do not seem to agree with the shape
 of the country but the look of the rocks &
 boulders does seem to accord with a
 great local Donegal system of glaciers.
 which radiated from the high country into
 the low seaboard & bays. At Dingle.
 at the sea level got marks going north with
 boulder clay of the country so far as I could
 judge. It is all granite.

Spoke Gaelic to many natives some understood
 others only partially, but generally this is
 getting fast into English Gaelic. 22 miles
 Irish = 27 1/2. Very fine sunny day with sharp
 north wind and occasional showers with
 green rainbows. The hills about Antrim
 and beyond it seen from the slopes. We
 have made a great round to arrive ferries

Saw my old white friend Arigle in the
 evening sun, a good way off. So Corvalla
 a very sleepy snoring snoring. Bagman
 Chambers by name. Fixed in chairs
 made up by, & moved to bed.

side of the same
vein. A vertical
wall. side of a tor.
of granite.

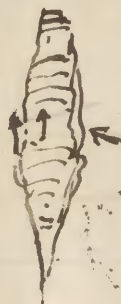
arrow Island broken end to the North



North. Magnet.


↑ Tor of a granite & iron
apparently two motions.

broken end.



Plung the
Tor. which
is one of many
Thousands seen
this day. Oct 23/74

Oct 23 Wednesday. As the strike at Dungle Junction Northwards
 get a car and drove to the point whence boats cross to
 Arran Island. Then turned Eastwards and crossed
 the point to a sandy bay. Crossed that and went
 towards Mullach Dearg. Got on a hill top and made
 a couple sketches. Drove back by a new quarry
 of Red Granite, Walked down the South west side
 of the bay to a quarry of gray gneiss. The strike
 is NE by N magnetic. The dip E by S. at a high
 angle. The cleavage is at right angles to the planes
 of the beds. parallel to the strike.

The stone contains crystals of 

Pyrites. The only drift that I saw all day, except
 perched blocks, is a hill beside the town. Under
 which I got a rubbing last night. The
 only surface found all day was a vein
 of granite on the top & side of a tor whose
 shape corresponds to the direction. It is the
 same as at Dungle. All the shapes of the
 rocks seemed to indicate movement Northwards
 and Westwards about NNW. true. Towards
 an Island North of Arran. This I take to
 indicate a great sheet of ice moving from the
 direction of Slieve Snacht towards Arran.

But for the Glen at Gheelarra I should say
 that the glacier began about the high grounds
 near Sliaoh Shechel. which I saw clearly.

It probably began on the ridge to the NW of
 the great NE groove. Glen Donnain through
 which I mean to go.

Except in Cannemara, and in Sweelen, & Norway
 I never drove over such a country for glacial
 granite. A few bogs, & lakes, and patches of
 soil in hollows, is all the land on the point



Oct 23 It is all granite from near Glenties to
Mullach Deeny.

Golie. Spoke to many people and tried Golie.
It is very like Scotch Golie but we could not
converse. The men in the fields & wild corners
understood me best. Tried for Fianachta &
found that all had heard of orsin &
Diarmaid & Grainne, but I could get none
to acknowledge that the songs were song
an old man of 101 & six months is to be
buried tomorrow. He was a modest quiet
man that would not interfere with any of their
things" said an old man. "He might be
all that and sing an old song" quoth I.

Yes Sir" said a black haired scater man.
"You have been to America" said I. No" said
he. "That's a Yankee touch at all events"

said a boat man. Here as in Kerry the
mention of Fenian love seems to be taken
as an allusion to the Fenians and so they
shut up and I get nothing. One man
had just returned from harvesting in
Derwickshire, & spoke with a marked Scotch
accent, though his language was Golie.

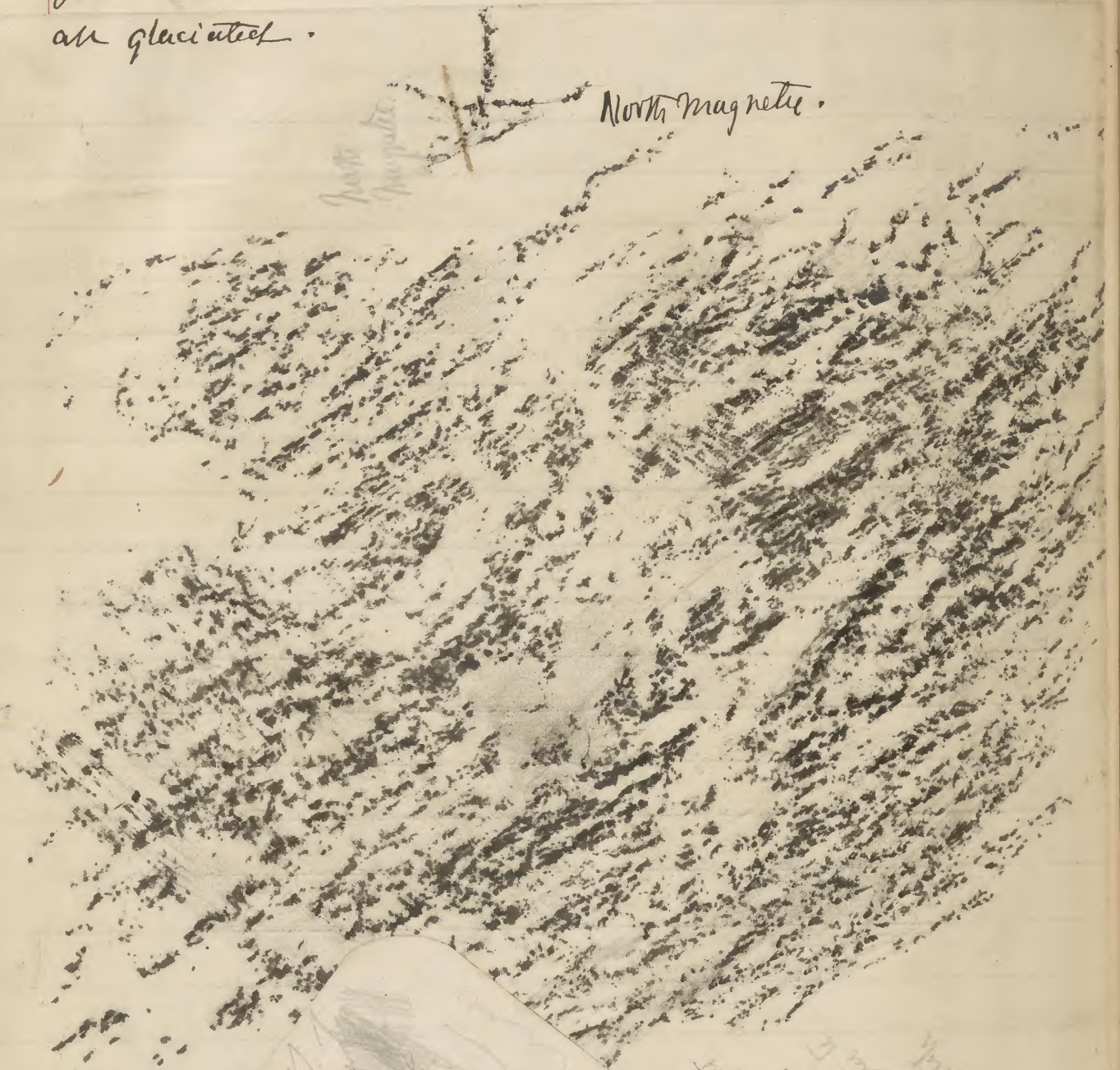
Now this man & many of his neighbours go
every year by Derry and Glasgow to the
Scotch Lowlands. There they meet people
from Skye and the Hebrides. It is their
habit to tell stories. The school inspector at
Ardara told me a popular tale, which Old
Rory Rann told me last year in Minglay.

But if these people mingle in the Scotch
Lowlands the spread of popular tales is
accounted for, without going back to Rory

Slaved
or
Tales.

Side of Loch Buava. 315. feet above the sea
 in a very remarkable rock groove. Cross in Ireland
 from NE to SW. More than 100 feet deep and
 all glaciated.

North Magnetic.



S
 315
 ft
 deep



NE True

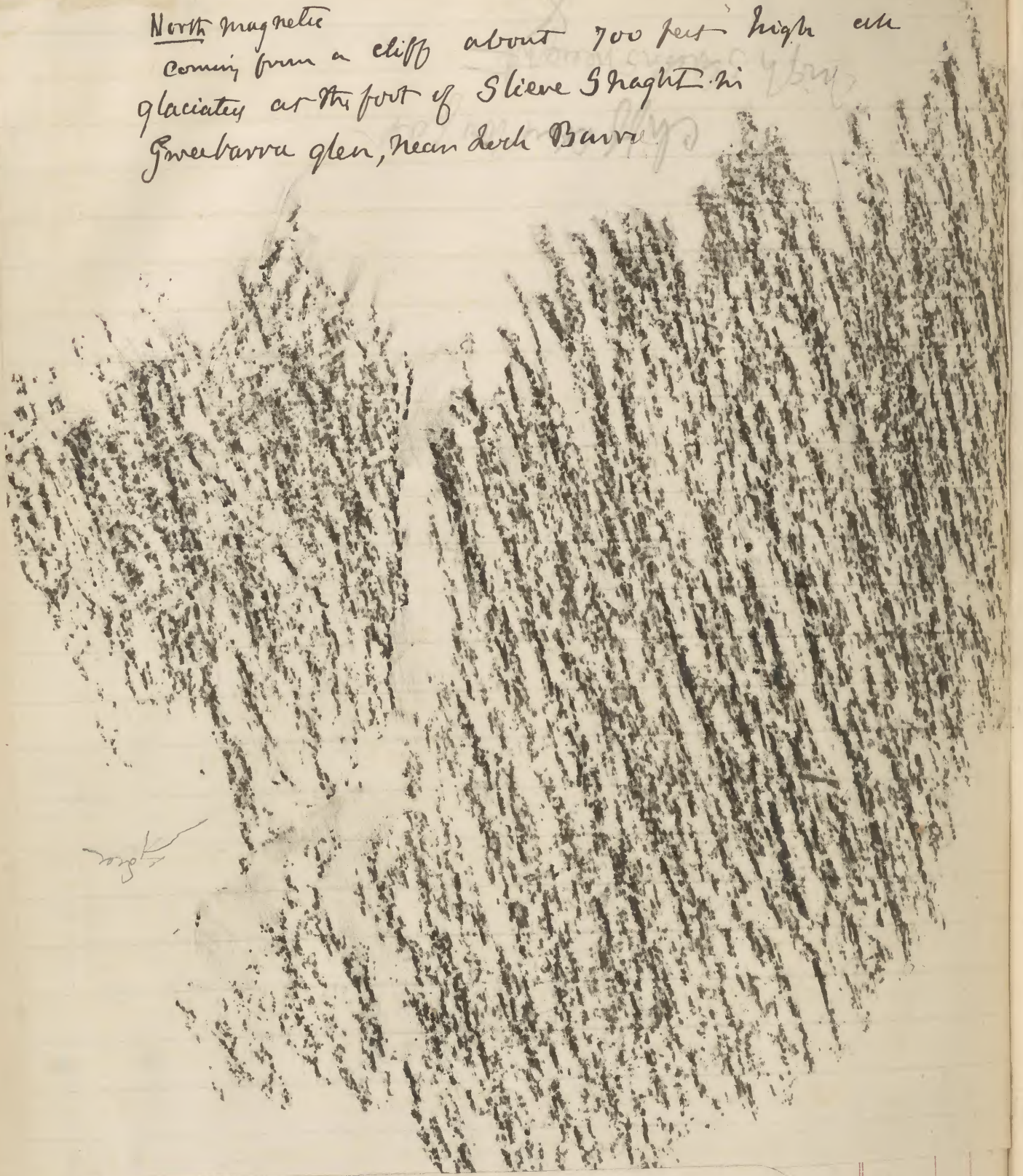
315 ft
 deep

Glen de Buava
 Duff Glen

Oct 23. The house beset by Bagmen. Drapers with a car load. The Gelp and Joline men, and a general store man selling soap & candles & other groceries. The Draper whom I met at Beaky Castle has sold two pounds worth since I saw him.

Oct 24. Barometer down an inch in two days. A bag man bagged the horse which I had engaged & this morning I found him close to a dense clump and went out. Got a wretched little brute and drove off back to Dabh Channik. Blank stepping stones. over a hundred lakes down at Clachem liath (Dunglo). and the highest rise at the foot of Sliabh Sneachd which turns out to be on the north of the glen. The marks which I have been hunting indicate a large system of local glaciers. Starting from Sliabh Sneachd & the grounds about it & going northwards. Weather warm & sunny wind S.W. hills all clear. Made a sketch looking N.E. up the glen, & then turned up it to Loch Barva. This is a great U groove nearly devoid of drift. The rocks come smooth up to the tops. In the bottom found very few marks preserved. Got a rubbing direction down the glen near the lake. Higher up found a fresh surface, the marks going from the cliffs of Sliabh Sneachd down hill to the lake, at right angles to the course of the glen. These must indicate a side glacier of later date than the main glacier. At the Col 750 feet found a fresh surface on top but the top must be a boulder for the marks go every way, and the rock is a brittle stony grey. In the rest of the quarry. sketched the outline S.W. with Sliabh liath in the extreme distance and

North Magnetic
coming from a cliff about 700 feet high at
glaciated at the foot of Sliabh Shaght. in
Gneiss barva glen, near Loch Barva.



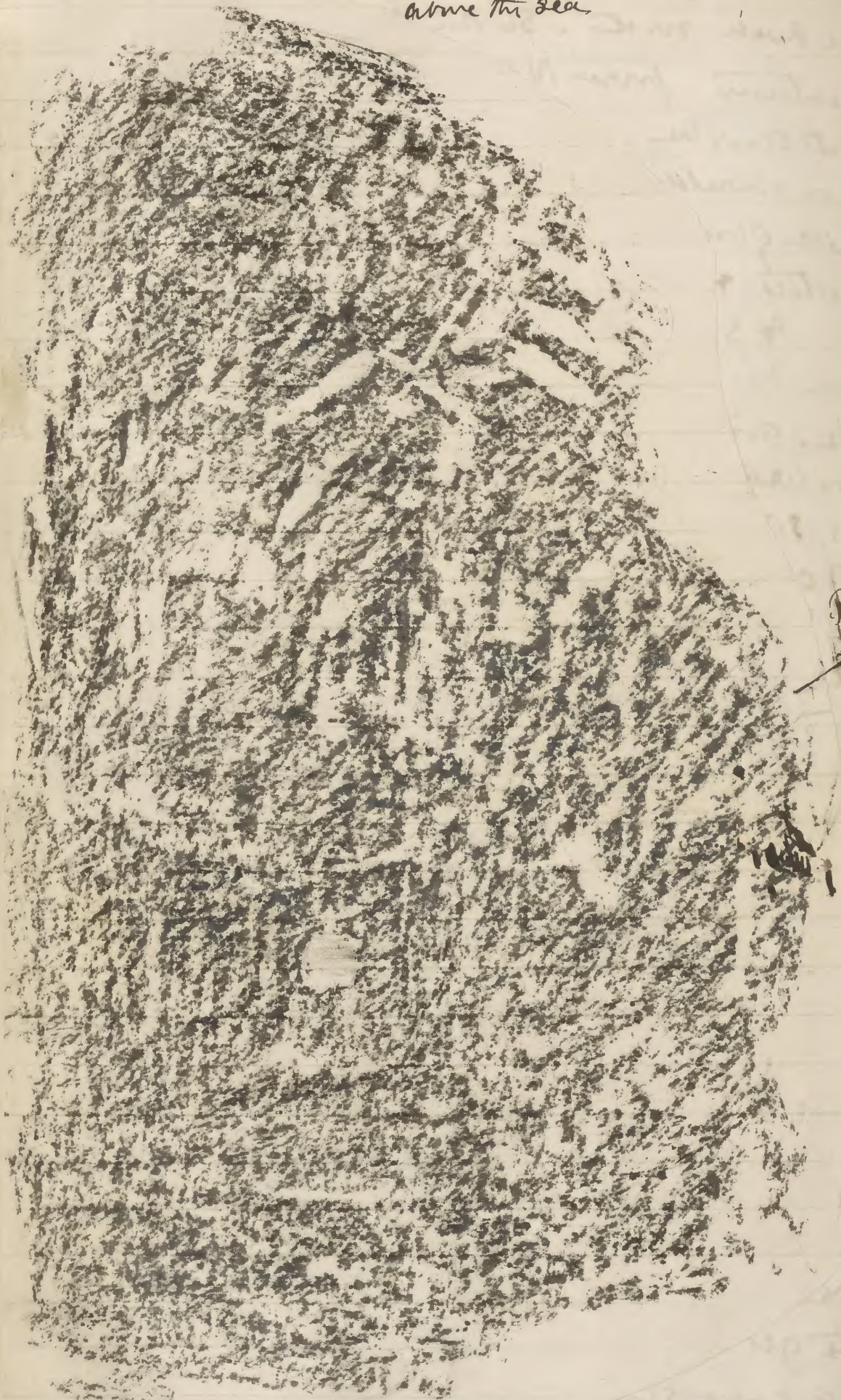
Oct 24 Glen Oheire and the hills about Covelane,
 the sea at the foot of the Glen. A little further on
 NE is a deep rocky groove with Glen Isheithe
 and Loch in it. So this is a groove crosses the
 mountains from NE to SW. here, and is straight
 as it can be. Turned southwards out of it
 over a shoulder and down Glen Donbhuin in
 which glaucious is conspicuous. Opposite to the
 glaucious road came to a second gap opening
 NE. & S.W. with a lower col. Wound about
 lower hills, and got in to Letterkenney by
 6 1/2. in the clank. Gas and sessions, &
 civilization and Scotch English prevailing on
 this side of the pass. Very Scotch Irish on
 the other side up to the watershed.

The Driver John Donnelly was in the Crimea
 and spoke Irish which served for
 conversation. He told wonderful yarns
 about bands of ribbon men hundreds together
 marching by night; of parties fighting in
 Dingle, of men killed in those battles &
 of outrages & sorrows. A quieter set of people
 to look at I have never seen, but some
 of them were fierce conspirators according to
 John Donnelly. He was something like the
 Duke of Abercorn reduced & run to seed.
 The Catholics call themselves Gael and the
 Protestants Gael. So their fights in Derry
 really are old tribal wars preserved.

What next to do I know not. I should
 like to get up to these tops on which I spiced
 lots of great stones perched on the sky line
 but 15 miles English out & in along these
 roads, does not leave much daylight

North Magnetic.

a Boulder of Trap on the Watershed of
Greenbarr Pass - about 750 feet
above the sea



To Look East

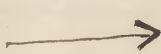
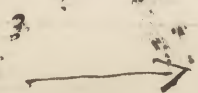
144
107
Oct 24 for exploring and climbing 1500 feet
from the road. I think I must give it up
attended the sessions here go to Derry &
get my letters & then see what next.

October 25. Friday.



and Shieche Dho mhnuill. Kiltchrenan, near
Letterkenny. Two out three steps quarried away to build a
wall.

North Magnetic,
Near Ross meltun. Shores
of Loch Swilly. at
Brown Know Schoolhouse
on hard grit
much weathered

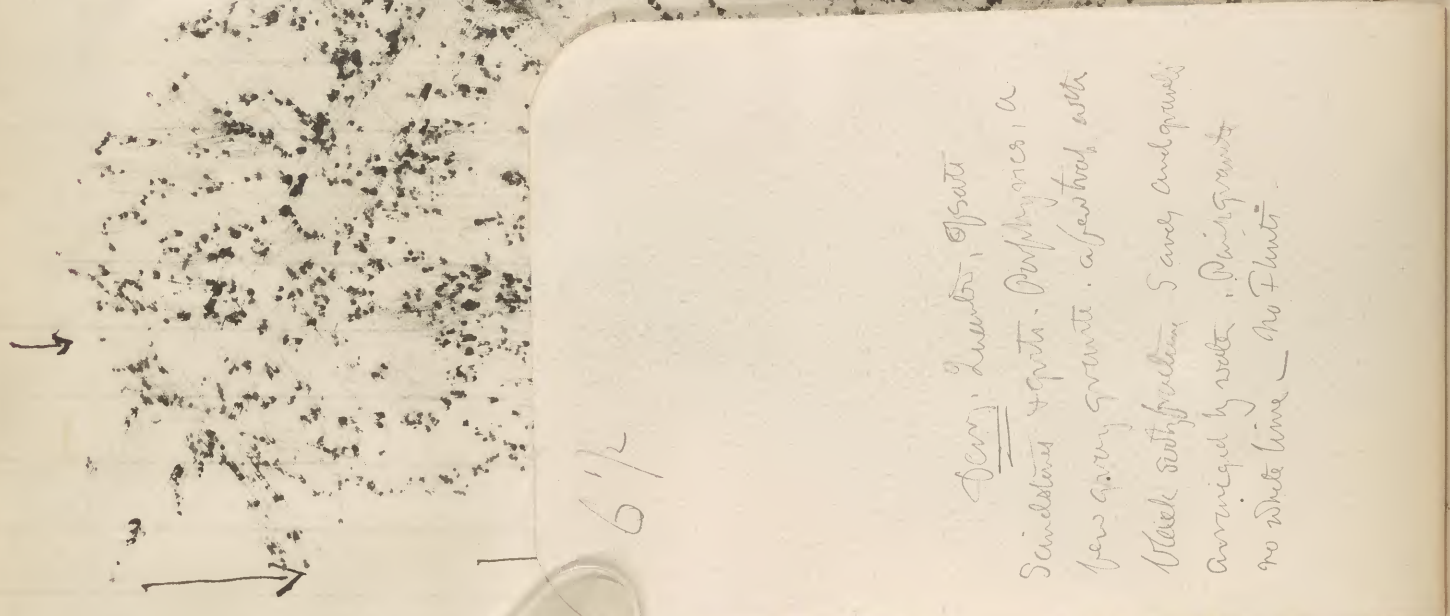


near Letter Kenny on mica schist
Top of Ridge about 250 to 300 feet high, running
to wards Loch Swilly.
Grooves in a gravel pit
crossing the ridge, from the
direction of Mookish seen
in the distance

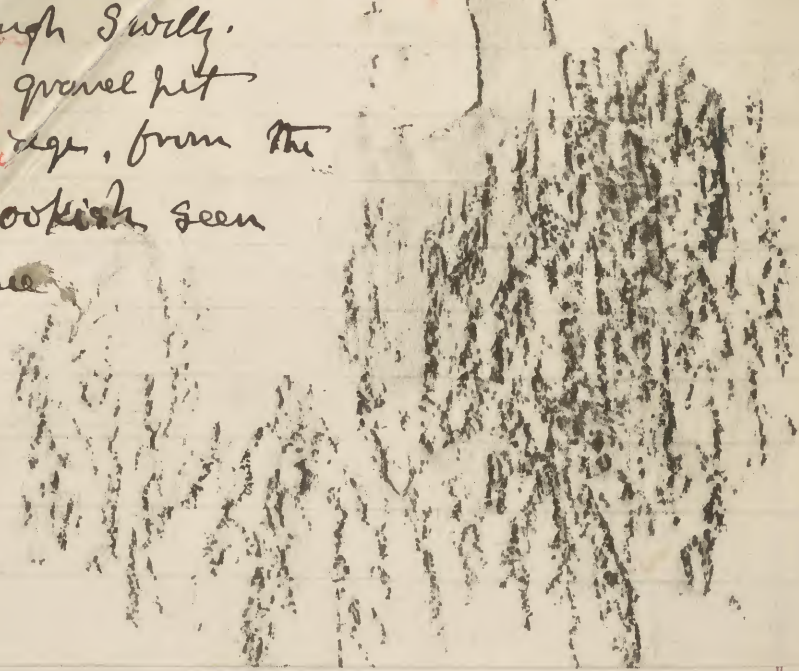




North Magnetic,
 near Ross meltun. Shores
 of Loch Swilly. at
 Brown Know School house
 on hard grit
 much weathered



near Letter Kenny on Inishachish
 Top of Ridge about 250 to 300 feet high, running
 to wheels. Loch Swilly.
 Grooves in a gravel pit
 crossing the ridge, from the
 direction of Inishachish seen
 in the distance



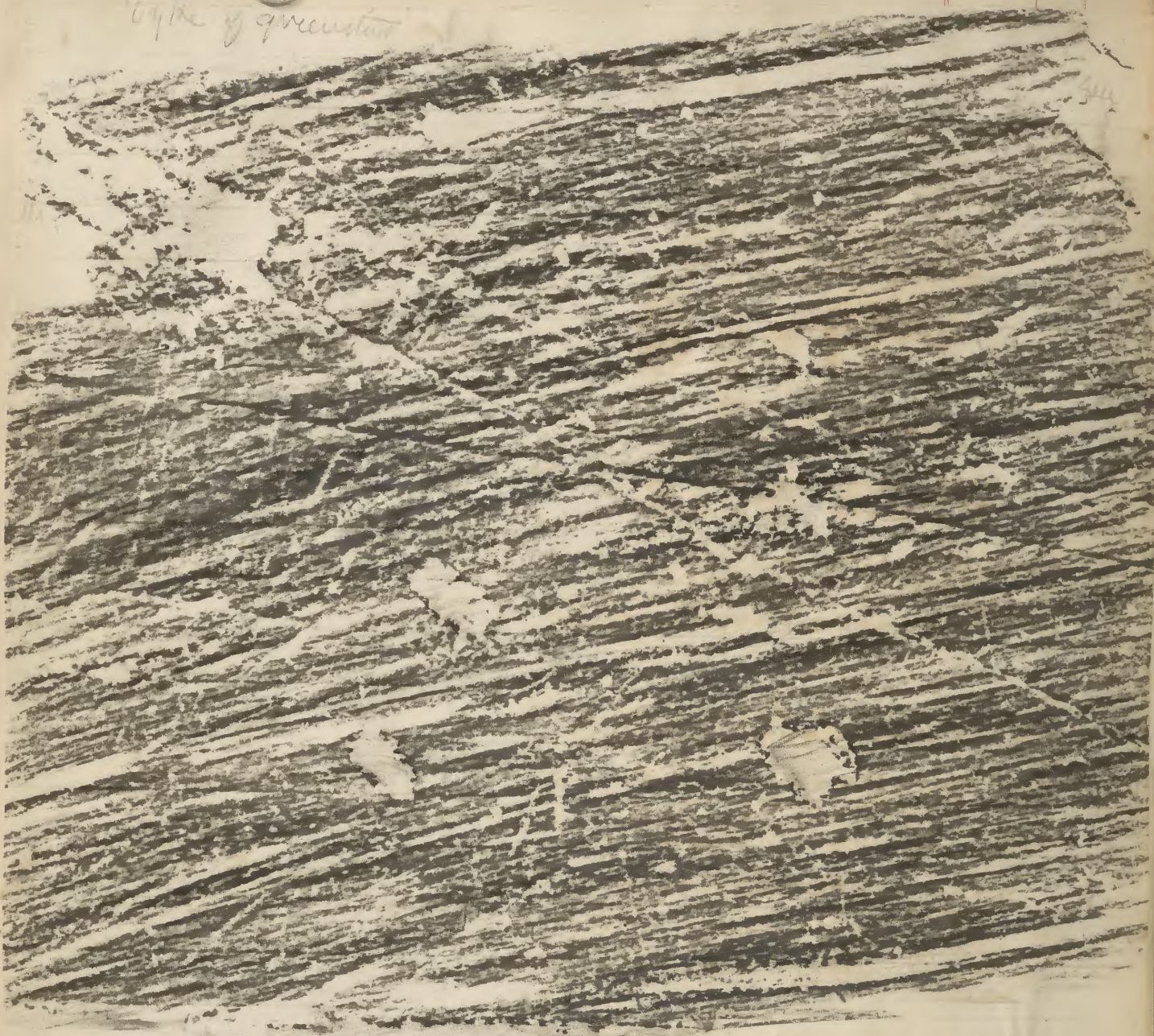
Some of the paper is of a few feet with
very green granite. Some and quartz
black with quartz. Some and quartz
arranged by water. Pl. - quartz
no other line - the other



Mukish

North Magazine

type of greenstone



at Letter Kenny on a dyke of greenstone in a quarry at the place where the Railway station is to be, not far from the sea level and the River Swilly.

Ten miles along the Swilly the road to Glenties crosses a water shed. over "Minecroi".

This set of grooves proves a series of glaciers going towards the East and NE. among them in a neighbouring railway cutting. Drift ridges parallel to this direction are seen to be made of Boulder Clay, with scratched stones, of large size. Sandstones, Quartz & sorts Porphyry &c. but a scrap of granite or Puddingstone which abound in the hills, could I find anywhere.



HOME RULE,

You gallant sons of Erin who loves your native soil
I claim your kind attention just for a little while
Come join the Home Rule movement Irishmen on every hand
And very soon we'll have Home Rule in poor old Ireland.

Chorus.

Then harrah for noble Isaac Butt that hero true and brave
He'll work for Ireland's freedom and his country won't deceive

We've got some noble hero's to advocate our cause
Who know that Ireland is oppressed by cruel alien laws
There's Councillor Butt our noble chief determined to stand
And to do his best to free the sons of poor old Paddy's land

There's Gladstone the Prime Minister who the Irish Cause
bill plan'd
He thought that it would satisfy the sons of Paddy's land
But Pat he wants to rule himself and be free from all his foe
Then the sun of happiness will shine where the little shamrock grows

The American and Frenchmen all sympathise and say
That Ireland should have Home Rule and hopes to see the day
When Ireland as a nation will be glorious great and free
and in the full enjoyment of Home Rule and liberty

There's Cavan Galway and brave Clare Roscommon and
Royal Meath
Tipperary Limerick and Westmeath who never were afraid
Leath Longford Cork and Kerry and Wexford to a man
They have all spoke up for Home Rule & the rights of Ireland

Now Irishmen remember well the year of eighty-two
We had Grattan, Flood and Charlemont, to their colors true
And now we have brave Isaac Butt that hero true and bold
Brave Smith and honest Martin, who their country never sold

Long life to Butt he's worthy of all Irishmen's applause
Like noble Ben that's dead, & gone his heart lay in our cause
In the British House of Commons Mr. Butt & his little band
Will struggle hard for Home Rule & the rights of Ireland,

Let unity and swore prevail throughout green Erin's shore
And very soon we will obtain what we had in the days of yore
Our Parliament in College Green, how happy we will be
With contentment in old Ireland, from the centre to the sea

J. Breckton, Printer, 55 COOKE-Street, Dublin.

146.
Dettie-Keirney

Henceforth
Three bundles
given me by
a green jersey
in faded hunting
costume, to whom
I gave some
coppers, news
lettering,
as samples of
modern popular
literature they
are curious.



A New Song called One Hundred Years A G O.

When I think of dear old Ireland
The bright gem of the west,
When I think of dear old Ireland,
The land St. Patrick blest,
When I think of dear old Ireland,
My heart does overflow,
When I think upon the days are gone
One hundred years ago.

Those bright and happy days are
gone,
I will never see again,
Those bright and happy days are gone
When we had honest men.
But if those tyrants were kept down,
Plenty on us would flow,
And we might have such days as we,
Had one hundred years ago.

No more the widow will be heard,
long the country road,
No more the widow will be heard,
To get rid of her load;
The poor old mail-coach was cut down
Because it was too slow,
But it travelled fast enough for us,
one hundred years ago.

Now my friends, I bid adieu,
To Erin's lovely shore,
I bid adieu to this green isle,
I may never see it more;
It's to a foreign distant land,
In the morning I will go,
To have such days as poor Erin had
One hundred years ago.



A New Song on the American Female Prize Fight And glorious Victory over the Germans.

Oh! Erin's sons and daughters your attention now I leave,
Till I relate the praises of an Irish girl so brave
Who fought the Germans daughter for the laurels she long
wore

And nobly she defeated her upon Columbia's shore.

CHORUS.

Hurrah for brave Jane Murphy still the laurels may she wear
She trashed the German's daughter without dread or fear.
Upon the 31st of May just as the sun did rise
Those many feared females some the sands did surprise,
Along the rail by special train they hastened to the ground
And the Germans thought the Irish girl would never stand a
round

And now arriving at the ring Jane Murphy she did say
I'm glad to see my country boys and country girls to-day,
I hope to gain upon this plain credit to Erin's isle
And whelp this German Lissie in real old Irish style
These women stepped into the ring their science to display
Shook hands and quickly went to work and that without delay
First round to state as fought complete but Jane she met the
ground

The Germans cried out three to one that's the first knock down
But now the time of trial comes Jane coming to her ground
With might came to her fight upon the second round
The German dame fought actively they both came to a close
Down slap-bang goes the German giving claret from the nose
The Germans gained the first knock down but Jane the first
blood drew

Which won 5000 dollars from the boasting German crew
Third fourth and fifth rounds went on well when Jane her
left let fly

Wyck floored the German on the grass and closed up her
right eye

The German girl got savage like when twice she was knocked
down

But Jane fought her close and keen up to the 11th round
The German with a favorite box Jane Murphy did surprise
She lay for half a minute she'd a fall was all the cries
Her seconds raised her to her feet and to the fight she went
Both being well disfigured from prize ring punishment
The German party then cried out well be you 5 to 3

Upon the 12th or 13th round we'll gain the victory
12th round next the Germans vexed their woman went to grass
Her eyes so sore she'd fight no more she was fainting fast
To Jane she handed up the belt and 2000 dollars bright
She'll remember Jane from Ireland & the day she went to fight
So Erin's sons and daughters fill up the flowing glass
And toast to brave Jane Murphy our valiant Irish lass
She trashed the German's daughter with strength & sinew
Showers her female champion belt around her Jack-titre



1891
M. W.

or 1891
M. W.



Beundown

Beun Odhar



E

Phit

Beun hoh Beun

M. W.

October 12, 1872. At the Lough at
 Lough bridge the dip is north. at the
 foot of the ridge of which Beinn Lawer
 nearly 4000 feet high is the highest point.
 The strike is parallel to Loch Tay.

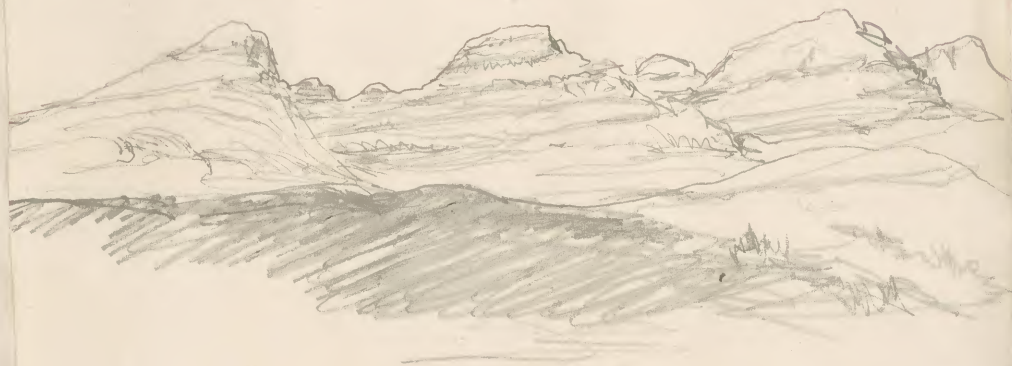
This corresponds to the dip and strike
 observed in the hill tops in the whole
 of this district. See rough sketches from
 the note book.

Notes the following from the mouth of the old man
 who takes care of Fionn Loraig.

- | | |
|--------------------------|---------------------------|
| 1. Craig Chailleach. | Hag's rock. |
| 2. Meall a chruachadain. | Knob of the little stack. |
| 3. Beinn. Leabhar | Long Mountain Ben Lawers |

The old man took a different view of the word. I
 nach briagh Leabhar an guth a tha aige. fosgailte
 an guth. He understood to name to mean Shortley
 Mountain because men Shortleed across Loch Tay
 from it. Long Mountain describes this ridge
 the Siorghailian. even storm.

14



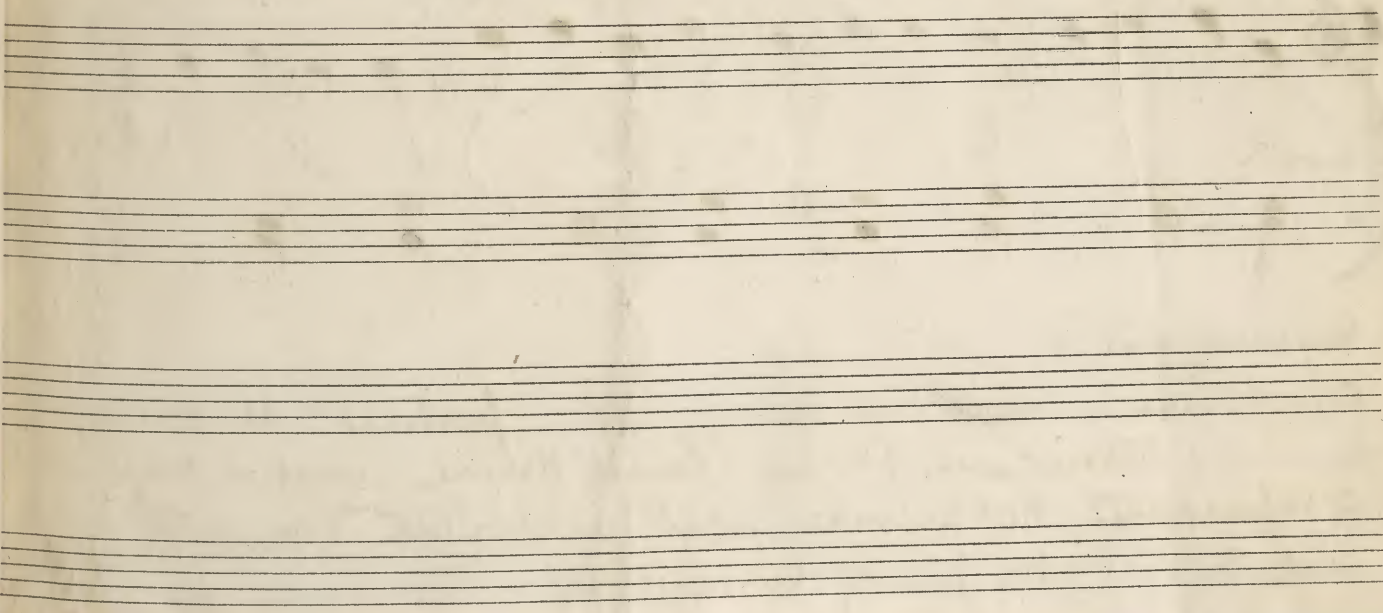
Fintona Bluff

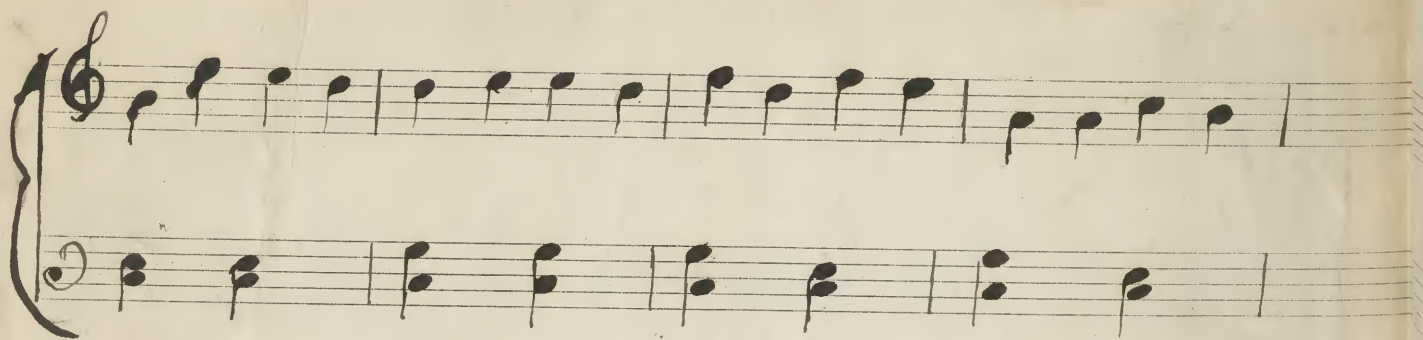


Group from Pillchun-
 Sit of Al-Ficm. Larag



171





"Miss Nesbels' Reel."

Copied from a music book in an old portrait at Winton
which was taken from Pencaitland House, and is supposed
to represent the hairdress and her brother. Miss Ruthven
and the rest of the party engaged upon the copying 1872.

Also
 of James Wilson Weaver
 Son of Robert Wilson and
 husband of the two last
 mentioned females on the
 other side of the stone
 who died the 22^d July
 1835 aged 64 years.

Epitaph in Waula Churchyard
 Carved 28 Nov. 1872. JH

98. High Street.
Belfast.

and. Newcastle Co Down
Ireland

Sir

As promised I hasten to enclose
you two small photos of the

Round Tower at Glenties
reduced from a 12 x 10 view
that I took in March last.

It is situated in the grounds
of G. Clark Esq^r a director on
the N. Counties Line.

Yours, respectfully,

Thos. F. Campbell.

Richard Hard





174
98. High Street. Belfast
10. October 1872

Sir

Enclosed I forward for your
acceptance (if of any interest to you)
a Photo. I took on a place called
the Island Magee near Larne Co.
Antrim, when it may be seen to
this day unless damaged or
removed, a matter not at all
improbable in this country. The stones
are very similar in size as those
at Newcastle (to wit the Devils ring)
and these go by the name of the

[Faint, illegible handwriting on a rectangular piece of aged paper pasted onto a larger sheet of paper.]

[Faint, illegible handwriting visible along the right edge of the page, possibly from an adjacent page.]

Druids
 Druids Altar. } It was formerly
 encircled by a ring of large stones
 but a Capⁿ The Perrau had them
 removed; and built a modern
 house just at the rear of Altar as
 you can see by Photo. and would no
 doubt have moved the stones of the
 Altar had he been able to do.
 Hoping I have not trespassed too
 long on your time

Remain Sir

Yours respectfully
 Richard Ward-





Ireland.

Carrickfergus Castle, Co. Antrim.

Founded by Sir John De Courcy in 1123. Now used as a Government Depot.



Ireland.

Ancient Cross and Round Tower, "Sacred Glories"
Monasterboice, Co. Louth.



Ireland.

Ancient Cross, Monasterboice, Co. Louth.





DUBOIT BAY & SLEVE MOR MOUNTAIN, ACHILL, CO. MAYO. 473.







IN THE PASS OF KYLEMORE, CONNEMARA. 348.

Sunday 17. 1872. November
Enclosed are some photos we
found there. The one of Loch
Clare is pretty. The loch is
about 2 miles from Keulochean
at St's March with Lord
Elphinstone. The opening
to the left on the photo
marked Craig Roy is Glen
Bianasdaill that you explored
with a post bag when you
were at Keulochean. Be

Ever y^r. aff^l

Edw. F. Mackenzie



REYNOLDS FROM MANLOCHIE



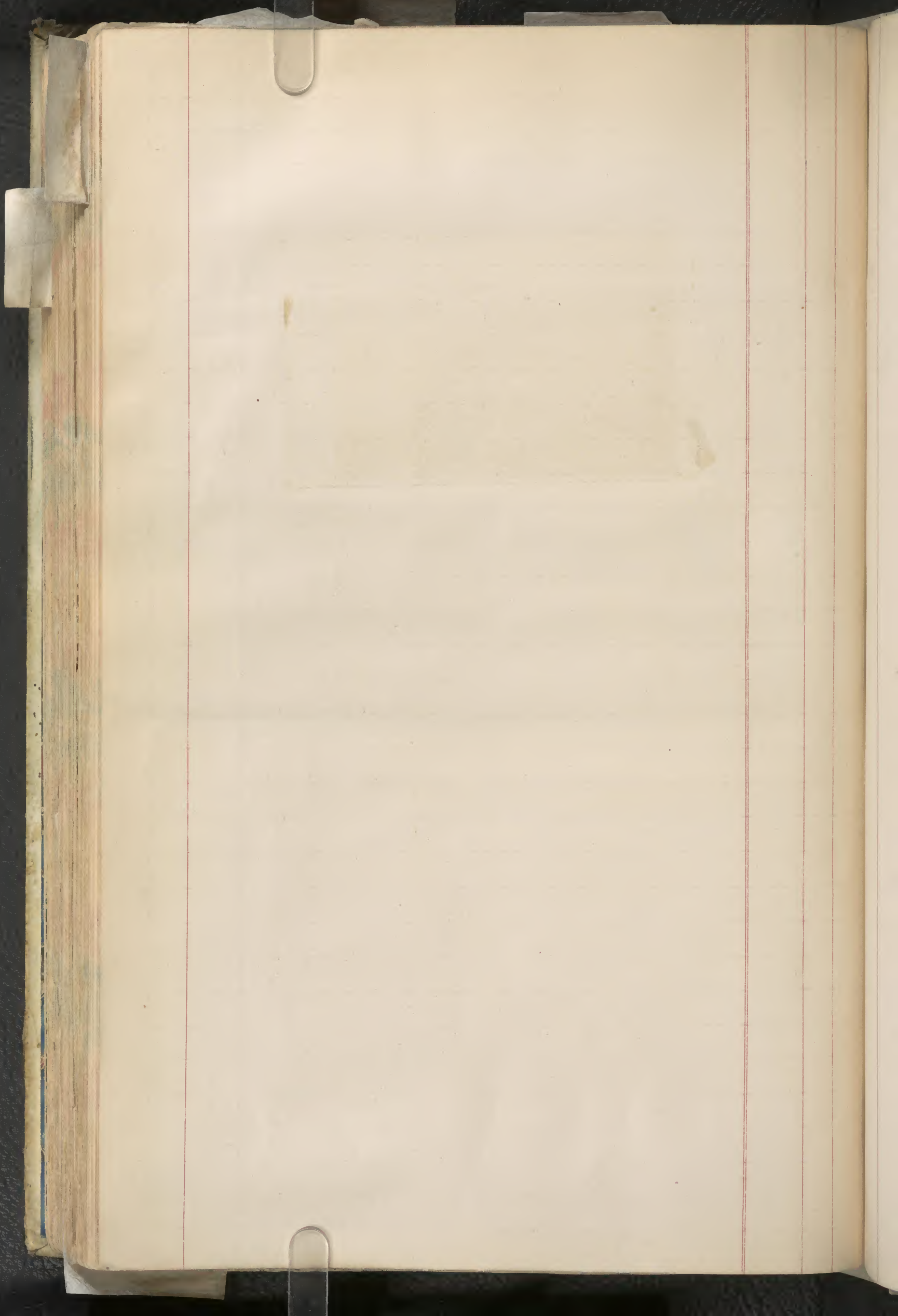


CRAIG ROY. LOCH MAREE





LOCH CLARE AND BEN LEAGACH, GLEN TORRIDON.



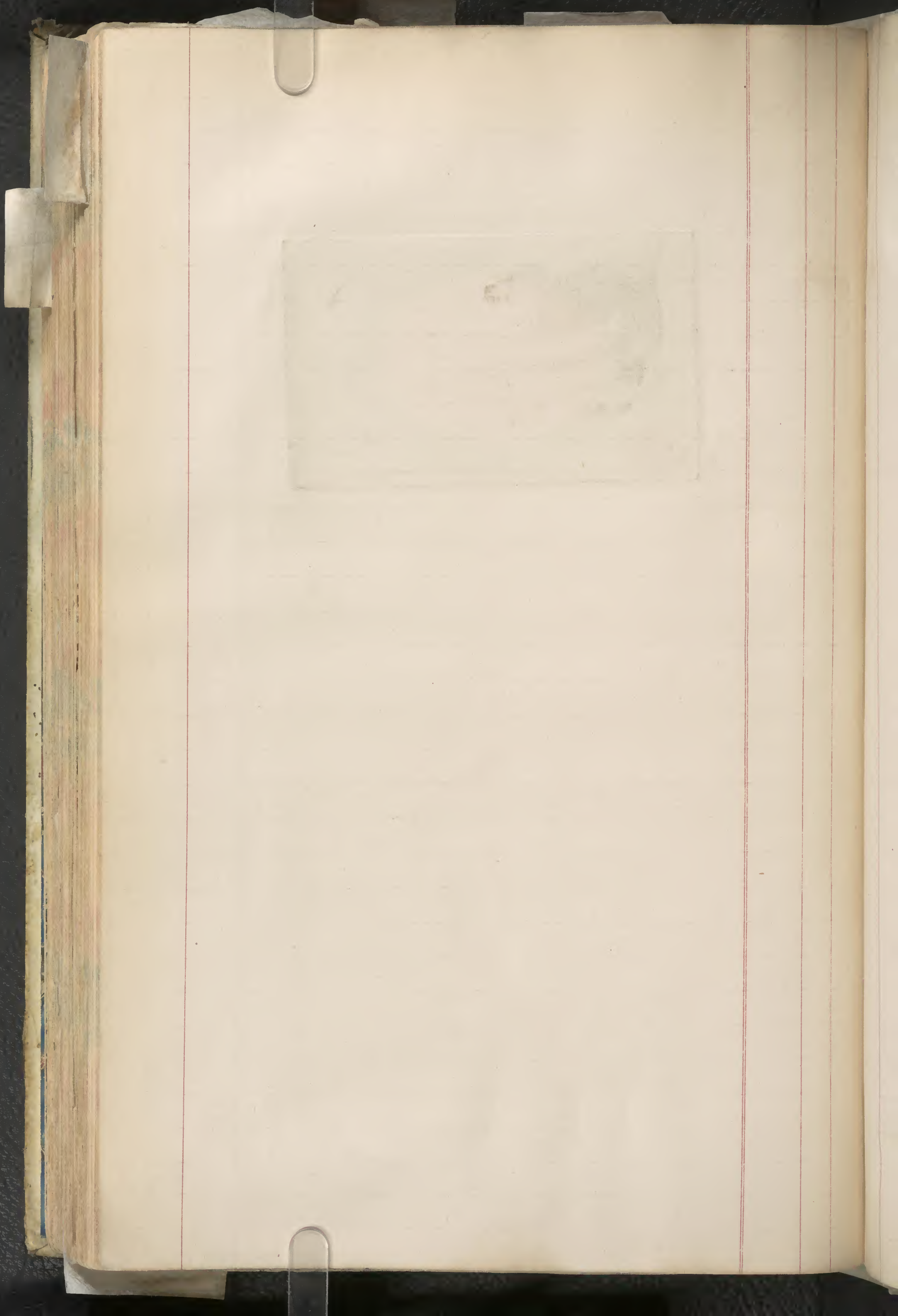


SCOUR-NA-GILLEAN, SKYE.

murachle heaghs.

ANDERSON & ROBSON,

GLASGOW.





[From the QUARTERLY JOURNAL of the GEOLOGICAL SOCIETY for
May 1873.]

ON THE
GLACIATION
OF
IRELAND.

BY
J. F. CAMPBELL, Esq., F.G.S.

THE following notes are founded chiefly upon observations made while travelling about Ireland in 1863 and 1872, and at intermediate dates.

A subject may be treated in two ways. If the whole of a story is known it may be told historically, from the beginning; but if a lesson has to be learned, it is best to work back towards the unknown beginning. A great deal has yet to be learned about glaciation; so I begin at the end.

I. *Iceland and Ireland*, in different latitudes, are about the same size. In one island are ice systems, in the other none. Some Icelandic glaciers are wide as an Irish province; and others would cover Irish counties. In Ireland lakes seldom freeze, and snow melts off the highest tops early in spring. But Ireland is glaciated.

II. *Ireland*.—The meridian 8° west cuts Ireland nearly in half. In the north it passes near Arrigle, the highest hill in Donegal; in the south it passes near Cork. But the figure of the island is not square to meridians. A line drawn through Dursey Island and Rathlin, S.W. and N.E. or thereby, passes through the long axis of a diamond whose shorter axis runs from the Tuskar Rock in Wexford north-westwards to near Achill Island in Mayo. The configuration of surface within this area has relation generally to two main lines, N.E. and N.W. In Donegal, Mayo, Galway, Kerry, and Cork the largest mountain-ridges and hollows trend N.E. The course of the Shannon, the largest river in Ireland, is from the east of north. Most of the largest sea-lochs in Ireland trend N.E. and S.W. Passes in the Mourne Mountains (in Down), Carlingford Lough on the east coast, and the valley of the Erne on the west trend N.W. and S.E. The hollows which contain the river Ban and Loch Neagh and the valley of the Waterford river trend north and south. But for one great hollow running north and south a great number run N.W., and a greater number N.E. It is easily seen on any good map of Ireland that roads, canals, railways, rivers, lakes, harbours, and marshes, which occupy hollows and avoid hills, have

a general N.E. and N.W. extension, and cross meridians from 6° to 10° west, diagonally between latitudes 51° and 56° north. There must be some reason for the shape of the coast and surface of this part of the earth's solid crust.

III. *Under Water*.—Beyond high-water mark in harbours the sea now packs layers of mud and shingle in rocky hollows; but near the coast, and far out at sea, peaks of rock stand up in the midst of undulating plains of drift, of which the charts give the form in fathoms below the plane of the water. The limit of 600 feet is far from shore. The sea-bottom about Ireland is an undulating plain with rocky hills in it, very like plains on shore.

IV. *On Shore*.—The greater part of the area of Ireland consists of low undulating rock-surfaces, covered with Boulder-clay, with water drifts of sand and gravel, with soil and peat-bogs. Amidst this cover of loose materials stand groups of bare rocky mountains, and isolated hills, knolls, and hillocks of solid rock. The highest point in Ireland is 3404 feet above the sea-level, near Killarney, in the S.W. So far as my own observations and my reading enable me to form an opinion, the present shape of all the rock-surfaces in Ireland, from the highest tops to the sea-level, is the result of wearing and waste; and the shape of the low lands is the result of packing fragments, broken, crushed, ground, or worn off solid rocks. Some great denuding engines must have worked on this region.

As the drift is commonly "glacial" next to the rock, and as most of the rock-surfaces in Ireland still are "glaciated" where they have been protected from water and weather, I attribute the present shape of the surface of Ireland chiefly to glacial action during a geological period later than the formation of the Antrim chalk.

V. *Denudation* *.—That large masses of solid rock have been

* On the day before this paper was read, Professor Ramsay was kind enough to lend me a map marked with the broad arrow of the Ordnance Survey, and thus described on the face of it:—

"Map of Ireland to accompany the report of the Railway Commissioners, 1838, &c., &c.; engraved under the direction of Lieut. Larcom, Royal Engineers, May 1837 (in MS.). Coloured to represent portions of Ireland which would be above water if it was depressed 500 feet, and to show the positions of the escars and gravel deposits with reference to the islands which would be formed. Signed HENRY JAMES, Capt. Royal Engineers."

This map was placed beside a geological map of Ireland to show that elevations and depressions do not coincide with local geological disturbances, but with "surface denudations." The map, coloured black on a blue ground, shows two groups of more than 450 small islands. Their shape is irregular; but long narrow points trend south-westward; blunt ends are generally towards the north-east, and cliffs face the Atlantic and the north-west. Beside these maps were placed a travelling map, with notes of observations made in Ireland, and shaded Ordnance maps of Scotland, with thick ice, drawn to scale. Coast-lines of the supposed Irish archipelago correspond to many inland cliffs. "Drumlins," escars, osars, kames (Gaelic "ceum," a foot-path), and ridges of drift described by Messrs. Close & Kinahan, mentioned in this paper, shown on shaded Ordnance maps, and conspicuous in all glaciated countries known to me, are shown here to correspond in direction to the probable run of tides in sounds and wide passages less than 500 feet deep. These now are passes, hollows, lowlands, undulating plains of sands and gravel, bogs and large lakes, in Ireland; the islands now are isolated rocks with the shape of "Crag and tail," and

removed from hollows and from low grounds in Ireland is manifest. The excellent maps and sections of the Geological Survey, by showing what is left, prove that a great deal has been removed; but this can best be seen on the ground.

VI. In *Antrim* the hills left were shaped out of a late geological formation, which was spread over a wide area between Mull and Derry. At Red Bay, near Cushendal, in Antrim, at the sea-level, the rocks washed by the sea are coarse red-sandstone beds dipping about S.E. at a steep angle. I believe them to be New Red Sandstone. Their strike extends inland S.W. In that direction the broken edges of the beds of sandstone are covered unconformably by nearly horizontal sheets of igneous rock, upon which rest beds of chalk, which are covered by more sheets of igneous rock and ironstone. From marks which I found amongst these igneous rocks, it is certain that they were fluid and flowed as lava does, or the slag from a furnace. The basalts of the Causeway and elsewhere are columnar, like the rocks which flowed out of Snæfell, in Iceland*.

The chalk contains flints and fossils; and it certainly was deposited horizontally at the bottom of the sea, over a wide area. This whole threefold series still lies nearly flat, or slightly inclined, upon the sandstone edges which strike under the Antrim hills. This is an old surface of denudation buried under newer rocks.

The region has been faulted and has been undermined by waves, so that cliffs abound along the coasts; but it has also been ground and worn from above, so that iron ore and chalk crop out at points widely separated and at different levels. In crossing the Antrim hills, ironstone workings in the edges of flat beds appear on the turf of rounded slopes, on opposite sides of glens and hills and "cols."

They show that hollows have somehow been grooved out of flat beds of chalk and basalt, whose thickness can be measured along the escarpments next to the sea. From the hill-tops to the sandstones is somewhat less than 2000 feet; and that is a vertical measure of solid rock which has been taken away in shaping the Antrim glens and the Antrim hills, since the upper basalt was formed.

Westwards from the Antrim hills, on the other side of Lough Neagh, at about 40 miles from Red Bay, is a hog-backed ridge called Slieve Gallion (Mount Storm). The long axis of this ridge runs about north and south; it is about 1800 feet high, and it may be eight or nine miles long. It is the most conspicuous hill in the region. Up to 1200 feet the base of this hill is sprinkled or thickly covered with the drift, which also covers all these low grounds. Above the level of the drift it is easy to see that the bare body of Slieve Gallion is made of beds of hard stratified metamorphic rocks, dipping about northwards at a steep angle, and striking westwards through the ridge. At the northern end, capping this

groups of hills scored horizontally by ice. The problem is, whether the Irish hollows ever were filled with solid ice; if so, to what height the ice-level rose, and how far the ice-field extended during the last glacial period.

* Rubbings and specimens of igneous surfaces were shown in illustration.

hill, are the edges of beds of chalk covered by basalt, which correspond to beds at distant points which may be seen from the hill-top as in a geological model. The chalk formation here is thinner, and it dips northwards at a low angle. It crops out at the sea-coast, in Lough Foyle, northwards, in Belfast Lough, at Fairhead, and all round a great solitary dome-shaped mountain, Slieve Lude, which rises above Ballycastle. At Slieve Gallion these newer beds rest unconformably upon the edges of older beds, as they do forty miles away at Cushendal. There is nothing in the present surface-forms of these hills to indicate their structure. The chalk and basalts, and the older rocks upon whose edges they were poured out and deposited flat, have been worn away together over a large area in this region for a depth equal to the height of hills at opposite sides and ends of Lough Neagh. The "cap" on the top of Slieve Gallion is a remnant of a great sheet about forty miles square at least; and rock taken away from hollows since the basalt formed was about 2000 feet deep.

Near the southern end of Lough Neagh and near Dungannon and Cookstown, the rock-surface is laid bare in quarries. The edges of sandstone beds of the coal-formation are crushed and shattered. Fragments are close to the rock, up in the Boulder-clay, which caps the quarry, together with hard smooth grooved boulders of granite and metamorphic rocks. These last abound at Cookstown, between Slieve Gallion and Dungannon. On the slopes of Slieve Gallion they rise to a height of about 1200 feet. In the low country the drift is packed in long high ridges. Some of the stones came from a distance; for there is nothing like them in the coal-field.

Southwards, near Armagh, and on the shores of Carlingford Lough, I found scratched polished flints and angular flints, amongst debris of the coal-formation, and basalts, and far older rocks. According to other observers, quoted by Mr. Close, "Antrim Flints" are found in gravels about Bray, near Dublin, and even as far south as Waterford; Mr. Froude brought me flints from Bray. These flints travelled southwards, and did not go northwards. I could find no flints or chalk north of Donegal Bay and Lough Swilly. About 2000 feet of basalt and chalk, of coal-measures, and of older rocks, upon which they were deposited, certainly were crushed, and broken and ground off an area of more than forty miles square about Lough Neagh, between Lough Foyle and Belfast Lough, Slieve Gallion and Fairhead.

Along the sea-coast between Fairhead and Larne, the sea is grinding rocks at the sea-level so as to bring chalk and flints to one polished surface. At a higher level the sea has made a series of caves which can be seen from the road. The same engine has undermined promontories, so that masses have fallen leaving cliffs with talus heaps, and cliffs from which the talus has been removed. In these cliffs the same forms are repeated all the way from Larne to Lough Foyle. They may coincide with faults; but I could find no faults coinciding with the coast.

Within this area are the marks of two great "denuding engines."

On the surface are marks of glaciation, which wore the rock and shaped the surface, and carried the débris southwards to Waterford, along a wide hollow which goes from one end of Ireland to the other, along the courses of the Ban and the Waterford rivers.

At the edge of the country are marks of horizontal undermining at "the destructive plane of the sea."

The marks of rivers and weather are also plainly seen (but they are insignificant about Lough Neagh) in plains and highlands. The amount of weathering is measured on quartz-veins, which retain glacial marks and stand out a couple of inches at most from the weathered surfaces. Rivers work only in their narrow beds; and most of them still flow on drift in low grounds. Since ice vanished and the land rose, these last-named engines have done little work.

VII. *Limestone*.—I will take another case in which the main hollow trends N.W.

The Sligo hills to the south of Donegal Bay are steeply scarped plateaux with cliffs and talus. The outline is often like that of the Antrim coast; the plan is like that of the Antrim glens. The chief difference in the forms of these two sets of hills is in the greater steepness of harder slopes in Sligo. Ridges end in sharp peaks like needles off the Atlantic coasts.

The tops of these hills and their high plateaux are made of flat beds of blue Mountain-Limestone, resting conformably upon grits and sandstones.

Cliffs are fractures; and some of these may coincide with faults. If so, I could not find them.

These beds were deposited horizontally at the bottom of a sea, long before the Antrim chalk. Elsewhere they have been greatly disturbed and bent into basins, notably about Lough Neagh, in the coal-field near Dungannon. Their geology is studied because of the coals which accompany Mountain-Limestone in Ireland and elsewhere. But about Beinn Gulban, famous in Celtic tradition, the beds are flat or slightly inclined. Like Antrim chalk, their edges appear on the sides of hills, in deep glens, at points, in "cols," and in cliffs. It is manifest on the ground that these Sligo glens have been hollowed out of a raised plateau, and that more than 2000 feet of limestone and lower beds have been carried away from large areas in this region about Lough Erne and Donegal Bay. Not one sample of Mountain-Limestone could I find in drift about Dangloe and the northern end of Ireland; but the low lands of Central Ireland are thickly covered with limestone-gravels. At Galway are sections of Boulder-clay full of scratched polished fragments of limestone; and great blocks of it have been carried on to hills about Kenmare, in Kerry, in the south-west. Like the flints, the limestone-drift travelled southwards. Measuring from the limestone in Sligo to the plain, about 2000 feet of rocks have been removed. The fragments did not go far north; but a great stream of ice certainly travelled from Lough Erne north-westwards into Donegal Bay. The marks are well preserved at Bally-Shannon on sandstone.

The Irish coal-fields now are patches scattered about the country,

which appear as spots upon the Mountain-Limestone in geological maps.

After seeing the destruction worked upon Dungannon sandstones, and the denudation of regions about Lough Neagh and Lough Erne, it is also seen that engines able to do such work may have destroyed coal-formations over the whole area of "denuded" Mountain-Limestone in Ireland. But if they did, then the low grounds are chiefly hollows made by the same engines which destroyed the Antrim chalk and Sligo limestone. Weathering and rivers could not and did not do this work, which I attribute to ice and the sea.

VIII. *Valentia*.—At the other end of Ireland, at Valentia, near the telegraph station, is a bank of Boulder-clay scarped by the sea. Slate rocks have there been crushed, smashed, and ground to powder. Chips remain in the clay so arranged as to prove that the engine which here crushed the solid rock came from the mainland down certain deep glens, split on Valentia Island, and went seawards on both sides of the island.

An instantaneous photograph of withered leaves caught up and whirled along by a strong wind might give some notion of the arrangement of chips of slate in the clay at Valentia. But in the immediate neighbourhood are finely polished, hard, grooved slate rocks, which prove that a great stream of heavy ice passed into Dingle Bay, moving north-westward after it split on Valentia Island and crushed the softer slate. The other half of this stream went to sea westwards.

IX. *Ice and the Sea*.—At these three places, about Lough Neagh, Lough Erne, and Valentia, the destruction of rock is recorded, as the quarrying of slate is at Valentia and at Bangor, by remnants left standing in quarries. At these three places marks of glacial action upon a very large scale abound, and extend vertically from the highest tops to the sea-level. But these glacial marks upon the surface commonly end abruptly at the brink of tall cliffs, which the sea is undermining and has undermined.

Off the south-west coast, far out at sea, tall peaks and scarped rocky fragments, the same in all particulars as rocks in neighbouring points, stacks, rocks, and needles, out to the Skelligs 700 feet high, are monuments of havoc wrought by the sea, after the ice-engine had struck work. Upon these outliers all the power of waves and weather now spend their utmost force; and the effects are manifest in cliffs at all the exposed points in the south-west. It is easy to see that Irish rocks have been greatly worn from above, and that ice did a great deal of the grinding. It is plain that the sea now is destroying the land by undermining it. The shape of Irish lands and coasts I attribute chiefly to the working of these two engines, ice and the sea.

X. *Glaciation*.—Glacial marks can best be seen amongst bare rocky hills, where rock-surfaces are most exposed, and where the shape of glens and hills, which are grooves and ridges in the solid, can best be distinguished from piles of loose drift. The structure of hills can

be seen; but solid rocks and their surfaces are buried out of sight in low lands.

Accordingly the districts chiefly studied for glaciation were mountain-tracts.

1st. The coasts, loughs, and mountains about Dundalk, Newry, the Mourne Mountains, hills in Down, Antrim, and Londonderry, as far as Fairhead in the N.E.

2nd. The mountains and sea-loughs in Cork and Kerry in the S.W.

3rd. Donegal, Sligo, Mayo, and Connemara, in the north and west.

4th. The coast was seen from a yacht, and from a steamer which visited the Lights, from Valentia, by Cape Clear and Dublin, round to Malin Head and Instra Hull.

5th. Points were also looked at in central districts about Dublin, Kildare, and Galway, Armagh, Omagh, Dungannon, Enniskillen, &c.

6th. Railway-cuttings and roadsides were watched from trains and cars; and every likely spot that could be reached was examined for ice-marks everywhere.

Where ice hardly exists it is necessary to consider the ways of glaciers and icebergs, and their work of grinding rocks and carrying the débris. I have tried to apply knowledge gained in rambling about the world during many years to rocks in Ireland.

In studying Irish "tool-marks and chips" I tried to assign them to natural engines, like those which I have seen shaping the earth's surface in the Alps, in Scandinavia, in Iceland, and in America, afloat and ashore.

XI. *Slieve Liag*.—I have said above that I attribute most of the rock forms in Ireland to glacial and to marine action. In Donegal, to the north of the bay near Carrick, is a peninsula of high ground jutting out into the sea, and making the northern horn of the bay. The end of it is a high mountain called Slieve Liag (stone or pebble hill); it is nearly 2000 feet high. Seen from near Beinn Gulban in Sligo on the other side of the bay, or from the Carrick Hotel at the foot of the mountain, it looks like any other Irish mountain with steep undulating sides. On the north the hill-side is covered with drift. From the head of "Glen river" and from all the high grounds to the east, down all the hollows which now contain rivers, at some late time, a great sheet of glacier-ice slid and flowed towards this tall hill, which split the flood, turned it aside, and shunted part of it out to sea through Teelin Harbour, S.W.

There can be no question about this part of the record. Glacial striæ are plain and perfect in quarries and gravel-pits, on rocks of many kinds, on veins of glassy white quartz, on pudding-stone, which is like a rude pavement of rolled stones; on hill-tops and in river-bottoms. I have rubbings of them.

The sheet of ice certainly travelled some twelve or fourteen miles downhill, some 1500 feet; and then some of it was forced up a steep incline. At the preventive station at the mouth of Teelin Harbour it went over the hill some three or four hundred feet high

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out to sea. The landward sides of these hills are all rounded, curved, glaciated rock-surfaces, weathered or well-preserved, on which are drift-ridges, sheets of drift, moraines in perfect preservation, and all other marks of glacial action.

The ice-engine has ceased to work; but the tool-marks and chips are there about Carrick.

The seaward sides of these hills are marks of the sea, which is still at work in full power.

The sea is undermining these hills: they have long been undermined by the sea; and one side of Slieve Liag has been removed.

The highest top is close to the verge of a broken escarpment nearly 2000 feet high, facing the Atlantic. To look up from a boat is to understand the working of the sea upon a coast. At several places at the base of cliffs are beautiful white beaches of hard rounded pebbles arranged in the usual sweeping curves. At high-water-mark these pebbles, driven by all the force of Atlantic waves, have hollowed a groove in hard white quartz rock, some four or five feet high, of varying depth, and parallel to the water-line. The rock-surface is smooth as polish can make it, as smooth as glaciated vein-quartz on the other side of the hill; but the form of this surface is quite different. It is not grooved and striated in parallel directions by stones and mud fast in ice, moving steadily down in one broad continuous sheet; these surfaces of marine denudation are dented and pitted, like the rolled stones which rest upon them, with which the sea pelts the rock when a gale is on. I have taken rubbings from many surfaces of this kind, and they are alike everywhere. Close to the undermined rocks are rocks which have been undermined so as to break and fall; and their angular fragments are rolling in the waves, to be made into pebbles for doing more work of the same kind.

Near the place are caves, some hardly begun, others bored into the rock far beyond daylight, with waves at work in them. On the calmest days they make a wild hoarse rattle and murmur as they mine the rock with its own ruins. I could see no faults to account for these grooves, cliffs, and caves.

Here, then, are two different sets of tool-marks on opposite sides of a hill, both telling the same story of the destruction of rock to the depth of at least 2000 feet by ice and the sea.

But this sea-cliff is a geological section 2000 feet high, and several miles long, crossing the strike in a curved sweep. A glance at it after looking at the surface inland demonstrates, better than a volume could, that the structure of the rocks of which these mountains are made has little to do with shapes common in Irish and other hills. The vertical fracture breaks through the edges of contorted quartz beds, which are seen meandering and curving in great arches, folds, and bends, right up to the verge of the cliffs and the scarped hill-top. Not one of these well-marked curves corresponds in any degree to the edge of the upper surface. The plane floor cut horizontally by the edge of the sea below cuts shear through all curves

indifferently. The undulating surface above cuts through them irregularly. The original surface of these crumpled quartz-beds has been entirely destroyed by denudation. Slieve Liag, with its grand cliffs and caves on one side and its glacial striæ on the other, demonstrates that the shape of Ireland in this region is chiefly due to glacial and marine "denudation." But all other Irish cliffs and coast-sections, and all the cliffs I have ever seen, tell the same story.

I leave it to professed geologists to measure the quartz-beds which are marked Old Red Sandstone on the map, and to calculate how much has been destroyed above since hard horizontal beds were crushed laterally and folded together like potter's clay. Upon similar worn surfaces later geological formations are piled, so far as I know any thing about them. It is enough for my present purpose to show that the upper surface of Ireland is a worn surface, in which the hardest parts usually are the highest, and that other old surfaces of the same kind are under newer formations, as shown at Slieve Gallion and at Cushendal in Antrim.

XII. *Ice-marks.*—In order to read Ogham we must learn that alphabet. In order to read older Irish records inscribed upon rocks by ice, we must learn the meaning of these signs. Snow is water. A snowball is plastic water; for it can be squeezed into moulds or pushed through narrow tubes. Glaciers are but plastic water. Water flows downhill. If it meets an obstacle while flowing, it runs up hill over it, or splits and flows round it. If a stream is stopped, it gathers behind the dam till deep enough to flow over it. A deep stream, like an ebb-tide, flows over all obstacles beneath the surface; but currents beneath the surface rise and fall, or move sideways, following the shape of sunken rocks and stones and sandbanks.

Plastic water in large glaciers moves like fluid water, and for the same reasons, but more slowly. A sheet of ice split upon the upper end of a ridge joins at the lower end. Two glaciers unite at a fork, as rivers do. Ice which has tumbled over a rock, like water over a fall, "regelates." It is plastic and it welds; so it mends like a broken snowball, and flows on till it melts. A lump of putty gives a ready illustration of the movements of glacier-ice; for it is plastic and heavy, it moves slowly, tears and mends, and moulds itself upon the surface beneath it, as glaciers do. When heavy glaciers press upon or against rocks under them, strength must decide which is to yield. If a rock is crushed, fragments help to grind rocks too hard for crushing. If the ice yields, it leaves a track on the obstacle which turned it from its course. When a glacier melts so as to leave the bed of it for inspection, it drops the upper angular moraine upon beds of clay and stones which were under the glacier, and these upper and under beds of drift rest upon rocks which were crushed or ground by the ice and the stones. So long as these tracks endure, the last movements of the melted glacier are recorded by drift and by glaciated rocks.

Whatever theories may be formed as to glacial periods and the motion of glaciers, it is certain that *ice now moves slowly in di-*

regions in which water in equal volume would flow more swiftly. By this alphabet I will now try to spell out some of the ice-records on Irish rocks*.

1. *Small mountain-glaciers.*—In Norway, districts of varying area, from a patch as big as several Irish counties to a mere hill-top, still are covered by thick beds of snow and plastic glacier-ice. About Bergen long deep fjords a hundred miles long lead up to long deep glens, which are rock-grooves. These lead up to smaller branching glens of like pattern, of which some lead up to the ice-regions. The ice forms upon high plateaux. All these hollows are of one pattern. A section is like the letter **U**; they have steep rocky sides; and drift of sorts is packed in the grooves from the sea up to the ice. At the head of the Sogne Fjord in one of these long deep bare rocky grooves, about three miles from the sea and amongst cornfields, is a glacier called Supedledals Iis Brae. It is made of ice which falls from the ice-plateau down a steep rock-face. It falls in fragments, which “regelate” and form a pile which slides down into the glen, and shapes itself as any other plastic mass might do. It moves from the side of the **U** towards the centre; and it draws marks at right angles to the run of the main stream, and to the ebb and flow of the sea in the fjord. But the movement of this side glacier is parallel to that of small streams, which trickle down the side of the rock-groove and join the main river in the bottom.

In Donegal, between Gweebarra Bay and Lough Veagh, a deep groove crosses Ireland from N.E. to S.W., with a col 750 feet high joining hills which are about 2500 feet high. On the northern side of this straight bare N.E. groove is a mountain called Slieve Snaght (snow mountain). On the other side is a hill of about the same height. About Lough Barra, which is close to the watershed, the rocks on both sides and in the bottom of the groove are smoothed and ground; they are almost bare of vegetation; their structure can be seen as in a model; and they are glaciated. Opposite to a cliff at the base of Snow Mountain are fresh ice-grooves in a roadside gravel-pit. They come from the cliff and go towards the lake and the river. It is therefore clearly recorded that an Irish glacier, like the glacier in Bergen, once existed in this Donegal pass, which is a miniature copy of a Scandinavian rock-groove.

Glaciers of this kind may be seen in mountain-districts where glaciers have decreased in size. Tracks of glaciers of this class abound in Kerry, in Connemara, in the Mourne Mountains, and elsewhere in Ireland. They all came down steep inclines from high points near the grounds where snow first appears in autumn and lingers the longest in spring, as it does upon Slieve Snaght, in Donegal, which a native unused to Celtic called “Sniff Snaff.”

2. *River-glaciers.*—In the Bergen district above mentioned some of the upper branches of the main glens lead directly up to the

* Dr. Tyndall's book on the ‘Forms of Water’ entirely confirms what is here said. His own experiments and those which he describes, new and old, prove that glaciers flow and weld when broken. A set of prints, photographs, and sketches were produced with rubbings, taken by the author during many years.

plateau upon which snow gathers. Down some of these mountain-glens flow glaciers from five to ten miles long. These flow down the hollows, and end in muddy rivers, which flow on in the hollows through drift till they get to the sea in the fjords. Marks made by these, and drift upon and under them, grooves upon rocks, lateral and median moraines, and banks of drift, boulder-clay, and sands and gravels, arranged by the river and by the ice down to the delta, are all ranged parallel to the sides of the rock-groove, to the ebb and flow of the tide, to the run of the main river, and to the motion of the glacier. Everywhere are marks to prove that the Norwegian glaciers are but remnants of glaciers, enormously greater, which have dwindled away.

In Gweebarra Pass I found marks near the sea parallel to the course of the river, which flows S.W. into a miniature fjord called Gweebarra Bay. Having seen Bergen glaciers and these two sets of marks, there is no difficulty about the meaning of this record. 1st. A glacier flowed S.W. seawards from the watershed down 750 feet some five or six miles to the fjord, and thence went off into the Atlantic. 2nd. Afterwards, when that glacier dwindled and shrank and melted, a smaller mountain-glacier still crossed the track of it, at right angles, from N.W. to S.E., descending from the top of Snow Mountain by a very steep incline, more than 2000 feet in a couple of miles or thereabouts. 3rd. That glacier dwindled and disappeared. But water melting from winter snows and rain-water follows both tracks. The glaciated rocks in Gweebarra Pass are wet by streams which run from the top of Snow Mountain down to the lake from N.W. to S.E., and then run from the lake S.W. along the main groove into the sea.

3. *Glacier-forks*.—In Norway, and in all countries where glaciers exist in any notable proportions, two commonly join and flow on together. At the point of junction they press alternately upon rocks, which they mark alternately, producing cross grooves upon a flat surface, or grooves in different directions on opposite sides of a rock between the streams. In front of Derreen House, at Killmakillogne Harbour, in the Kenmare river, in Kerry, at the junction of two deep glens, are marks of this kind of which I have copies. Cross striae are common elsewhere; but here the cause is apparent.

4. *Local systems*.—In Iceland is a scarped hill called Erik's Jökull*. The sides are cliffs with talus heaps; the top is a dome of ice whose base is a plateau of horizontal beds of igneous rock. As the snow-dome rises, the weight spreads the plastic base. All round this local system are stones crushed off the broken edges of flat beds of igneous rock; and these are ranged in curved mounds and heaps about the base of the dome. These terminal moraines belong to the hill, and they were pushed outwards towards the circumference. They were formed *under the ice*; for nothing but the sky is above this local system. At one point this snow-dome has extended its base down a hollow, and there is a small river-glacier of the usual

* See 'Frost and Fire,' vol. i. p. 428.

form, which ends in a muddy stream like the rest of its class. This is a model local ice-system.

Ireland.—On the top of one of the Mourne Mountains are marks which I attribute to a small local system of this kind. The marks are fresh, and a small stream of water runs along the striae downhill, towards a hollow above Ross Trevor and Carlingford Lough, in which are piles of drift arranged in the form of a terminal moraine.

Mookish, in the north-east corner of Ireland, is a tall scarped isolated hill of quartz, with a plateau on the top. The shape of the hill is very like that of Eriks Jökull, in Iceland.

On the sides of *Arrigle*, near Mookish, are cliffs with talus heaps; the top is a plateau a few yards square. When glaciers were in Gweebarra a dome of ice certainly stood upon Mookish; and probably the small remnant of a plateau on the top of Arrigle indicates similar work.

5. *Iceland.*—*Lang Jökull*, near Erik's Jökull, is a long hog-backed ridge about thirty miles long, and covered with a sheet of ice. On the western side I could see no bare rock. On the eastern side, riding by Spränge Sander, I saw that ice moves from the ridge down towards the low lands as water flows down the roof of a house.

At one place a great rock stands out like a garret-window in a roof. The ice splits at the back, flows down the sides, and meets again below at the base of a cliff. The direction of movement can be seen at a glance. The riven ice looks as if a flood had suddenly frozen while rushing down the steep side of this long hog-backed ridge.

The sea-face of the *Mourne Mountains* seemed to indicate a similar movement at some places; but I was unable to find striated rocks there. *Dun na Cuaich*, at Inverary, and *Sul Bheinn*, in Sutherland, are like this "garret-window" in shape; and the movement may be seen behind any stone in a moving stream of water.

Donegal.—The general shape of the hill country about the north of Ireland is a series of irregular furrows and ridges which trend from N.E. to S.W. or thereby. The ridge, on which Snow Mountain is the highest point, is bounded on the S.E. by Gweebarra Pass, the deep groove which contains two fiords, several lakes, and two rivers which flow out at opposite ends on opposite sides of Ireland.

On the north-western side the ridge is bounded by a shorter furrow called Glen Veagh. North of that groove is a broken quartz range with a similar trend, which includes Arrigle and Mookish, standing apart. It may be said that granite disturbed the sandstone and altered it and shaped the country. But what shaped the granite?

The Snow-Mountain range, like Lang Jökull in Iceland, sent down a flood into Gweebarra Pass, as I have shown. It also sent off a broad flood northwards. From the base of Slieve Snaght water now flows out of a corrie through nearly a hundred lakes, over granite, about eight miles to Dungloe, where a small river enters the head of a short fjord. The whole country is sprinkled with angular blocks of granite, as big as hay-cocks, hay-ricks, and small houses.

Here and there ridges of Boulder-clay and other kinds of drift aim northwards; and all the loose stones in these hills of drift seemed to be granite of the country. At Dungloe is a considerable ridge of granitic boulder-clay, parallel to the course of the river and to the fjord. Where the sea has newly washed this clay from the rock, glacial surfaces are perfect*.

The marks aim from the foot of Slieve Snaght, at the north end of Arran Island. Followed in that direction the marks still aim out to sea northwards and to the west of north. From rising grounds near the sea, Arrigle and Mookish are seen above the granite lowlands. At the base of the high cone of Arrigle are great blocks of grey granite resting upon the quartz; and all along the sky-line seen from Glen Veagh and from the Gweebarra Pass great stones are perched.

The solid granite is in the S.E. ridge of Glen Veagh, quartz is on the N.W. side of that furrow; and the granite boulders seem to have crossed from the Slieve Snaght ridge towards the N.W.

All recent glacial marks that I could find in this region indicate a local system of Donegal glaciers which moved as ice now moves about Bergen and in Iceland. In particular the ridge which divides Glen Veagh from Gweebarra Pass was covered by a sheet of ice like Lang Jökull in Iceland, which flowed off it as water flows off the roof of a house into gutters. The ice, according to its marks, once was about 2000 feet thick, and went out to sea; but it dwindled and shrank till nothing remained but river-glaciers, and then mountain-glaciers of the smallest size, with one of which I began. (XII. 1.)

6. *Irish local systems.*—That which is true of Donegal is true of all the groups of mountains which I have visited in Ireland.

A smaller local system left conspicuous marks on the peninsula which ends in Slieve Liag, which I have already mentioned (XI.). Another was in the Antrim mountains. There moraines are entirely made of fragments of rocks of Antrim. Whole walls are built of boulders of basalt; and the Boulder-clay is brown. Glacial marks upon the rocks follow the run of water, beside rivers, from the snow-shed downwards. From Larne to Ballycastle the Antrim glens were filled with glaciers like those of Donegal, which were like those of Iceland. Another large local system was in the Mourne Mountains. Another had the Twelve Pins and other hills of Connemara for gathering-ground and starting-point.

Another was in the group of hills on the west side of Lough Neagh; another was in the Sligo hills; another was out near Achill Head.

A very large system was in the south-western corner of Ireland, with the high grounds about Killarney for gathering-ground and the sea for receptacle. This last has been described by Mr. Close, and by other writers.

Knowing something of all these systems, and of others of less size, it is proved, by marks about which there can be no doubt, that Irish glaciers, down to latitude 51° , were equal in area and dimensions to the largest local ice-systems in Iceland, which touches the Arctic circle. But the Irish ice-system was still larger at an earlier time.

* Specimens of glaciated granite were shown.

7. *The Northern Irish Ice-system.*—The most conspicuous moraine that I have seen in the British Isles is at a point at the northern horn of Donegal Bay, at a place called Clogher. It is marked by dots upon the inch-scale Ordnance Map. It is there nearly three inches long, and it consists of at least six parallel ridges of angular stones. The largest of these are as big as small houses; and they rest where they were tilted off the ice, like stones shot from the end of breakwaters at Plymouth and Holyhead. Above this conspicuous moraine is "Cruach Beg," a hill of puddingstone (? pebble-beds of the Old Red) which is glaciated up to the top, 860 feet. The marks run along the top and side of the ridge horizontally, parallel to the moraine, aiming over the sea at the low country about Lough Conn, and at the head of Clew Bay, beyond that low gap. Here is one side of the bed of a glacier as deep as the hill is high; but the other side was over in Sligo, beyond Donegal Bay*.

Following Donegal Bay round the coast, and looking to striated rocks, ridges of drift, and all other marks known to me, it seemed clear that the whole area of the bay, and all the lowlands about it, from Barnes Gap and the hills about it round by Lough-erne side and Ballyshannon, past Sligo to Loch Conn, were covered by a sheet of ice which bore heavily upon a hill-top 860 feet high, at Clogher, near the end of Donegal.

But the low lands about Lough Conn are glaciated as Sweden is; and great stones, like those which are *in situ* about Clogher and Slieve Liag, are scattered about the low lands at which striæ point from "Cruach Beg" and Teelin Harbour.

Clew Bay is like Donegal Bay. The low grounds are all made of long ridges and furrows of drift which point westward, as do glacial striæ and other marks down to Achill Head, along the northern coast of the bay. From Barnes Gap, east of Donegal Bay, to the northern horn of Clew Bay, there was continuous ice moving seawards, as it appears to me. But that was not the limit of the Irish ice according to its marks.

Depth.—Vast time has elapsed since the local systems were united. The weather has worn out many tracks, and chiefly those which were highest and oldest. The ice was more than 2000 feet deep at many places; but it must have been far deeper. In Connemara is Shan Folagh, a ridge of hard quartz standing apart from the rest of the group of mountains, and about 2000 feet high. On this isolated top the rock is well glaciated, chiefly from the north-east.

The Atlantic is on one side; and the nearest block of ground of equal height in the other direction is in Antrim or in Scotland. Ice must have gone over this hill. I once thought it was drift-ice afloat; I now think it was part of the ice which covered Ireland from Donegal to Galway.

High marks.—Beginning with the smallest class of mountain-glaciers, Irish marks have led back to large river-glaciers, to small and large local systems, to a combination of several local systems in an estuary of glaciers in Donegal Bay, to the union of two estuaries in

* Rubbings were shown.

Clew Bay, to glaciation at 2000 feet upon a hill-top near Galway Bay. But this quartz hill stands there like the stone pillar at Penryn, to mark, 1st, the depth of the ice, and, 2nd, the depth of the rock which has been removed from that region. On lower hills are marks of local Connemara glaciation; but at the head of Galway Bay is a bed of Boulder-clay full of limestone from the central regions, resting upon rocks striated in the direction of the sea. A great body of ice at some time or other passed off Ireland from the N.E. to S.W. by way of Galway, according to the high and low marks which I more fully described in 'Frost and Fire,' and which are now mapped by the Geological Survey*.

The high marks upon Shan Folagh pointed the way to seek for more knowledge nine years ago. The lines ruled upon the hill-top were produced upon a map, and touched Cushendal, in Antrim. In 1872, after nine years, I went there to see what I could find. I found first unmistakable marks of a local Antrim system proportionate to the size of the hills.

Next I found out a tall trap-hill called Slieve Mish, and went to the top of it. I found it a great glaciated "Tor," beside a rock-groove which crosses the range. In the groove, at about 500 feet above the sea-level, I found and copied striæ pointing N.E. and S.W.; therefore this groove was filled with ice of some kind. The long axis of the hill is nearly north and south; the rock is weathered; but at the northern end it is deeply grooved. If these are old weathered ice-marks, as I believe them to be, then all the marks aim right over Ireland at the Twelve Pins of Connemara, and over the sea at the Firth of Clyde. In mapping the glaciation of Ireland a line may fairly be drawn from Shan Folagh to Slieve Mish, and the ancient ice may be reckoned to have been more than 2000 feet deep from one side of Ireland to the other, within the bounds of Ulster and Connaught. That makes the northern ice-system in Ireland.

THEORETICAL GENERAL GLACIATION.

Of late years a school of geologists have taken up a glacial theory which their adversaries condemn. The advanced glacial theory, so far as I understand it, is that during a late geological period the whole of the Northern Hemisphere, from the Pole down to regions near the Equator, was covered by a continuous thick crust of ice. It grew then, as ice grows now, by evaporation about equatorial regions and by condensation about the Poles and about high grounds. From the Polar regions, where the ice was many thousands of feet deep, as from the chief condensing-point and gathering-ground, this general ice-system spread southwards, because any pile of plastic materials so spreads. No one imagines that all the water evaporated condensed at any one spot, at the Pole or elsewhere; but the greatest condensation was about the coldest region near the Pole.

Accordingly the ice moved thence with a general southerly movement, along meridians, during the greatest development of the last

* A specimen from the hill-top was shown.

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glacial period. But if one half of the world was so covered, the other half cannot have escaped. The change in climate which produced this period of intense cold is theoretically accounted for by astronomical facts.

The whole theory was based upon many sets of observed facts which combine severally and in groups, and lead gradually from smaller to greater conclusions as the number of facts observed grows.

My observations made this year in Ireland, combined with the rest of my facts, have led me from small mountain-glaciers to a sheet more than 2000 feet thick, covering the northern half of Ireland. I have got a long way towards the most advanced glacial theory since I printed 'Frost and Fire,' in 1865; but I cannot yet see my way to a universal ice-crust. What would become of vegetation and animal life if the uppermost geological formation were everywhere frozen water? That being the advanced theory, and one difficulty, let me add more facts to my budget, and look at the other half of Ireland, with the most advanced glacial theory borne in mind.

8. *S. W. Ireland.*—Any map of Ireland shows the general shape of the south-western end of the island. The coast-line is that of a series of long sea-loughs. The country is a series of long ridges of high land, with deep grooves between, which trend generally south-westward on the strike. It will be argued that the strike accounts for the shape of the land. I do not think that it does.

The sea ebbs and flows in these grooves, and rivers come down through drift at the ends of the sea-loughs. Knowing something of Irish glaciation, one of these long ridges explains the rest.

The first place examined in 1872 was Bere Haven. There glacial action is conspicuous. Rocks at the sea-level are polished and striated, and Boulder-clay with scratched stones in it rests upon grooved rock in Bere Island. A hot day's walk there showed that ice which did this work came off the ridge from the flanks of the highest hill in sight, "Hungry Hill." It crossed Bere Haven, and went over Bere Island at a height of about 800 feet. It was very heavy ice according to the record. If the ice was at least a thousand feet thick, and moved down from the ridge on one side, as in case 5, it must have done the same on the other. In fact on the other side at Killmakillogue Harbour, and at Derreen House, two large local glaciers met and left their story inscribed in plain lines upon the rock. In the middle of this harbour is "Spanish Island." It is a pile of large glaciated rolled stones arranged in a crescent-form, with a small patch of scarped Boulder-clay ten feet high and a few yards wide left standing by the sea.

On this patch grass grows; and all the stones in the clay are finely glaciated. The north-eastern horn of this harbour is the scarped end of a long hill of Boulder-clay of the same kind, on which is a good farm, running parallel to the long arm of the sea which is called Kenmare river; and ridges like it are features in the landscape on both sides of the lough for many miles. To an eye used to look for

ice-marks, all the rocky hills are glaciated from top to bottom. From the fork at Derreen House striae can be followed along the shore to the mouth of Killmakillogue harbour, where they bend south-westwards, and run parallel to the ridges of Boulder-clay. Up to the top of Knock-a-tigh, 1100 feet, striae were copied off the rocks by rubbings. Near the top is a large perched block. At the base long deep grooves run under the long ridge of Boulder-clay. As I read this record, it means that ice flowed off this long ridge, as water flows off a roof, till it got into Kenmare river and the other gutter, Bantry Bay; then it flowed seawards S.W. 2nd. Small local glaciers afterwards cut through the ridges of Boulder-clay which were left by the large Kenmare-river glacier, and so opened the harbours of Killmakillogue and Scriob. The ice was more than 1100 feet thick in Kenmare river, and it probably was a great deal thicker; for the whole ridge is glaciated. Crossing the corresponding gutter to the opposite side of Kenmare river, all these marks are repeated at the corresponding harbour, and they recur down to Dursey Island; there the sea is breaking cliffs out of the hills. At Bally-na-Skelligs Bay all known glacial marks occur, as they do at Valentia. Three great sea-loughs at least, Bantry Bay, Kenmare river, and Dingle Bay, were the beds of enormous glaciers, which came from hills about Killarney as rivers do now. There can be no question as to the former existence of a great local ice-system in the south-west corner of Ireland. But when the northern half of Ireland was covered with ice, the Kerry system must have been joined to the system which flowed seawards at Galway and at Carlingford Lough. All these sets of facts combined prove that all the local systems in Ireland were united before they broke up into separate local systems. Join high glaciated points, change lines into planes, and the whole area of Ireland is beneath the level of ice which ground heavily on hill-tops more than 2000 feet higher than the plain.

9. *United Irish System.*—Since I first observed high ice-marks in 1863, many Irish observers have tested my facts published in 1865. In an able paper upon the glaciation of Ireland, published in the first volume of the 'Transactions of the Irish Geological Society,' the Rev. Mr. Close says that he found that which I had found upon the top of Shan Folaigh.

Mr. Kinahan, the local geological surveyor in the district, sought for like marks on neighbouring hill-tops, and found them. His work, begun about 1865, was published in 1872. Messrs. Close and Kinahan have now published a pamphlet with a map of glacial marks about the heads of Clew Bay and Galway Bay, Lough Mask and Connemara. This map of the able and patient work of seven years confirms my own rapid observations. There was a very large local glacier-system in Western Connaught, which radiated seaward, and which joined other systems on the landward side, till it dwindled away there as elsewhere. It left an exceedingly complicated record in the low grounds, where systems met as glaciers did at Dorreen in Kerry, or where systems split behind hills. Taking the whole

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map, the lower marks trend S.W., and avoid the mountains where they are not the marks of local glaciers born amongst the high glens, and high hills.

XIII. *The United Systems of Great Britain and Ireland.*—I now believe that Ireland was, like Greenland, entirely covered, that it became, like Iceland, partially uncovered, and then, like Scandinavia, nearly bare. But I cannot believe that Ireland ever was a patch of land covered by an equal area of thick ice bounded by the sea. During its Greenland period the Irish system must have been united to Scotland. Having got to Red Bay in Antrim I took a cast northwards by Fairhead to see what I could find there. As I have said, the Antrim hills are made of basalt and trap and chalk; and Antrim drift generally is made of Antrim rocks. At Cushendal are many great blocks of grey mica-schist; and these are strewn over the northern end of the Antrim hills, together with other stones which commonly occur in "Northern Drift." Along the sea-coast are steep grounds along which the road runs uphill and down. Some of the rocks hereabouts are metamorphic, with veins and dykes of granite in them; but I could find nothing *in situ* like the large grey erratics. Along this coast striae run horizontally, and point at the sea-horizon north of the Mull of Ceantire, and towards the glen at the foot of Slieve Mish, which leads S.W. towards Galway Bay. Near the Preventive Station the hill-tops are white chalk, bare, or barely covered by fine green turf. There, and at Fairhead, up to heights of 850 and 1100 feet above the sea, numerous large erratics of the same heavy hard grey mica-schist rest conspicuous upon the hill-tops. At some places the builders of stone circles have gathered the largest blocks to crown the highest top, while smaller blocks are scattered where they fell. Along this ridge to the cliff at Fairhead these great erratics are strewn over the chalk. Produce lines ruled upon the hill-sides about Fairhead, upon a map, and they pass near Loch Killesport in Argyllshire. There, near Ormsary, is the largest erratic which I have seen in the British Isles. Thence glacial striae cross the water-shed into Loch Fyne, and run up Loch-Fyne side, past Inveraray, where all the hills are glaciated till they lead up to hills near Tigh an Dromma, about Loch Awe, Loch Lomond, Glenfalloch, Glen Dochart, &c. in the Perthshire highlands. But rocks and erratics in Ceantire, in Cowal, and about the central highlands of Scotland, cannot be distinguished from the erratics upon the chalk hills at Fairhead in Antrim.

XIV. *Maps.*—If a man could grow on the scale of a mile to the inch, he could see all Scotland at a glance. The ordnance survey of Scotland, drawn on the scale of an inch to a mile, has now advanced so far that four sheets joined give common men a giant's view of the low country between the Forth and Clyde, with parts of the highlands to the north and south.

Looking down upon this miniature country as a giant seventy miles high might look upon Scotland, we can see that it is crossed diagonally by a big groove with a broken ridge in the middle of it. After sun-down on a fine clear cold evening, November 13, 1872, I

saw through the northern part of this groove from Callander, and saw from under a roof of gray clouds the ends of distant ridges like blue pyramids against a hard yellow sky. I went down the side of the groove to Stirling, and along it to Edinburgh. There I took rubbings off rocks. I saw that which is better shown upon the inch scale. The large rock-groove is fluted by smaller ridges and furrows. When these are examined on the ground, small ice-marks are found wherever they have not been destroyed. Ridges of gravel and of Boulder-clay, whose longest axes correspond to rocky hills of like shape, abound from Strathmore to the Clyde, from the "east neuk" of Fife to the west end of Bute. The Bass, North Berwick Law, Edinburgh, Stirling, Dechmont, Dumbarton, Ailsa, and hills which rise through water and drift all the way to the west of Ireland, are alike in form when they are mapped or seen. Any one can see on this map that which I have seen in travelling about for many years. This big Scotch groove is dug out of a great many kinds of rock, as I believe. The softest are in the deepest hollows, and the hardest are generally highest. Some broad engine has certainly passed over these low lands. The sea has been there; for shells are in drift. Ice was there; for Boulder-clay rests upon glaciated rock.

Problems unsolved are, the kind of ice and the extreme size of it, the power which was set to move it, the work which it did, and where and how the work was affected by the material upon which the engine was set to work.

XV. *As to the material.*—A series of straight parallel ridges are drawn between Callander and Dumbarton, and contrast somewhat with the rest of these forms. At Callander, at Dumbarton, in Arran, in Antrim, and in Donegal are edges of beds of Old Red Sandstone. The ridges drawn on the Scotch map are as the grain in carved wood*. At Slieve Liag is a cross section which shows that these beds have been kneaded and crumpled up edgewise like dough. But the forms shown on the map do but record the relative hardness of denuded beds. In the higher country are a different set of forms. Glen Falloch and Loch Lomond are at right angles to the large groove, and cross the strike of the Old Red Sandstone, and of the older rocks of the central highlands, of Argyll and Perth. The spurs of Beinn Lomond, parallel to the Loch, are long ridges and furrows which cross the strike and the edges of the Old Red Sandstone. Faults, and cracks, and breaks abound in the district; but the Ordnance Map and the country itself do not show them. The Geological Maps do; but the shapes of Scotland and Ireland do not accord with their numerous faults.

About the head of Glenfalloch, from all the glens and corries about Tigh an Dromma (Ridge House) flow rivulets which go north, south, east, and west through deep glens; they grow to be rivers, and join the Forth and Clyde, the Tay and the Awe. In each glen is a flat of water-drift fringed on both sides by rows of hillocks of older glacial drift, containing large smoothed stones of many kinds. At the end of each glen are piles of glacial drift in the form of

* A carved model of the hills about Inveraray was shown.

moraines; and marks of glacial action are everywhere. Looking up from these deep glens at the hills in fine frosty sunny winter weather, after the first November snow in 1872, I saw the edges of beds of rock near the highest tops in every direction.

They dip at various angles, and in various directions; they slope down one side of a glen, cross it and rise up the opposite hill-side. I could see no faults to account for the shape of the country. I saw beds on the east side of Glenfalloch, in the face of A Bheinn Mhòr (the big hill), passing along jagged peaks on the ridge, and along the hill-face for many miles, like the grain of wood in a carving.

They proved, by simple inspection, that these peaks were made as the teeth of a saw are, by working out part of the solid.

It seemed manifest that all these radiating Scotch glens were carved out of the long folds which extend longitudinally from N.E. to S.W. according to the Geological Maps. Looking north, south, east, or west, the hills and dales in this region appeared to me as they appeared to Sir Roderick Murchison and Professor Geikie, "monuments of enormous denudation." But the *débris* next the rock is everywhere glacial, and the work of running water is everywhere insignificant when compared with the glacial work which water is destroying.

I could find no record of the presence of the sea about the watershed, which is nearly a thousand feet above the sea-level. All the marks tell of the action of enormous local glaciers, which radiated from this tract.

From this watershed of Scotland, down by Glenurchy, and Loch Awe, and Loch Fyne, and Loch Lomond, and Loch Long, swept great masses of ice which ground the whole of the mountain-ridges between these grooves. It ground the whole ridge of Ceantire. From Glenfalloch to Dumbarton down the Clyde, over Bute and past Arran, ice more than 1400 feet thick went horizontally towards Belfast Lough.

The Ordnance Survey have furnished a map of Arran which is as good as a model. You take the giant's view of it, and see the shape of the local ice-systems plainly recorded. On the ground all known marks prove that all these glens contained glaciers.

But all round the western coast are marks upon rocky points, which prove the passage of ice horizontally between Arran and Ceantire at more than a thousand feet above the present sea.

In the Isle of Man the hills are scored horizontally, and scratched stones and blocks of quartz are near the highest top.

As I now read my record the ice was continuous between Scotland and Ireland.

XVI. But on the top of Scotland near Dalwhinny, and near the top of Beinn Wyvis near Dingwall, I have seen great blocks of the same stone which I found upon chalk hills at Fairhead in Antrim. I have followed ice-grooves and erratics over Scotland and over the backbone of Norway. I left the tracks only at the edge of the Polar basin. They seemed to cross hills into Finland and Russia.

Coming south from these high latitudes, I left blocks of Finnish granite in plains near Berlin. In my view Irish glaciation is but a small part of something far greater, which acted continuously from the White Sea down to the Kerry sea-loughs; and the question now is, what was the nature of the engine that did all this vast glacial work?

XVII. *Land-ice or sea-ice.*—Nine years ago my smaller collection of facts led me to account for all glaciation by causes upon the extreme scale of the existing arctic current and Greenland ice, which I travelled to look at afloat off Labrador and Newfoundland. As my collection of facts grows, I am led towards something still larger. Even an extension of the climate of Greenland to Ireland, and the shifting of the arctic current to the Baltic, would hardly account for marks which I have seen and which I have tried to describe here and elsewhere. When I review all that I have seen in Finland and Scandinavia, in Iceland and Labrador, in Greece, in the Alps, in Spain, and in America west to the Mississippi, and try to combine what I have seen with all that I have learned from writings, maps, and pictures, the whole of my knowledge of facts leads me to a very great extension of all glacial systems, and to a union of many to form one great Polar system, which moved southwards, and reached far beyond the latitudes of New York and Rome. Near New York, for example, the ice came from Canada, and it was over 2000 feet thick when it passed along the scarped face of the Catskills in the direction of the flow of the Hudson river.

I thought that icebergs floating in an arctic current would account for horizontal grooves, which I copied by rubbings all the way up the face of the mountain. The uncertainty of the marks upon the top, where water would flow into the next valley, confirmed that opinion. I now begin to think that the ice which passed over the site of New York seawards in the latitude of Madrid may have been part of a crust which spread from the Pole down to that latitude at least, and there was over 2000 feet thick. My theory has grown with my knowledge of facts. My separate icebergs have joined together. To all that I have said in 'Frost and Fire' I have added more solid ice, and, as I believe, on solid grounds.

XVIII. *Theory.*—This is the purport of the story which I have deciphered from glacial rock-inscriptions in Ireland and elsewhere:—During a late geological period, land in the northern hemisphere was covered by thick crusts of ice, like ice in the southern hemisphere. The crust was continuous then down to low latitudes, as it is now in high southern latitudes. Where it ceased to be continuous, mountains supported large and small local systems, as mountains now do. But the separate systems approached and may have reached to the equator, as said by Agassiz. There was then, as there is now, a general movement from north to south in high latitudes. Where the water was shallow, glacier-ice grounded; where it was deep it floated; and the depths at which ice grounded were proportionate to the depth of the ice. At 2000 feet berg-ice, which

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was glacier-ice at first, grounded in 1800 feet of salt water; at 3000 feet, in 2700 feet or 450 fathoms, according to measurements which I made off Labrador on ice from a stranded berg. The general southerly movement was turned aside locally. At some time there was movement in a south-westerly direction from the Baltic by way of Götheborg and across Scotland by way of the Forth and Clyde, and apparently across Ireland also. There was a wide and extensive movement south-eastwards from the east of Scandinavia down by the course of all the Swedish rivers, and over Finland past St. Petersburg. On the northern shore of the gulf of Finland marks upon granite indicate very thick ice moving over a wide area. There have been a succession of movements. When each glacial period was at the greatest, and climate began to warm up, each great mountain system in a low latitude separated from the crust and became a separate centre of movement. The general system has now shrunk far within the arctic circle; but Spitzbergen, Iceland, Greenland, patches in Scandinavia, and in the Alps, still are gathering-grounds for snow and bases for local systems of glacial action. All these were larger by far. That at least is certain. There can be no question about the enormous extension of the alpine ice-system, and of the transport of stones by ice from the Alps far northwards into the plains of Germany, and far southwards into the plains of Lombardy.

To see Norway and Sweden is to understand that the whole area was one great sheet of glacier-ice moving far out to sea on the N.W., and far out into the low grounds of Europe on the S.E. A former great extension of glacier-ice from existing centres is proved.

The next problem is to make out whether the Scandinavian and Alpine systems met in the low grounds of Europe, and there joined the general Polar system; and if so, how far and to what latitudes this general compound system of glacial movement extended, how it moved, and what work it did. I believe that the general movement and the united crust of ice once reached as far as Washington in America, and as far south as Greece on this side of the Atlantic, and probably united east and west round the world. The leaders of the vanguard teach, as I understand them, that the crust reached nearly to the equator.

XIX. *Ireland*.—The later record in Ireland now seems to read thus. From Kerry to the White Sea there was a continuous ice-system of vast mechanical power, which has gradually retired northwards. As it retired it broke up into separate local systems; as the main system retired northwards from them, the local systems retired from the sea and from the plains up the hills. As the plane of perpetual snow rose from the plane of the sea above the highest hills in Ireland, the Irish local ice-systems also rose till there was no base left for snow to rest on. That which I have seen of late is the record upon the surface of Ireland, the shape of which I attribute chiefly to glacial action, as I have said.

XX. *Under water*.—As I now read marks in Kerry and on the Scotch and Norwegian coasts, ice during the last glacial period

was more than 2000 feet thick when it went to sea. Ice of that thickness would slide along the sea-bottom till it reached water 1800 feet deep (300 fathoms). Between Ceantire and Fairhead the deepest sounding given is 456 feet; between Islay and Instrahull the deepest is only 312 feet. The limit of 600 feet (100 fathoms) passes far outside the British isles. The limit of 1800 feet is out about Rockall. According to charts, the bottom is chiefly made of sand and shells and mud, the light "drift" which tides pack in harbours. But the lead finds rocky hills and deep hollows under water, and trawlers have fished up great boulders south of Plymouth.

Late changes in the level of sea and land are proved by raised sea-margins, by sea-shells far inland, and by submerged peat in the south of Ireland and off Wales. But if the sea were 1200 feet deeper than it is, glacier ice 2000 feet thick might still slide along the sea-bottom from Scandinavia to Kerry.

XXI. Landscapes of the glacial period, which I now picture to myself still, are but magnified images of real landscapes. In Greenland and in Spitzbergen, and notably in south-polar regions, very thick broad sheets of ice slide off land into the sea. These crusts do not end suddenly at the water-level; they break or they slide along the bottom like rafts on slips till they get out of their depth. The ice-rafts meet and join like glaciers on shore in shallow straits about Greenland. Such rafts enlarged would unite if they met in mid ocean. It is well known that glaciers on shore are forced over hills by sufficient pressure from higher hills or from higher snow-heaps. The same glacier partially floated by water can be driven over sunken hills by less force.

Terrestrial and amphibious glaciers are ice, and have greater mobility for weight decreased by partial flotation. Awash in moving water and aground, a glacier pushed seaward is easier to move and is moved by more forces. Ice that slides off Greenland south-eastwards and north-westwards is turned south-westwards by the Arctic current. It would be affected by that current if it were aground all the way to Iceland and Labrador. Were the Arctic current transferred to the Baltic, and Scandinavian ice enlarged till the whole of that sea was one wet glacier, the laws which govern the circulation of ocean-currents would not be repealed. If the local systems of Greenland, Iceland, and Scandinavia were united in the Atlantic and aground in its shallows, water left fluid in deeps and further south would still move in obedience to existing laws, and would still move ice adrift or awash in it, however large and deep the ice might be. Glaciers did move through hollows which are lake-beds now. I suppose that a far larger glacier than any now extant moved along the beds of shallow seas. In striving to picture the glacial period I invent nothing; but I strive to shake off ideas of size. The whole world is a very little thing to the solar system; but so far as we know, the same mechanical laws govern the movements of the whole machine and all its parts. The authors of the 'Reign of Law' and of the 'Theory of Lakes' will agree with this.

XXII. *Ice-marks*.—If I reduce a country on the scale of a mile

to an inch, I reduce glens 12 miles long to the size of glacial striae a foot long, and they are alike in shape. If, on the other hand, I begin with hair-lines engraved by ice with fine sand upon glassy quartz, and magnify them with a microscope, they take the proportions of larger striae upon the same stone. I can get to grooves like Gweebarra and Kenmare river by easy steps along Irish rocks. But hair-lines, Irish glens, and Norwegian fjords are all grooves of one pattern, though engraved upon different scales. If ice made one set of grooves, bigger ice might make the biggest. A finished ordnance-map and a rubbing taken off a glaciated rock show that glens and striae are very like when the large scale is reduced from a mile to an inch. A very little chipping and shaping would convert a few square yards of glaciated Irish rock into a tolerable model of the island of which it is part. I have not grown to be 70 miles high; but, in growing to be 50 years old, I have seen as much of the world as if I had looked down upon it, and I remember, on the reduced scale, as if I looked upon a model. Looking thus back upon all the countries which I have seen, the hills and dales appear to record that the very same ice-engines which are shaping the earth's crust in high latitudes and in high lands, also shaped the surface of the British isles when those engines were larger, longer, broader, deeper, and heavier.

XXIII. *Sea-marks*.—Having seen and copied sea-marks at many places, I see that shelves and floors carved all round Ireland by the sea will unite in time. Unless Ireland is raised, it will be polished off the face of the earth by waves. But the new surface will only be like older buried surfaces, and like the surface of Bute or Anglesea, or any other low country, which is like a geological map without mountain-shading.

Looking at the work done by the sea round the Irish coast, and at ice-work and drift and sedimentary rocks, no measure for "Denudation" is left, except the full sum of sedimentary rocks from Irish mud to Laurentian gneiss and the granite, which was sedimentary before it was last fused.

Wide hollows and narrow grooves were dug out of the solid in Ireland since the formation of Antrim Chalk and Basalt. Most of that work still bears the marks of ice. Enough of glacial debris is strewn over the low lands to fill up many of the grooves in the hills; and these records are carved upon Irish hills in plain lines, which a child may soon learn to read.

XXIV. *Conclusion*.—Denudation is part of geology. Ireland has been largely denuded. Glacial and marine action are the most powerful known to me. Glaciers and the sea shaped Ireland, as I believe. Rivers and weathering have done little to obliterate the tool-marks of ice and the sea, since the end of the last of a series of glacial periods*.

* April 3, 1873. It has been pointed out to me, that as early as 1840-42, P. Merian, of Basle, showed that ice-fractures are completely closed. The first maker of a snowball proved the "regelation" of ice-crystals under pressure; and the fact is now generally understood.

DISCUSSION.

Prof. RAMSAY agreed in the main with the views of the author, and with the opinion of Agassiz as to the great extension of cold at a certain period both in the northern and southern hemispheres, though he could not carry the theory quite so far as to leave merely a narrow equatorial belt unaffected by ice. He had, however, never seen any mountain-region in the northern hemisphere on which there were no traces of glacial action. As to Ireland, he knew of no portion of its surface which had not been glaciated, and the great striations actually extended, as they do in Scotland, right over the watersheds, and were evidently unconnected with any merely local features. At the same time, even where the general current of the upper portion of the ice was constant, yet there might have been and probably were, undercurrents, the course of which was determined by the form of the country traversed by the ice. He was not certain that the present features, resulting from denudation, were rightly attributed to glacial agency alone, as other causes appear to have been at work. He instanced cases of enormous denudation at early geological periods which it was difficult to trace to any glacial action. He thought that during the Glacial period the main features of the country were to a great extent modified by the great ice-sheet which capped it, without its having had so extensive an effect as that sometimes attributed to it. Still sufficient changes had been made on the surface to cause the rivers which were resuscitated after the close of the Glacial period to take new courses. The existence of old river-valleys, partially obliterated by glacial debris, proved to his mind that hills and valleys, and a diversified surface, existed previously to the Glacial period to almost as marked an extent as they do at the present day.

Sir HENRY JAMES observed that, having at one time been in charge of the Geological Survey of Ireland, he could indorse the views of the author as to the glaciation of that country, though he agreed with Prof. Ramsay as to the probability of valleys in Ireland and in Scotland having existed before the Glacial period and guided the flow of the ice. These no doubt were intimately connected with the varying hardness of the rocks.

Mr. T. M'K. HUGHES remarked that there was no necessity for a polar ice-cap from any secularly recurring cold—seeing that the difference of temperature, known as a matter of observation to be due to geographical causes, was so very much greater than any variation of temperature which had been shown to be possible owing to astronomical combinations, that the astronomical causes might be neglected. He showed that the glaciation which was relied on as a proof of the passage of large masses of ice from the north, did not appear to come from the north pole, but from local centres, such as Scandinavia, Scotland, and the mountains of Wales and the N.W. of England, from which the ice moved in all directions. He pointed out that the contents of the drift appeared to be ignored; for although in the British Isles the polar drift might have been pushed

out to sea by later glacial action, still it would only have been transferred a little further on; and had any such drift been deposited generally over the north of Europe, traces of it ought to be found along the south and east margins of the Scandinavian drift. He appealed to the vast scale of the changes of level to which this part of the earth's crust had been subjected, and especially to the shell-beds of Moel Tryfaen and Macclesfield, to prove that changes of level of at least 1400 feet had taken place since the Glacial period, and inquired whether elevation on even that scale would not recall glacial conditions over a large part of the area under notice. He again proposed to the Society a question which he had asked several years before:—what was the maximum pressure which ice would bear without becoming water or being crushed? and whether the consideration of this and the other conditions involved would lead us to assign a limit to the possible lateral extension and vertical thickness of an ice-sheet moving on a plain or uphill which would affect such speculations as that under discussion.

Mr. MALLER said, in reply to a question from the President, that experimental data were as yet wanting to enable a precise determination of the limit of distance to which an extraneous force could be transmitted through a prismatic mass of ice. The fundamental point of such an inquiry was—what is the modulus of cohesion of the most solid ice? A few experiments had been made, which showed that the height of this modulus could not exceed a few hundred feet. Let it be assumed, however, that it was as great as 5000 feet, or a mile. It was then obvious that a mass of ice, no matter how deep or wide, lying in a straight, smooth, frictionless valley, could not be pushed along by any extraneous force in the line of the valley through a distance of more than a single mile; for at that point the ice itself must crush, and the direct force cease to be transmitted further. This, of course, was far from being the whole of the question of the transmission of force through ice; for when and wherever crushing took place, a certain portion (though a small one) of the direct pressure was transmitted laterally by the crushed fragments, especially if mixed with water, simulating the quaquaversal properties of an imperfect liquid. For this to take place, however, in the direction of the length of the ice-filled valley supposed, the ice must be considerably more than a mile in vertical depth. These simple considerations were alone sufficient, he thought, to overthrow the notions which had been advanced by Prof. Ramsay and others as to the excavation of great valleys by the pushing of large masses of ice in the direction of their length. Mr. Mallet had had ample opportunities for several years as an engineer of observing the surface-features of Ireland, and indorsed the fact that almost everywhere the surfaces of the rocky skeleton, when hard enough or freshly uncovered, were found to be scratched, as were most of the boulders in the detritus above. But were these scratches necessarily evidence of the action of ice at all? he thought not. The general trend of the valley- and hill-ranges of Ireland was, as stated in the paper, N.E. and S.W.: but the production of those

valleys and anticlinals was obviously the work of the great formative forces by which the whole island had been forced up above the sea, by lateral pressure, squeezing the harder deposits into folds, and these carrying up upon their backs the deep covering of loose material which had lain upon them as sea-bottom. As the land emerged, this loose material was affected by tidal and wave-action, caused to slip and slide down all declivities, even very small ones, and, in doing so, scratched and furrowed the supporting surfaces of rock in a way that he believed it impossible to distinguish from the traces left by similar movements of masses of ice. And if this were so, as like phenomena must be as universal as the emergence of land was everywhere from beneath the sea, so it seemed to him that, so far as the evidences of scratching and polishing or denuding of rocks went, the glacial hypothesis was unnecessary. He admitted the scratching and transporting power of ice as a *vera causa* of some geological phenomena; but he believed that its effects had been enormously overrated, and that much had been attributed to its action which, when submitted to the test of "measure, number, and weight," in place of, as was the habit, perpetually dealing with "quality" only, would prove to be physical impossibilities. Thus the work capable of being done upon the ocean-bottom by the grounding of even the largest iceberg, could, when all the dynamic conditions were held in view, be proved to be extremely small. The general facts, as respects the direction of the striation or scratching of the rocks, as well as the direction of transport of boulders in the detritus above, were, for the whole surface of Ireland, that the scratches tended to lines down the great declivities, both laterally and longitudinally, but influenced by a great general trend from the west, and north, and south-west. The lines of boulder-travel had, on the whole, followed the same direction as the scratches. He could not, therefore, admit the views of the author as to the direction of these scratches being on the whole from north-east to south-west as representing the facts. Mr. Mallet referred to a case of a large subangular boulder found in deep clay by himself and Dr. Oldham, stopped in the very act of making an uncompleted groove, and under conditions that forbade any supposition of ice-action or any other source of movement but that of the quasi-fluid movement of the whole mass of clay carrying the boulder with it. He also pointed out that moraines, or masses dropped by ice, could not be distinguished generally from torrentially moved masses of clay, gravel, and rock, or from escars or eddy-bars formed by tidal-stream action, pointing out two cases, one in Wicklow, the other not far from Dublin, both pronounced by Agassiz to be indubitably moraines, but the former being manifestly a torrential bank, the other the effect of a tide-stream eddy when the plain of Dublin was still from 500 to 700 feet beneath the sea-surface.

Mr. EVANS disputed Mr. Mallet's conclusions as to the propagation of motion through ice and the effects of grounding icebergs.

Mr. TIDDEMAN had examined a large portion of the western side of the north of England opposite to Ireland, but did not attribute

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its glaciation to any general ice-cap radiating from the Pole. He thought that the ice-sheet was general over the northern part of the British Isles, and on a much larger scale than was usually admitted—and that one of the obstacles to its recognition was the later glaciation along the valleys, which was more conspicuous than the older traces, and another the difficulty which some people had in ignoring the present coast-line.

Mr. J. CLIFTON WARD stated that in the northern parts of the Lake district he had found that the direction of the ice-flow must have been mainly to the north.

The AUTHOR, in reply, remarked that in Greenland, whatever might theoretically be the case, ice is pushed for scores or hundreds of miles down into the sea, until it gets out of its depth, and eventually floats off as icebergs. He pointed out the correspondence of the main valleys of Ireland with glaciations on the surface of rocks from Scotland, and exhibited specimens and rubbings in illustration of various characters of weathering and wear from different natural causes.

