NOTICE OF LETTERS ADDRESSED TO CAPTAIN SHAND, R.A., BY PROFESSOR THORKELIN AND GENERAL ROBERT MELVILL, ON ROMAN ANTIQUITIES IN THE NORTH OF SCOTLAND, 1788–1790.

By JOHN STUART, Esq., Sec. S.A. Scot.

The gentleman to whom the letters now to be noticed were addressed, was a native of the parish of Forgue, in Aberdeenshire, and the events of his life are summed up in the following epitaph to his memory, which is inscribed on a monument erected on his property of Templeland:

“To the Memory of ALEXANDER SHAND, Second Son of GEORGE SHAND and AGNES LITTLEJOHN, in Parkdarque; Colonel of the Royal Regiment of Artillery: who died on the 7th of April, 1803, aged 72 Years.

'Colonel Alexander Shand, to whom this Pyramid is erected, was a striking Instance of the Efficacy of strong natural Powers and vigorous Perseverance. His Parents had soon learnt to appreciate his Genius, and bestowed upon him so liberal an Education, that, during several of the early Years of his Life, he was himself enabled to act as an Instructor of Youth. The natural Bias of his Mind, however, speedily became too powerful to permit him to rest in the Obscurity to which Circumstances seemed to have consigned him; and some time previous to the Year 1760, he entered as a Private in the Royal Regiment of Artillery;—soon thereafter became a non-commissioned Officer, and was promoted by his Majesty to the rank of Lieutenant Fireworker, in which Capacity he gallantly distinguished himself in several Actions in Germany, and received a severe Gun-shot Wound in the Foot at the Battle of Corbach, on the 10th of July 1760. He was also wounded at Brandywine River in America, on the 11th of September 1777.—His Services at Gibraltar were held in high Estimation during the memorable Siege of that Fortress in the Years 1780, 1781, 1782, under the Command of the Right Hon. Lord Heathfield, whose Confidence and Regard he enjoyed in an eminent Degree: and having thus, during a long Course of Years, signalized himself in the Service of his Country, and attained to the Rank
of Colonel, this gallant Soldier died on his Estate of Templeland, and was buried in the Churchyard of this Parish.

"The Merits and Character of Colonel Shand may be sufficiently traced in the History of his Life. Entering into the World destitute of Friends, of Fortune, and of Influence, he quitted it rich in the Possession of all these Gifts. His Perceptions were clear, his Judgment sound, his Information extensive, his Courage calm, and his Integrity spotless. —The Toils of his early Years, and the Perils that marked the Meridian of his Life, were rewarded at its Close by an honourable Competence, and the Recollection of a Life devoted to his King and his Country.— In his Death he has bequeathed this useful Lesson to Posterity, that the most formidable Obstacles disappear before Vigour and Perseverance; and that, in this Land of genuine Freedom, the highest Stations are equally accessible to Talents and to Virtue, as to Riches or high Descent."

On his retirement from active life he devoted himself to the improvement of the lands of Templeland, which he had purchased, and to a study of the Roman remains in the country to the north of the Tay.

He was the first to discover the great Roman camp at Glen-mailen, near the source of the Ythan, and in the year 1788 he prepared a description of it for the Society of Antiquaries of Perth. In General Roy’s work on Roman Antiquities, the 51st plate gives a plan of this camp and other works in the neighbourhood, which was copied from one prepared by Captain Shand, and, as it would appear from the following note, somewhat inaccurately:—

"GIBRALTAR, 1st June 1798.

"General Roy not having traced the greatest existing Roman camps farther north than Battledykes, in the parish of Oath-law, shire of Angus, it is probable that many of the readers of his excellent work would wish to have plates 50 and 51 more fully explained, the places represented by them being situated, the one at the northern extremity of the Mearns, and the other on the confines of Banffshire, about an hundred miles beyond the South Esk river.

"The very remarkable spot exhibited in the fiftieth plate, called Garnic-hill, and Ridykes of Ury, is by several good judges believed to be the camp of Agricola, at the time when he gave battle to Galgacus,
the Caledonian chief, and is well-described, together with all its out-posts, by an author having a borrowed signature (supposed to be Lord Buchan), in a publication which came out many years ago, the name of which is not at present remembered, but resembling 'Romana Britannia Topographica.'

"The camp near Glen-mailen, on Ythan, was first discovered to be a Roman work, during the years 1785 and 1786, by Captain Shand, an Officer of Artillery, who gave in a paper, about the beginning of 1788, to the Antiquarian Society of Perth, describing that post, and the Castellum on Barra-hill, nigh to Old Meldrum, a station no way inferior in grandeur, or good preservation, to any work of the kind, that at Ardoch excepted.

"Captain S. did not finish his plan of the ancient military vestiges, on the sources of the Ythan, till some time afterwards, and permitted a good many copies to be taken, and as some of these have been copied from other copies, a few errors have crept in, particularly in the orthography, several of the names of places, and grounds in plate 51, being spelled in such a manner as would make them unintelligible to the country inhabitants.

"Both the above mentioned parts, as they furnish positive evidence that the Romans had passed the Grampians, with an army at least of 26,000 men (see the author on castrametation), and had possessed the country, in their usual manner, by a strong permanent presidium, are esteemed discoveries of the greatest importance, not only as mere evidence of an historical point, but as tending to shew the true tract of the itinerary, and pointing out methods for further investigation. When the Perth Society think proper to publish their collection of antiquities, the curious will find a short account of the camp near Glen-mailen, in Sir John Sinclair's Statistical History of Scotland, vol. 12, at pages* 287, 288,

* N.B.—In that account of the Roman camp near Glen-mailen, it is asserted by some of the well-informed neighbours, that the author has made a mistake in putting down a ruin near Pitcaple as a Roman outpost, it being only the remains of a castle belonging to the Leslies, a powerful family sometime ago; and though the entrenchments near miln of Easter-town have more the appearance of a field work, that it had been only a gentleman's dwelling surrounded with a ditch. Nevertheless, the last mentioned place has all the appearance of a Roman work, excepting
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& 313 to 316. Likewise in Newte's Tour, quarto edition, printed in the year 1791, at page 301, beginning at line 5, and continuing to the end of the paragraph, only omitting line 6 altogether, and three words to the same purpose in line 14, the editor having been misled in that assertion concerning an Officer, eminent for his critical knowledge of the Roman classics and Roman British topography.

ALEX*. SHAND."

The letter from General Melvill to Captain Shand was written in 1788. In it he expresses a favourable opinion of Captain Shand's paper on the Roman antiquities north of the Forth, sent to the Society of Antiquaries at Perth, and states that he himself was the first to discover the large Roman camps in Forfarshire, in the course of a visit to Lord Panmure in the summer of 1754. It is as follows:—

"LONDON, 12th May 1788.

"Dear Sir,—I was lately favored with your obliging letter of the 30th March, and by what cause its delivery to me had been so long delayed I know not.

"I pursued with much satisfaction your vigorous paper on the subject of the Roman highways, camps, and posts northward from the Forth, in as far as can be discovered, and can be reasoned upon in a military view. Agreeably to your desire with the wishes of your V. Pres*, & Members of the Antiquarian Society of Perth, I have forwarded the paper in a letter to the Rev* Mr. Whitaker, and have acquainted him with the time of my intended departure from London, so that he may have sufficient time to write to you on the subject, thro' me, if he is desirous of it. It is true, as you have mentioned in your letter, that I was the first who discovered the large Roman camps, as being such to the North of the Forth & Tay, which happened in Summer 1754, when on an attentive perusal of Julius Agricola's Life by his son-in-law Tacitus, particularly of what relates to his 6th or 7th Campaign, I was led to conclude, from the nature that no gate or prominent station can be observed; and its name (the Rivers or Robbers) seems to declare that it had been something military either in ancient or modern times. A tradition likewise has prevailed among a few inhabitants that vestiges of Roman camps have been observed not far from the maiden causey, an ancient work which terminates at the Barmkin on the E. summit of Bennachie."
of the country and the reason of war, that the general assembling of his
troops must, for many reasons, have been held in the higher parts of the
country, between the rivers Forth & Tay, and that his march thro' a
passable and cultivated country approaching towards the N.E. coast and
along the Grampians could only be in those days, from a rendezvous pro-
bably in the neighbourhood of the large Castellum at Ardoch, with a suc-
cession of camps at the end of proper marches into Strathmore, having
crossed the Tay at some safe ford above the situation of Perth.

"I found no encouragement for this idea either from the writings of
Gordon and other unmilitary Antiquaries, nor what was still more dis-
couraging from our Engineers employed on the Survey of Scotland; for, on
the contrary, the gentleman who had just finished the survey of Angus
assured me that he had been very careful to discover & mark down all
traces of entrenchments, and had found none but the common circular or
oval ones on hills or eminences which were not ascribed to the Romans.
I remained, however, persuaded that there must be discovered vestiges of
Roman camps formed or used by that Roman army either marching together
or in divisions advancing N. Eastwards, or returning into that country, of
the Horestii, that I went from Edin to visit my good friend Lord Pan-
mure at his seat of that name, and thence to make enquiries and searches,
especially in heaths and uncultivated places beyond it. The result was,
that I soon found in excursions the remains of the camp at Kirkbodie,
Keithock beyond Brechin, Battledykes near Finhaven, and Lintrose
near Cupar; but being obliged to return suddenly to Fifeshire & Edin-
neither could examine for more of these encampments towards Ardoch to
the S.W. or towards the Mearns to the N.E. The forms of these camps
were Roman like, with gates, and large enough to contain a considerable
force, according to their mode of castrametation, but I had only time
enough to take very rough sketches of them.

"Upon my return to Edin', my first proselyte was the present Gen'.
Roy, then one of the surveying Engineers, but not the one who had sur-
veyed Angus. He afterwards visited these camps, took their measurements,
and entered them in the Government Map of Scotland, together with
the addition of one at Grassy walls, as I think they call it, not far from
Scone, on the E. side of the Tay; and another, or rather two, enclosing
parts of each other near the Castellum of Ardoch;—an intermediate one
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was supposed to be near Gask, by part of a ditch, visible within these few years, but is upon the whole too much effaced to be ascertained in its dimensions. Gen'. Roy took occasion afterwards to give his views in a MS. description with drawings, a very good performance, not only of these several camps already mentioned, but with regard to the march of Agricola into Scotland, and of the posts made or occupied by him.

"I hope to get to Scotland this summer, and when at Edin'. shall hope to have the pleasure of seeing repeatedly our worthy friend Major Foulis."

"I have only to add for the present that I am with great regard,

"My Dear Sir,

Your most obedient
And most obedient servant,

"Captain Shand.

Robert Melvill."

The other two letters are from the well-known Danish antiquary and scholar, Professor Grimm Thorkelin, who in one of the letters encloses an essay, which he declares to be his first attempt to write in English. It appears to have been on the subject of Roman antiquities, and he makes sundry inquiries regarding the Roman remains inspected by Captain Shand in Aberdeenshire.

In the other, after conveying his thanks for the satisfactory answer furnished by Captain Shand, he goes on to answer some questions put to him by the latter relating to the ancient roads of Denmark and the finer breed of sheep.

The letters are in the following terms:—

"BROWNLAAFTS, LONGACRE, Sept. 18th, 1790.

"Dear Sir,—According to your kind permission, I take the liberty to trouble you with the enclosed—the first attempt of mine in the English language. I only wish that the time you may bestow on reading the Essay through may not seem to you to be entirely thrown away for an idle purpose. Your approbation will be my reward—a reward I am very anxious to gain, but still more your information both with respect to the matter in question, & the Roman Remains, which have come in your way in Aberdeenshire. Give me leave to ask you these three questions. When & where did you discover Roman Camps and outposts in the said
country? & where have you discovered Roman roads there? Have you examined these roads, and what reasons have you to believe that these roads are Roman works? Pardon me for troubling you with these queries, & believe that nothing would have made me so bold, but the conviction I have of your obliging readiness in spreading useful knowledge among your fellow-citizens.—I have the honour to remain, with the most sincere respect,

"Dear Sir,
Your most obedient &
very humble servant,

"To Captain Shand.

G. Thorkelin."

"Brownlofts, Longacre, Octobr. 9th, 1790.

"Dear Sir,—I render you my warmest thanks for your very obliging letters, through the medium of which I have received the most satisfactory information relative to the Romans & their invasion, in the northern parts of Scotland. May I but be able to make a condign use of your friendship & the trouble which you give yourselves on my account. Howsoever I may succeed in shewing the high sense I feel of the obligations I am under to you & your beloved native country, (where I have met with the most unbounded Kindness & Hospitality,) I hope that my attachment to the Caledonians will not be exceeded by any; & in this sacred purpose I trust you will assist me, & remember me now & then of my duty. Reliing on your good offices & friendship, I shall now beg leave to answer more immediately your kind letters, in particular what relates to the antient roads & the finer breed of sheep. With respect to the roads, all I can say is this, that as far as can be seen from the monuments of history handed down to us from the 12th and 13th Centuries, we are authorized to believe that, before the Conquest of Norway by Harold the Hairfair, no roads existed in those quarters. The laws which his son Hacon The Good, who had been educated in the court of Adelstan in England, are the first records we have, regulating the statute labour, by which the highroad or Hergata via militaris, should be kept in repair. However, these laws leave us at a loss with respect to the modes of making roads, their width & nature. In Sweden no roads, or at least very bad ones, seem to have existed before the eleventh century—for St Ansgare,
the Apostle of the North, used a whole month to travel from Lund, in
Scane, to Stockholm, a distance which is at present run in two days, &
yet this holy man travelled post, a circumstance which must induce us
to think of a country overgrown with bogs & woods. In Denmark roads
have been from the days of yore; we still see the High way of Waldemar
the 1st. Moreover the Laws passed in 1163 divide the roads into public &
private, & ascertains the fines for either neglecting or destroying the Kings
high way, viz. three marks of silver, or 4£ 16s, an immense sum in those
days. The roads, or rather the fragments of them, which still exist, are
about 12 feet wide, in some places paved with stones—in others again
made of gravel & clay beaten together. Now to the sheep. I perfectly
agree with you that the sheep are of various kinds in various quarters.
The analogy of nature makes good our assertion—though the genus be
not different, yet the species may be so. We know that the people of one
place are handsomer, more strong, & possess more vivacity of Mind &
body, than those of another place; but here must be some latent causes,
which ought to be anxiously enquired into. It is not enough that we
introduce a new breed of men & other animals, unless we know before
hand how to preserve these new inhabitants. The climat of our coun-
tries, pure and serene, seems to invite us to mend our breed of sheep, &
it is beyond all doubt that sheep must yield the more excellent wooll
the nearer they live towards the pole. Nature, the invariable nature, has
cloathed those inhabitants of her woods, who are remotest in the north,
with the softest & the most precious furs—& why should the sheep not
then be dressed by the benevolent nature in the warmest silky fleeces? I
know not what is the case with Scotland, except from your letters, equally
instructive & patriotic; but I can speak with certainty as to my native
country, Iceland. The sheep are there one of the most important articles,
& it is generally believed that the sheep are finer in every respect on the
northern coast of that extensive Island. Much, however, depends on the
mode with which the sheep are treated. We let them go out in winter
even in the most frosty day, & at night drive them to a shelter, where
they are saved from being buried in the snow. Nay, there are sheep on
the south-east coast, which are totally wild; they breed & grow without
the least care, & must be shot & hunted before they can be taken.

I regret infinitely your going abroad: it will prevent me from gaining
from you the most useful instructions. However, let me intreat you to con-
tinue your friendship; & let me add as a motive—that I being a depen-
dant of your countrymen, who settled in Iceland in the tenth century,
have some claim to your kindness; and this I will never forget, either I
shall live on the lofty mountains of Iceland, or on the watry plains of
Denmark.—Your health & prosperity will constantly engage the most
ardent wishes of him who has the honour to be,

"Dear Sir,

"Your most obedient very humble
"& most obliged serv't.

"G. THORKELIN.

"To ALEXANDER SHAND, Esq

SPECIAL MEETING.

MONDAY, 31st December 1866.

SIR JAMES Y. SIMPSON, Bart., Vice-President, in the Chair.

The CHAIRMAN having introduced Professor George Stephens, of
Copenhagen, to the meeting, explained that the learned Professor being
now in Edinburgh for a short visit, he had kindly agreed to give an
account to the society of the Old English Runic monuments known in
Great Britain at the present time; and he need hardly add that such
an account could not come from a greater authority than the author of
the "Old English Runic Monuments," of which the first part had been
recently published.

In the course of his interesting address, Professor Stephens described
the Runic inscriptions on thirty-five monuments in Great Britain,
from which it appeared that they had been found on crosses, coffin-
lids, brooches, rings, and caskets. Among the crosses, Mr Stephens
directed particular attention to that at Ruthwell, in Annandale, which
he regarded as the most sumptuous in ornament, and the most inter-
esting, from its inscriptions, of any in the world; and he implored
the Society to take some interest in the preservation of a monument so precious. Mr Stephens explained that the first part of his work contained the old northern Runic inscriptions in Scandinavia; and that the second, which was now well advanced, would contain all such inscriptions known in Britain, with careful and detailed drawings of the crosses, caskets, rings, and other objects on which the inscriptions were engraved. Some of the sheets of this part were exhibited, and excited general interest and admiration.

Mr Stuart was sure that the meeting would express their cordial thanks to Professor Stephens for his interesting discourse. He trusted that it might make the Professor's great work better known among them, and that it would lead themselves to prize the venerable monuments still remaining in the land, on which Mr Stephens had lavished so much zeal and learning. With regard to the cross at Ruthwell, he had recently been corresponding with the minister of the parish on the subject of its better protection, and he trusted that ere long a suitable plan would be devised for this purpose.

Sir James Simpson stated that Mr David Bryce, the architect, who was to be in the neighbourhood of Ruthwell on an early day, had promised to examine the monument, and report his opinion as to the steps which should be adopted. Sir James drew attention to Professor Stephens' magnificent work, and to the learning of the author, expressing his regret that it had not met with adequate encouragement, and that its production would go far to ruin the author, whose enthusiasm would allow no pecuniary consideration to come in the way.

Various suggestions were made on the subject, and a general desire expressed that the state of matters should be better known. The Chairman, in the meantime, recommended that all who could afford it should subscribe for copies of Mr Stephens' book, and that the subject of aid from the Society should be brought before the Council.

The thanks of the meeting were voted to Professor Stephens and to the Chairman.
DAVID LAING, Esq., LL.D., Vice-President, in the Chair.

The Right Hon. EARL PERCY was admitted a Fellow of the Society.
Mons. A. FURBY, B.A., George Street, was balloted for, and elected a Fellow, and
ARCHIVARY HERBST, Copenhagen, was elected a Corresponding Member.

The following Donations to the Museum were laid on the table, and thanks were voted to the Donors:—

   Portion of a Flat Bone of a Whale, measuring 6 inches in length, 2½ inches in breadth, and 1 inch in thickness. It is perforated by two holes.
   Six Stone Mullers or Pestles, measuring from 5 inches to 7½ inches in length.
   Three rude hollowed Stones or Cups, of irregular shapes: one measuring in greatest length 8½ inches, another 6½ inches, and the third 4 inches.
   Two Circular Discs or Plates of Slate, measuring from 11 inches to 6½ inches in diameter.
   Two Flat Discs of Stone, 3 inches in diameter, perforated in the centre.
   Curious Bronze Handle, measuring 3½ inches in length, apparently turned on a lathe and finished by hand. (It is carefully figured in the woodcut, p. 103.)
   All these articles were discovered in clearing out a "Burg" at Harray, Orkney. (See Communication, page 103.)

2. Rounded Implement of Sandstone, measuring 7 inches in length, 4½ in breadth, and 3 inches in thickness. A groove is cut round its sides and edges. The stone resembles in shape a ship's "block;" and
   Bone Pin, measuring 4 inches in length. Found in the "Knowe of Saverough," Orkney.

3. Small Penannular Brooch, 1 inch in diameter, with a Pin; and a
DONATIONS TO THE MUSEUM.

Bronze Buckle, 1\frac{1}{2} inch in diameter, ornamented at each end with heads of animals. The tongue is awanting. (See annexed woodcuts.)
The Brooch and Buckle were found in Orkney.

(2.) By D. H. Robertson, M.D., F.S.A. Scot.
Iron Cardinal Points of the Vane of St Mary's Church, South Leith.

(3.) By William Brown, Esq., of Linkwood.
Small Female Figure in lead, found in digging at Castlehill of Rothes.

(4.) By Mr Daniel MacKenzie, Alva.
Celt of close-grained dark-coloured Stone, measuring 5 inches in length and 2 inches across the face; from New Zealand.
Two Boars' Tusks from New Zealand.

(5.) By Mr Robert Leith, Leven.
Wooden Club, with cleft extremity, and a small pattern cut on the back part of the head; it measures 3 feet 6 inches in length. From Navigator's Island, South Pacific Ocean.

(6.) By George Sim, Esq., Curator of Coins, S.A. Scot.
Denarius of Diadumenianus—Rev. Spes Publica.
Denarius of Barbia Orbiana.

(7.) By Samuel Laing, Esq., M.P., F.S.A. Scot.
Collection of Stone, Bone, and Bronze Implements, also portions of Human Skeletons and Animal Remains, found at Keiss, Caithness-shire, they are referred to in the subjoined notices of the different localities where
they were found, and are fully described in a work published by the
Donor, entitled, "Pre-historic Remains of Caithness.
By SAMUEL LAING, Esq., M.P., F.G.S. With Notes
on the Human Remains. By THOMAS H. HUXLEY,
Esq., F.R.S., Professor of Natural History, Royal School
of Mines. London, 1866."
The Society is indebted to Mr Laing for the accom-
panying plates and woodcuts.
The Burial Mound is at a point where the sandy
links end, and the sand of the sea shore changes into
rock, and the first houses of Keiss begin, as seen in
the section (fig. 1). There is a long, low, irregular
mound of sand, overgrown with green turf (fig. 1, a to b),
extending for about 300 yards parallel to the beach on
its natural terrace, which is here composed of a raised
beach of sand and shingle. The mound has probably
continued for 400 or 500 yards farther north over the
space now occupied by cottages, gardens, and farm-yards,
as kists and skeletons are said to have been found up
to the point where the cliff of boulder clay rises near
the harbour. In this case the mound has been nearly
half-a-mile long.
Its shape is so far obliterated that it is not easy to
assign its precise breadth and height. The maximum
breadth may be taken roughly at 80 or 90 yards, and
the height at 10 feet above the natural soil or raised
beach, which is itself about 10 feet above the level
of the present high-water mark, as shown on the trans-
verse section (fig. 1).
Mr Laing made sections across the mound, and dis-
covered stone coffins at the points indicated on the
longitudinal section (Plate V.8)
The coffins found were placed with wonderful regu-
larly at about 15 feet apart, and in the central line of
the mound. They were all of the same structure, consisting of walls of
unhewn flag-stones from the beach, with no floor, but covered with large
flat stones. The kists lay generally north and south. They all contained human skeletons laid at full length, except one which was partially crumpled up. The heads in some cases were to the south, in others towards the north. Some of the skeletons found were those of females.

Near the centre of the mound Mr Laing discovered a circular wall, 18 feet in inner diameter, about 2 1/2 feet high, and 9 inches to 1 foot thick, which enclosed a cairn of stones (fig. 3). The stones near the centre were large, and disposed with some care. On removing the cairn,

a stone kist was found (fig. 4), which measured 6 feet 7 inches in length, 1 foot 10 inches in width, and 1 foot 10 inches in depth. It contained
a male skeleton, which lay on the right side, with the head to the south. In the kist various artificially-formed stones were found, which are figured in Plate VI. 1 to 11. Twelve stones were found about the position of the left hand. The stone shown in Plate VI. No. 8, was found under the head, also a smooth oval beach stone. Five stones were found in the cairn covering the kist, including a sandstone block 13 inches in diameter,
with two circular holes about 2 inches deep on opposite sides, but not pierced through (fig. 7); a thin plate, 18 inches by 14 inches, rudely chipped to an oval or circular form; a similar round plate, about 7 inches by 6 inches; a broken wrought circular stone, with a circular hole in the centre not pierced through; a small granite stone from the beach, 2½ inches by 1¾ inches; now preserved in the Museum.

In another kist were found various stone implements, an oblong stone hammer or pestle (Plate VII. Nos. 1 to 10), a piece of quartz, and a small deer horn, hollowed out apparently to serve as a handle, as figured on Plate VII. Nos. 7, 8. In another grave was found a heart-shaped water-worn stone, showing marks at the smaller end of having been used (Plate VII. No. 6), and some limpet shells.

The Churchyard Mound is about half a mile north of the burial mounds, and a section of it is shown in the annexed woodcut (fig. 8).

![Fig. 8.—Section of the Churchyard Mound.](image)

In this mound was found a great mass of shells, at least five feet in depth, resting on the natural soil, and covering an area of several hundred square yards; this again was covered by the foundations of a massive building, which in its turn has all but disappeared, the whole having been converted into a low and shapeless green mound, affording excellent pasture. Nothing remained of the building but the massive pavement or floor of large flat stones. The foundations are superimposed on the shell mound; and it is evident that the refuse heaps could not have accumulated about the building, but must have existed before it. The shell mound is composed of periwinkle and other shells, and a considerable number of animal bones and teeth, almost all of them being chipped up into small fragments.
The relics found in the heap consisted of chipped flints, rude stone and bone implements, and pottery, bone pins, &c., as shown in the annexed woodcut (Fig. 9, Nos. 1 to 6).

In the centre of the section (fig. 8), at the point marked x, was found a human tooth, with a small portion of the jaw. Wood ashes and charcoal were common in the mound. The animal bones were generally chipped. Few fish bones were found. The stone implements were oval beach stones, which had apparently been used as hammers or pestles. A rude stone mortar, and round water-worn pebbles about the size of an apple, portions of pottery of the rudest description all in small fragments, were also found.

The human bones found in the burial mound, and now presented to the Museum, included the crania and pelves of two males and five females, and are figured in the accompanying Plates XI. to XXVI. Nos. 1 to 43. (They are described at page 54.)

The Harbour Mound is a large green mound a little to the north of the harbour at Keiss, and is about half a mile from the burial mound.
Immediately adjoining it is a smaller mound, and some traces of ancient dwellings. The mound is shown in the annexed woodcut (fig. 10).

The mound consisted of a very irregular grassy hillock, with some loose stones lying about, and showing faint traces of a low outer wall or rampart. On excavating, a great portion of cyclopean building and a shell-midden was disclosed, with floors or pavements at different levels.

It is clear that this building had been a "burg."

A portion of this building remaining consisted of various circular walls,

![Fig. 10.—Harbour Mound, Keiss.](image)

and was in some parts 12 feet in height. The inner circle was 24 feet in diameter; the thickness of the inner wall, 2 feet; passage between the inner and second wall, 3 feet; thickness of second wall, 4 feet; space between second and outer wall, from 4 feet to 15 feet; thickness of outer wall, \( \frac{1}{2} \) to 2 feet. (The woodcut, fig. 11, shows the ground-plan of the building, and cross sections of the mound.)

The mound indicated successive occupation and adaptation of the older parts of the building by newer inhabitants. The primitive part of the structure seemed to be the second or middle circular wall, which was by far the most massively built, and went down to a lower pavement of large flags resting on a layer of flat beach stones, laid on the natural rock. The space for five feet above this level was filled up with a midden or accumulation of shells, bones, ashes, &c. (See section, fig. 11, C.) Then came a second pavement of large flag stones, on a level with which are the
foundations of the two others, or an inner and outer, circular walls. Above this was another midden, 1\ 2 foot deep (fig. 11, B), and then an upper pavement forming the floor of the inner circle. This, again, was covered by a midden of its own, mixed with a mass of stones and rubbish which had fallen in and choked up the building. (Section, fig. 11, A.) There were thus three distinct middens, separated by superimposed pavements.

The building clearly showed proof of successive occupation. The doorways of the inner and second circular walls do not correspond. (Plate VIII. No. 1.) The former has two entrances, as shown on the ground
plan, nearly opposite to each other. The other has one very massive doorway only. On coming up to this doorway, in exploring the passage between the two circular walls, it presented the appearance of a fireplace and chimney; both were rudely constructed. (Plate VIII. No. 2.) On removing these the solid massive doorway of the second wall appeared, which had obviously been converted from the entrance of a strong fort, into a chimney. (Plate VIII. No. 3.)

Fig. 12.—Mass of Limpet Shells found in the Harbour Mound.

Just outside this doorway was a massive stone staircase of eleven steps, leading down to the level of the second pavement.

The relics found in the lower middens (Plate IX. Nos. 1 to 9) were exceedingly rude, while those found in the upper middens were much finer. The skulls, teeth, bones, &c. of animals, chiefly in fragments, were in great abundance. Large deer horns were abundant towards the top, several of them bear marks of cutting; also a mass of limpet shells,
cemented together by oxide of iron, which is figured in the annexed woodcut (fig. 12).

Those found in the mound itself consisted of ruder stone implements, chipped flints, rude implements of bone, coarse pottery; an implement shaped like a pair of modern sugar-tongs, formed partly of bronze and partly of iron, as shown in Plate IX. No. 5; an iron object, apparently the two blades of a pair of scissors rusted together, found at the spot marked A in the section (fig. 11) along with portions of pottery. The iron implement may be a relic of the last occupants of the dwellings by whom the chimney and fire-place were constructed. In the secondary midden B, at the spot

Fig. 13.—Child’s Jaw found in the Harbour Mound, actual size.
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Marked x on the section (fig. 11), in a mass of limpet shells and animal bones, all in fragments, was found a portion of the lower jaw of a child. It is figured in the annexed woodcut (fig. 13). No trace of any other human bones were found along with it. A fragment of a human jaw was also found in another shell midden. The finding of these fragments of human bones mixed up with bones of animals is curious and suggestive.

In the sandy links near Westerburn are two large mounds, popularly known as the “Birkle Hills.” They stand amidst the hillocks of blown sand, about 200 yards from the sea-shore, on the raised beach of
sand and flat shingle stones. A view of the hills is shown in the woodcut (fig. 14).

The surface of both mounds is of sand covered with small stones from the adjacent raised beach, with limpet and other shells, animal bones, &c. Cairns of stones remain on the summit and round the base of both hills. In the smaller mound several kists were found. In one of them rude implements were discovered similar to those found in the centre kist of the burial mound. Three of these are figured in the woodcut (fig. 16).

There were also found implements of quartz and sandstone, and a stone hammer or pestle, showing at each end evidence of having been used. (See woodcut, fig. 16.)
The smaller mound was completely covered with shells and bones of animals, &c., and in digging, masses of shell middens were disclosed. The action of fire was also everywhere apparent, and several of the cairns seemed to be the remains of small circular fire-places or ovens.

The only complete structure disclosed was at the top of the small mound, as shown in the accompanying ground plan and section.

A massive stone closed the entrance next the sea. From this a passage, enclosed on each side by upright flagstones, about 2 feet long by 1½ feet by 1½ deep, descended by a gentle decline for 6 feet. It then became horizontal for about 8 feet, widening out from 3 to 5 feet, and taking a turn from nearly north-west to west, in which direction a similar ascending passage emerged on the west side of the mound. (See plan and section, figs. 17 and 18) There was no trace of a roof, but the pavement was carefully fitted. The floor was covered to the depth of 9 inches with shells, animal bones, charcoal, &c. The flags had been laid upon refuse of the same kind a few inches in depth. Considerable signs of fire were observed. Outside was a considerable midden of shells, bones, &c., in which was found two whorls or buttons, one of bone the other of stone, some pieces of flint which have been artificially chipped, a broken piece of sandstone, 6 inches by 4, resembling a ship's block, having a deep groove running round it, with a notch at one end. (See the annexed
woodcuts, fig. 19, 2.) A similar stone was found by Mr Petrie near a Pict's house at Grain, Kirkwall; and another, found by Mr Farrer at the "Knowe" of Saverough, is now in the Museum of the Society. A similar grooved block is figured among the objects from the lake habitations of Italy, in the translation of Gastaldi's work, published by the Anthropological Society of London, plate i. fig. 2. Stone hammers were found, and in the upper stratum a small, well-formed bone pin, with a regular head, being the only skilfully wrought bone found amongst the remains. No trace of pottery was found. The annexed woodcuts show the whorl, the sandstone block, and the bone pin.

Fig. 19.—1. Bone Whorl; 2. Sandstone Grooved Block; 3. Bone Pin found at the Birkle Hills.

The Moorland Mound is about three miles inland from Keiss, in the midst of an expanse of heather. It is a green spot, with some grey stones scattered over it, which contains the remains of ancient dwellings. The dwelling explored was nearly square, with an entrance passage. The walls were made of large flags set on edge; there was no trace of any roof, but the floor was paved with flat stones, over which were from a few inches to a foot of shells, bones, ashes, &c. Along the wall on each side of the principal room was a row of square boulder stones, forming a bench or bed. The inner end was divided by two large upright flagstones into
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three compartments. The fire-place had been on the stone floor near the passage or doorway. (See woodcuts, figs. 20 and 21.)

On clearing out the floor of the building fragments of pottery (one having a coarse blue glaze), a sandstone hammer or oval beach stone showing marks at both ends of having been used, two small stone whorls, smooth round pebbles, and piece of porphyry polished on one side, were discovered.

The following is a list of the Fauna of which remains have been found in the shell middens at Keiss:

Mollusca.—Limpet (Patella vulgaris), Periwinkle (Littorina litorea), Lesser Periwinkle (Littorina nontridia), Whelk (Buccinum undatum), Cockle (Cardium), Scallop (Pecten major), Lesser Scallop (Pecten Argus). Annulosa.—Lobster (Serpula.)
Fish.—Cod (*Morrhua vulgata*).

Birds.—Great Auk (*Alca impennis*, fig. 23), Lesser Auk (*Alca tarda*), Cormorant (*Philacorax corbo*), Shag (*Philacorax graculus*), Solan Goose (*Sula bassana*).

The bones of the great auk, which is now extinct in Europe, having but lately died out in Iceland, but said still to survive in Greenland, are frequently found in the Danish Kjökkenmöddings.

Mammalia.—Ox (*Bos longifrons*), Horse (*Equus caballus fossilius* (?) Red Deer (*Cervus elephas*), Goat (*Capra hircus*), Hog (*Sus scrofa*), Dog (*Canis familiaris* or *familiaris fossilius*), Fox (*Canis vulpes*), Rabbit (*Lepus cuniculus*), perhaps recent.

Cetacea.—Grampus (*Delphinus orca*), or small whale, Dolphin (*Delphinus dolphis*) or some other small cetacean.

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The fauna corresponds with that of the Danish middens in its general character, and contains just such an assemblage of animals as are commonly found in quaternary deposits. The dog appears to have been the only animal that was domesticated, from the circumstance of a jaw having been found in a kist along with human remains. A portion of red deer horn found was of unusually large size. It measures 5 inches in length and is 3 inches in diameter at the root or lower part. (See woodcut, fig. 24.)

Plate X., Nos 1 to 20, shows various stone and bone implements, whorls, &c., found in the shell middens at Keiss.

Human Remains.—The remains of seven human bodies were found in the course of the explorations at the Burial Mound, Keiss; two were
males, and five were females, and are minutely described by Professor Huxley in the "Pre-historic Remains of Caithness." The skulls and pelves are now presented to the Museum, and the following notes have been taken from Professor Huxley's descriptions:

Fig. 23.—Bones of the Great Auk found at Keiss, one-half natural size.

Fig. 24.—Portion of Red Deer Horn found at Keiss, one-third actual size.
Of the males:

Cephalic index.

No. 7 is (?) in. high; is sub-brachycephalic (0.78) and has an ordinary pelvis.
No. 8 is 67.8 in. high; is orthocephalic (0.76) and has an ordinary pelvis.

Mean 0.77 (or sub-brachycephalic).

Of the females:

No. 2 is 61 in. high; is sub-brachycephalic (0.78) and has an aberrant pelvis.
No. 1 is 58.9 in. high; is mecocephalic (0.73) and has a pelvis of less remarkable character, though slightly modified in the same direction.
No. 3 is 61 in. high; is orthocephalic (0.76) and no pelvis is preserved.
No. 5 is (?) in. high; is orthocephalic (0.75) and is devoid of pelvis.
No. 9* is 61.2 in. high; is mecistocephalic (0.70) has a pelvis nearly resembling that of No. 2.

Mean 0.744 (or orthocephalic).

Thus the males are, the one somewhat above, and the other probably about, the average stature; while the females are short, none exceeding five feet two or three inches in height.

The males are, in the mean, shorter headed than the females, in accordance with the usual rule.

Both the males have ordinary pelves; while it is a most remarkable circumstance that all the female pelves which are preserved differ from the ordinary female pelvis, in the circumstances that the conjugate diameter of the brim, or the antero-posterior diameter of the cavity, or both, are unusually great. In two of the three this aberration goes so far, that the conjugate diameter nearly equals, or even exceeds, the transverse.

None of the skulls exhibit paramastoid or pneumatic processes of the occipital bone; in none does the squamosal meet the frontal, so as to exclude the parietal from junction with the alisphenoid. None exhibit a persistent infraorbital suture, or a second lachrymal; or that separation of the lachrymal from the os planum of the ethmoid by the junction of the frontal with the maxillary, which I have met with in some rare cases in

* This skull is now in the possession of William Turner, M.B., Professor of Anatomy in the University of Edinburgh.
the human skull, and which is a curious pithecoid variation, observed in
the gorilla and the chimpanzee, but not in the orang. In all, the occiput
forms a distinct projection above the superior curved line and spina
occipitalis. There is no excessive development of the supraciliary ridges.
Only the faintest traces of the premaxillo-maxillary suture are to be seen
in any of the skulls.

"Taking the seven skulls as a whole, it will be observed that three are
orthocephalic; two are sub-brachycephalic; one is mecocephalic; and one
mechistocephalic. None of the skulls come within the proper brachy-
cephalic group. Nevertheless there are very marked and obvious differ-
ences between No. 7 and Nos. 1 and 9.

"The two male skulls, Nos. 7 and 8, offer clear differences, which are
even more apparent when the skulls themselves are placed side by side,
than they seem to be in the figures. Of the five female skulls, Nos. 2
and 3 present resemblances to the male skulls; but Nos. 5 and 1 differ
widely both from one another and from the male skulls. From some
camera lucida sketches of No. 9, with which Mr Turner has kindly
favoured me, I judge that No. 9 resembled No. 1 more than any other
skull in the collection.

"Four forms—two male and two female—are distinguishable in this
small collection of crania from Keiss.

"Firstly. That characterised by its spacious and broad calvaria, with
moderate nasal depression, wide and well-developed forehead, somewhat
flat occiput, macrognathous and orthognathous face (No. 7).

"Secondly. That characterised by a calvaria narrower in proportion to
its length, especially in the frontal region, with a strong nasal depression,
a narrower and more retreating forehead, a very prominent occipital pro-
tuberance or probolé, well-marked parietal protuberances, and a macrog-
nathous and more prognathous face (No. 8).

"Thirdly. That characterised by a long narrow calvaria, with a penta-
gonal contour of the norma occipitalis, with a slight nasal depression, a
low and retreating forehead, a moderately prominent occiput, and with
jaws which, though not large, are exceedingly prognathous (No. 1).

"Fourthly. That characterised by an elongated oval thin calvaria, with
a rounded contour of the norma occipitalis, with a slight nasal depres-
sion, moderately well-formed forehead, prominent occiput, ill-marked
parietal protuberances, and small and but slightly prognathous jaws (No. 5)."

The different skulls and pelves are figured in Plates XI. to XXVI.

The following Communications were read:—