NOTES ON THE SHELL HEAPS NEAR INVERAVON, LINLITHGOWSHIRE. BY DAVID GRIEVE, ESQ., F.S.A. SCOT.

It has been long known that there existed a great accumulation of shells, mostly of oysters, in the above locality. The bank or heap has been broken into, and exposed on more than one occasion, and noticed as a remarkable circumstance in the history of the district. Pennant refers to it in his "Tour," only he places it near Camelon, which is evidently a mistake. In the Statistical Account of the parish of Bo'ness, in which Inveravon is situated, the shells are thus referred to:—"A remarkable bed of shells has been long known to exist in the bank near Inveravon. By recent excavations in various parts of the bank, between Inveravon and Kinneil House, the bed appears to be continuous between these two places. It consists chiefly of oyster shells. A species of mussel shell is seen in some places, and one part of the mass is petrified." In a footnote to Stewart's "Caledonia Romana," edition 1851, page 181, the learned editor of that work also says, "In the vicinity of Inveravon, and on a terrace several miles from the sea, a cross road has been cut through a bed of fossil oysters. These are seen on both sides of this inland road in fine preservation. This curious bed is several feet thick, and the oysters were generally closed."

During the month of July last this singular heap of shells was again uncovered, and a fine section of it exposed to view, in consequence of the wall or dyke of one side of the cross road being taken down, in order to be rebuilt. While this was being done, the section was visited and inspected by many persons, among them, I believe, several of the members of this Society, including Mr Anderson, keeper of the Museum. Having made inquiry, I do not find that there is any likelihood of the subject being brought under the notice of the Society by any one else, and I mean, therefore, as being one of those who visited Inveravon, to give a short notice of my observations, as well as also my speculations on the subject.

The section of the bank laid bare by the removal of the dyke extended to about ninety feet—the highest part of the heap being between five
and six feet, tapering to a point at the lowest part of the bank or terrace. The cross road referred to at this part runs about due north and south, and the lengthways direction of the heap (or mound as it is sometimes called) east and west, so that the road completely intersects it. I traced the heap on the west side of the road for seventy yards, and on the east side for ninety yards. As I have already said, the section exposed north and south extends about thirty yards, but how much further north I was unable to ascertain. If, therefore, the statement made in the Statistical Account is to be believed (and there does not seem any reason for doubt), that the heap extends continuously eastward to Kinneil House, which is in this last direction, it would give an aggregate of such an enormous quantity of shells as could hardly be estimated.

The shells forming the section exposed were not in their natural bed, but were mixed promiscuously in every position, and none of them were fossil (in the ordinary acceptation of that word), nor were they closed in any instance so far as I observed.

Some other species of shells I found mingled with the oysters, such as varieties of the *Mytilus edulis* (of these a very considerable quantity), *Cardium edule*, *Littorina littorea*, *Solen siliqua*, a portion of *Tapes pullastra*, and a portion of the claw of a small species of crab. It will be observed that these are all edible molluscs.

The oyster shells were generally remarkable for their largeness of size, resembling more the Calais oyster than the Pandore or native oyster of our Forthian coasts of the present day. Many of the mussels were also notable for their size, but more so for the thickness of their nacre and pearly structure.

I have said that these shells do not rest on their natural bed, and it may be proper here to say a few words on this point. The late Mr Charles Maclaren, in his work on the "Geology of Fife and the Lothians," refers to this heap of shells in order to establish what he considered a fact, that the bed of the Forth had risen sixty feet, because he found this oyster scalp (as he considered the heap to be) about forty feet above the present sea level. He argued thus, because the shells "lay conformably, being regularly disposed on their sides resting on one another,"—ergo, it is an oyster scalp *in situ* raised high and dry. Any one, however, who knows

1 Ed. 1866, p. 317.
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about oysters, knows that the oyster lies flat, except when it is adherent to rocks or other substances, and the fact of these being on their sides (as stated) proves them to be disconformable, and therefore not in their natural bed. In the section lately exposed, however, the shells were not on their sides as a rule, but were huddled together, as we have already said, promiscuously and in every possible position, the valves of the shells being all single, and not vis-a-vis on their hinge, as would have been the case had this been their natural bed.

In a paper read before the Royal Physical Society by the late Alexander Bryson, Esq., on the question as to the rise of the shores of the Firth of Forth (who took an opposite view to that of Mr Maclaren), he very clearly shows that the oysters at Inveravon were not in situ. Mr Bryson says—"Let any one who hears me go to the spot, and he will find no trace of a marine bed below his (Mr Maclaren's) subaerial oyster scalp;" and again, "Had this bed been a pelagic one, as stated erroneously by Mr Maclaren, would we not have expected to find, if it had been rising so rapidly in the world, that it would have left some traces below of its origin? No such trace can be found, but instead a fine deep bed of humus." Mr Bryson then goes on to account for the deposition of the shells at Inveravon by the agency of a high tidal wave. This supposition is, for various reasons, to my mind quite untenable. It is very clear that Mr Bryson had formed a most inadequate and limited view of this immense and far extended mound or heap. He says the oyster shells may be obtained in cartloads. If he had said tens of thousands of cartloads he would have been nearer the mark.

He mentions instances of ships, whales, &c, being carried by the waves a long way and deposited high and dry. The action of a high tide in regard to such single objects is quite conceivable, but that the tide should select and arrange such an enormous mass of shells homogeneously (we use the word homogeneously because there is no sand, shingle, rolled stones, or other debris of a sea bottom intermixed) is quite inconceivable, and the idea cannot for a moment be entertained. The ocean never makes a selection when it displays its mighty power in the storm flood—everything is dashed into heterogeneous mixture or into fragments, with but few exceptions. This, then, is not a natural oyster bed, nor have the waves

1 Proceedings of the Royal Physical Society, vol. iii. p. 278.
had anything to do with its present position—the shells have clearly been placed where they are by human agency. All the evidence points this way.

Intermixed with the shells I found some few streaks of carbonaceous matter, but the quantity was not very considerable. This was chiefly near the bottom, and towards the lower or thin end of the section. Further than this there were no traces of fire, neither did there appear any indications of a hearth or hearth stones. Mr Anderson, indeed, mentioned to me that he observed in the trench dug for the foundation of the dyke, a sort of causeway, the interstices of which were filled with what appeared to be coal culm. This causeway, I regret to say, I did not see, for it had been covered over previous to my first visit; but Mr Deane, the intelligent farmer on whose land these heaps partly repose, informed me that he had seen it, as also had Mr Dawson of Linlithgow and other gentlemen.

He described to me its position, size, appearance, disposition of the stones, and other matters, from which I had no difficulty in concluding, as Mr Anderson had done, that it had formed part of an old Roman road, most likely of the via which in all cases ran parallel with, close to, and within the wall. In this case it seems to have done so, if the supposed line of direction of the wall, as generally given, be correct, which was not far from being at this place about east and west—the direction also lengthways, be it remembered, of the oyster heap. The causeway was covered by only a thin layer of shells near the exhausted edge of the heap. The Inveravon oyster heap would thus appear to have extended in line inside the Roman wall. (See sketch on opposite page.)

It is an interesting speculation as to when, how, in what manner, and for what purpose, this vast accumulation of shells had been brought together. I do not intend to express any dogmatic or even very decided opinion on the subject, but simply to offer some suggestions, for it is one of those cases in regard to which nothing is absolutely known or determinately indicated, and therefore it is only permitted to speculate as to probabilities, reasoning from analogous circumstances, or what is obvious from appearances presented. I may premise, that when this oyster heap was lately re-opened, I did not see sufficient ground for supposing it to be a kitchen midden, as many people considered it to be, or at least such a one as those commonly found in this country. I am not aware that any bones, pottery,
or other household relics, have been found amongst the shells, at least I could obtain no trace of such, and I therefore objected, perhaps somewhat too hastily, against this designation being applied to the heap, because I now think that, in a certain sense, it may not be altogether inapplicable.

In Denmark, in some islands in the Baltic, and in other parts of Scandinavia, there exist enormous beds or masses of shells of edible molluscs, and which bear indubitable marks of being the refuse heaps of consumed food. Sir Charles Lyell also mentions similar vast accumulations in Georgia and other localities in America, where large mounds of shells had been left by aboriginal tribes of American Indians as the relics of their feasts.

Eye-sketch of Shell-heap, showing its position in relation to the Roman Wall, &c.

A, Inveravon; B, Farm-steadings; C, Castle of Inveravon; D, Shell-heap; E, Wall removed, showing Section of Shell-heap; F, Wooded Hill; G, Road, Boness to Polmont.

In this light, may our mound not be the relics of successive generations of piscivorous people inhabiting this part of the coast? The aboriginal Caledonians were notoriously partial to molluscous food, and the Romans were perfect gourmands in regard to oysters.

The traditions of the people at Inveravon as to these shell-heaps is, that they are the shells of the fish consumed in olden times at the Castle of
Inveravon. A remnant of this castle on an adjoining height overhangs the shell-heaps in shape of a tower, and is erroneously called a Roman tower by Sir Robert Sibbald. There is historical evidence, however, that this castle was, to use a familiar Scottish phrase, 'dung doon' by James the II. of Scotland A.D. 1455. It was built in all likelihood on the site of a Roman fort, for this is just the place where such a fort would be in connection with the last one on the wall to the east at Carriden. A large Roman population would be sure to maintain itself close by; and as we have shown that the heap is within the lines of circumvallation, the Romans were likely either to be the original depositors of the heap, or would, if it had been commenced by the aboriginal natives, add largely to the deposit. In the middle ages, the Lords of Inveravon, and also the neighbouring lairds, such as he of Kinniel, with their dependants, would have their share in increasing the accumulation. In this way, in a certain sense, as I have said, this great heap may be called a kitchen midden.—

It is to be considered, however, that only very little of this vast heap has been explored, and time, which is said to be the discoverer of all things, may yet show that it contains such objects as are commonly found in other Scottish middens, by which its relative antiquity may be determined. But meantime, as already said, we have no data by which to fix the period when these shells were deposited, but I think we may reasonably suppose that it may not have been much earlier (if so early) as the time of the Roman occupation of this part of the country. If we fix it so, therefore, provisionally, may not this heap have been a magazine of material for the purpose of being burnt into lime? This would still leave room to suppose that the contents of the shells were eaten for food. On examination of old Roman bridges or other works, it will be found that the cement was often—I perhaps should say as a rule always—composed of calcined shells. Lime was not used in the construction of the wall of Antoninus, but as we have said, there were various forts and castellæ or watch-towers connected therewith possibly built with lime, not to mention the private dwellings of the Roman colonisers. But it is not necessary to fix a date so early in order to suppose that this heap was an unburnt lime depôt. Shell lime has

1 These forts were placed along the wall at a distance of about two miles from each other.

2 There were nineteen on the line of wall, extending over thirty-six miles.
been used continuously in this country for many centuries. Examples will be found in the ancient ecclesiastical buildings of Iona—in the ruins of the border keeps of the middle ages—in our older abbeys and churches; and more than this, shell lime is used in other countries, and even in some of the remoter parts of our own country, at the present day.

To show how ancient and universal the practice of shell-burning for lime prevailed, I shall take the liberty to make an extract of a paper by Mr Earl, read before the Ethnological Society 4th March 1862, relative to the shell mounds of the Malay peninsula:— "These are situated in the province of Wellesley, near the Mudah river. They are about five or six miles from the sea. The mounds, which are entirely composed of cockle shells, are about eighteen or twenty feet in height, and recently have been largely employed by the Chinese immigrants as a source of lime. The antiquity of the mounds must be very great, as shown by the fact that the shells were partly cemented together by crystallized carbonate of lime, the result of the very slow action of atmospheric and aqueous influences. One of these mounds contained 20,000 tons of shells." These shells were stored up by an almost extinct race of people in very remote times, and there does not seem to be any reason to doubt that the storage was in this case made for the very same purpose to which the shells were being applied by the modern Chinese.

Immense heaps of oyster shells are also found in Corsica, as well as at La Vendee in France, but in these cases the tradition is, that the shells are those of oysters pickled and exported to Rome by the Romans. Knowing as we do what a luxurious people the Romans were, and that they habitually used oysters at their feasts, there is nothing improbable in this story, and if so, they may as well have sent pickled oysters from Inveravon, but the far greater probability certainly is, that the shells in the heap were collected together to make mortar of, after their contents had been eaten on the spot. Another conjecture in the same direction may be hazarded. The land between Inveravon and the shore has been all reclaimed from the sea, and there might have been extensive oyster scalps in situ there; it may be therefore, that in clearing the ground for agricultural purposes, as fields are cleared of stones at the present day, a double purpose would thus be served by clearing away the shells and storing them on the heap for mortar.
A remark or two occurs in regard to the mussel shells, which, as I have said, are in considerable quantity, and the nacre or pearly matter in them is very largely developed—several small well-formed pearls having been adherent to some of them, as will be seen from the specimens exhibited. We think it more than likely that these shells had been opened for the purpose of searching for pearls. Suetonius says that the prospect of acquiring pearls was one of the chief inducements of Caesar to invade Britain; and he even on one occasion dedicated to Venus a breastplate studded with British pearls. Several of the Roman poets celebrate the beauty of the Caledonian pearls—and although it is probable some of these pearls were in ancient as in modern times procured from the freshwater shell the Anodon, yet the Mytilus would no doubt also contribute a portion—nay the greater portion, because the Romans mostly frequented the coast where the sea mussel was plentiful and more easily obtained.

I submit these views in the meantime, considering, as I have said, that a more full and complete investigation of other portions of this curious and interesting shell-heap may bring to light objects tending either to confirm or confute some of the speculations in these notes, and possibly to settle the questions of its age and origin.

MONDAY, 9th January 1871.

FRANCIS ABBOTT, Esq., Vice-President, in the Chair.

The Secretary announced that, at a special meeting of Council held this evening, the Council had unanimously elected Miss C. Maclagan, Ravenscroft, Stirling, a Lady Associate of the Society.

The Secretary also reported, that the Committee appointed at last meeting on the subject of the preservation of the ruins and monuments of Iona had met, when a correspondence which had taken place between the Duke of Argyll and Mr Skene was submitted to them; and that in the prospect of Mr Skene soon revisiting the island, and obtaining a Report on the state of the ruins, the Committee had adjourned their proceedings.
The following Gentlemen were balloted for, and admitted Fellows of the Society:

Thomas Graham Briggs, Esq., Farley Hill, Barbadoes.
Alexander Edmonston, Esq., Publisher, Edinburgh.
William Fraser Forsyth, of Denham Green, Esq., Trinity.
Samuel Gordon, Esq., Stockton-on-Tees.
Charles James Henderson, of Glassingall, Esq., Stirlingshire.
George M. Paul, Esq., W.S., Edinburgh.
Major J. H. M. Shaw Stewart, R.E.
Andrew Wylie, Esq., Prinlaws, Leslie, Fife.

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

(1.) By the Rev. J. M. Joass, Golspie, Cor. Mem. S.A. Scot.
A Collection of Relics and Animal Remains, from the Broch of Cinn Trölla, Sutherlandshire, obtained for the Rhind Excavation Committee, and comprising:

Under Stone of a large Quern, 2 feet diameter, slightly hollowed, and having a hole 1½ inch diameter through the centre.
Under Stone of a Quern, with hollow, measuring 16 inches diameter, and having a hole in the centre about 1½ inch diameter, and the same in depth.
Upper Stone of a Quern, 14 inches diameter, with central hole 2½ inches in diameter, and hole for handle.
Upper Stone of a Quern, of oblong form, 18 inches in length, with a central hole 2 inches in diameter, and hole for handle.
Under Stone of a Quern, of oblong form, 18 inches in length, and having a hole in the centre 2 inches in diameter.
Upper and Lower Stones of a Circular Quern, 14 inches diameter.
Oblong rounded Boulder of Red Sandstone, 20 inches by 14 and 13 inches deep, hollowed into a mortar; the hollow is 10 inches by 8 inches and 6 inches in depth, and tapers towards the bottom.
Triangular-shaped Stone, about 15 inches long by 12 inches broad, and the same in depth. It has a circular mortar-like hollow near the corner about 8 inches in diameter, and 6 inches deep.
Large Mortar Stone of Sandstone, with hole worn quite through it, about 10 inches diameter.

Three large Pestles, being oblong beach-rolled stones, about 15 to 20 inches in length, and tapering, from about 6 inches diameter.

Circular Cup of Steatitic Stone, with projecting handle; 5 inches wide and 3 inches high. The bowl-shaped cavity measures $3\frac{1}{2}$ inches in diameter, and $2\frac{1}{2}$ inches in depth. The handle is semi-circular, $2\frac{1}{2}$ inches across, and $1\frac{1}{2}$ inch in thickness, with a hollow above for convenience of holding it by the pressure of the thumb.

 Portions of Three Clay Crucibles, of the common triangular form, and representing vessels of about $1\frac{1}{2}$ and $2\frac{1}{2}$ inches in depth. The smaller Crucible has a few grains of melted copper or bronze adherent to its interior surface.

A number of fragments of coarse Pottery, varying from $\frac{1}{2}$ inch to $\frac{1}{8}$ths of an inch in thickness, hand-made, imperfectly fired, the clay being mixed with small stones, and black in the centre, while the outside is of a reddish colour. Some of the fragments indicate vessels of considerable size, and show portions of an everted rim.

 Portions of Three Rings or Bracelets of polished Shale or Lignite, most probably from the neighbouring oolite. These rings are slightly oval in section, about $\frac{1}{4}$ of an inch in thickness, well made, and polished.

 Portions of broad flat Rings of Shale unpolished, and rudely formed. These may have been the discs from which the polished rings were cut.

 Whorl of Sandstone, 2 inches diameter, and $\frac{3}{4}$ of an inch in thickness, rubbed smooth, and nicely rounded across the edge. The hole in the centre is not bored but rudely chipped through, contracting from both sides, from a diameter of $\frac{3}{4}$ of an inch to $\frac{1}{4}$ of an inch in the centre.

 Whorl or Ring of Lead, $1\frac{3}{4}$ inch in diameter, and having a circular hole an inch in diameter, and somewhat irregularly formed in the centre. It seems to have been tightly fitted on the end of some unevenly formed cylindrical object, probably of wood, which has not passed quite through the hole.
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A Circular Disc of fine-grained Micaceous Sandstone, 3 inches diameter, and \(\frac{3}{4}\) of an inch thick, rubbed smooth on the edges, and highly polished on the two flat surfaces, as if by use as a polisher, the surface being worn slightly concave towards the centre. Possibly it may have been used as a polisher for the manufacture of shale bracelets.

A Pebble of hard black lustrous stone, about 3 inches long, highly polished over the surface, and used probably as a burnisher.

Pebble of Quartzite, of oval form, \(3\frac{1}{2}\) inches in length by \(2\frac{1}{4}\) inches in breadth, and \(1\frac{1}{2}\) inch thick, with rounded edges, and slightly flattened on two opposite sides. In the centre of each of its two flattish sides there is a curious depression, where the stone is worn to the depth of nearly a quarter of an inch by the rubbing of some circular body. Possibly it may have been used as a polisher for the outside edges of these shale bracelets.

Pebble of slightly micaceous sandstone, 6 inches in length and \(1\frac{1}{2}\) inch in diameter, rounded at the ends, and polished on the rounded parts by friction. This also has probably been used in the manufacture of shale rings, or for some similar purpose.

Four Hammer Stones, oblong pebbles, worn at the ends by use, from 6 to \(3\frac{1}{2}\) inches in length.

Bone Tool, made from one of the long bones, probably the leg bone, of a horse, \(3\frac{3}{4}\) inches in length, and nearly an inch wide; but brought to a sharp chisel-shaped point, about \(\frac{1}{6}\)th of an inch in width, at one end.

Portion of a small flat, spatula-like object of polished bone, \(1\frac{1}{2}\) inch in length; in shape not unlike the end of the handle of an old-fashioned teaspoon.

Portion of Deer's Horn, \(1\frac{1}{2}\) inch in length, sawn across at both ends.

Tine of a Deer's Horn, \(4\frac{1}{2}\) inches in length, having a hole about \(\frac{1}{4}\)th of an inch in diameter bored through its extremity about \(\frac{1}{4}\)th of an inch from the end where it has been sawn from the horn.

Tine of a Deer's Horn, \(5\frac{1}{2}\) inches in length, and having a notch near the end, probably the end of a bow.
Disc of Bone, an apophysis of the vertebra of a Cetacean, 3 inches in diameter, and pierced in the centre by a hole ¼th of an inch in diameter.

Small Iron Knife, 4 inches in length, with tang for insertion in a handle.

Iron Double-edged Dagger-blade, 8½ inches in length, and 1½ inch in breadth at the helve, with tang for insertion in handle.

Iron Spear Head (imperfect), 10 inches in length and 2 inches in greatest width, leaf-shaped, and having a well-marked midrib running from socket to point.

Iron socketed Chisel, 4½ inches in length, 1½ inch across the broad edge, and having a socket of an inch in diameter—the upper part of the socket, however, is gone.

A large number of the remains of various animals, consisting of:
- Portions of Antlers of the Reindeer (Cervus tarandus).
- Many portions of Antlers of the Red Deer (Cervus elaphus).
- One Antler of the Roe buck (Cervus capreolus).
- Horn Cores, &c., of the sheep, the goat, and the small ox (Bos longifrons).
- Skull and Jaw Bones of the Dog, of different sizes, one of large size.
- Bones of the Whale and several fishes.
- Leg and Wing Bones of the Heron (Ardea cinerea).
- Vertebra of the Whale hollowed out into a basin-like vessel, the cavity of which is 9 inches diameter and 4½ inches deep.

Some of these animal remains were, at the request of Dr J. A. Smith, kindly examined and named by Professor Owen and Dr A. Gunther of the British Museum.

(2.) By Mil len Cough trey, Esq., Student in Medicine, University of Edinburgh.

Four long-handled Combs of bone, found in a shell-heap at Hillswick, Shetland, viz.:

No. 1, which is perfect, 5 inches in length and 1½ inch across at the bases of the teeth, of which there are ten.
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No. 2, imperfect, 5½ inches in length and 1½ inch in breadth at the bases of the teeth, of which there have been fourteen, but only four remain. This comb is ornamented with incised lines.

No. 3, 5½ inches in length and 1¾ inch across the bases of the teeth, of which two remain.

No. 4, which is 6 inches in length and 1¾ inch in breadth at the bases of the teeth, has had 16 teeth, of which only four remain.

A curious punch-like implement of bone, 2½ inches in length, cut from the end of a leg bone of some small animal.

Two Bone Pins 3 inches in length, and several splinters of bone sharpened at one end.

A large collection of bones of various animals from the kitchen midden at Hillswick, in which the above-mentioned articles were found. [For a detailed description of these, see Mr Coughtrey's paper, read at the following meeting.]

(3.) By Robert Harris, Esq., Camphill, Paisley.

A written Ticket of Admission to Twelve Lectures on Experimental Philosophy, delivered at Edinburgh in 1768, by James Ferguson, the Astronomer. The ticket, which is a piece of cardboard 3½ inches by 2½ inches, bears in red ink on the top the words, Edinburgh 1768, Fourth Course. Below that, in a circle drawn with a pair of compasses in the centre of the card, are written in black ink the words “Twelve Lectures on Experimental Philosophy, on Mond. Tuesd. Wed. Thursd. and Frid. at 6 o’clock, by James Ferguson.” At the bottom of the card in red ink are the words, “To begin on Monday, June 6th.” On the back of the ticket is the sketch of a plan for a lunation wheel-work, somewhat roughly done.

(4.) By The Rev. James M. Joass, Golspie, Cor. Mem. S.A. Scot.

A MS. Charm to cure the Toothache, written and sold by a professional witch named Kate McM‘Aulay, residing at Kishorn, Lochcarron, Ross-shire,
in 1855. It is written on a scrap of paper 8 inches long and 2½ inches in breadth, as follows:

"Petter was Laying and his head upon a marrable ston weping and Christ came by and said what else (ails) thou Petter Petter answered and sad Lord god my twoth. Raise thou Petter and be healed and whosoever shall carry these lines in my name shall never feel the twooth.—Kett McAulay."

The paper, which was folded small, was worn for at least a year in a small silk bag hung round the neck of a shepherd, who had given half-a-crown to the witch for the charm, which, however, was to lose its efficacy when looked at.

(5.) By Robert Carfrae, Esq., F.S.A. Scot., Curator of the Museum.

Four Roman coins, First brass, viz.:

As, Moneyer of Augustus, S.C. C. Gallius, C.F. Lupercus III. VIR A.A.A.F.F.


Hadrian. Rev. P.M. Tr. P. Cos. III. Female standing.

Crispina. Rev. Concordia, s.c. Concord seated.

Transactions of the Architectural Institute of Scotland 1863–68.

(6.) By Sir Henry Dryden, Bart., Hon. Mem. S.A. Scot.

Transactions of the Architectural Institute of Scotland, 1869–70.

(7.) By William Falconer, Esq. (the Author).

Dissertation on St Paul's Voyage from Cæsarea to Puteoli. London. 8vo. 1870.

(8.) By J. R. M'Luckie, Esq., Falkirk.


(9.) By A. Fitz-Gibbon, Esq.

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(10.) By Lieut.-Col. W. Ross King, F.S.A. Scot. (the Author).
The Aboriginal Tribes of the Nilgiri Hills. 8vo. 1870.

(11.) By the Cambrian Archæological Association.
The Lordship of Gower. Parts I., II., and III. 8vo.

(12.) By the Cambrian Archæological Society.
Archæologia Cambrensis. Fourth Series, Nos. 3 and 4.

(13.) By the Associated Architectural Societies.
The Reports of the Societies.

(14.) By the Right Honourable the Earl of Dalhousie.
Rubbing Stone of Red Sandstone, measuring 2 feet 3 inches by 1 foot 8 inches, which formed part of the bottom of a short cist at Fallaws, containing an urn and flint chips. (See communication by Mr Jervise, Vol. VIII. p. 166.)

(15.) By the Rev. James G. Young, Monifieth, through James Neish, Esq., F.S.A. Scot.
Sculptured Stone found in digging a well in a cottage garden at Monifieth. This stone is figured in "The Sculptured Stones of Scotland" (Spalding Club), vol. ii., plate cxxiii.

(16.) By the Heritors of Monifieth Parish, through James Neish, Esq., F.S.A. Scot.
Three Sculptured Stones from the church of Monifieth. They are figured in the "Sculptured Stones of Scotland," vol. ii. plates lxxx., lxxxi., and xci. (See subsequent communication by Mr Neish.)

The following Communications were read:—